**Real Accountability: Data Analysis for Results (RADAR)**

**Facility and Community-based Care Surveys for Reproductive, Maternal, Newborn and Child Health**

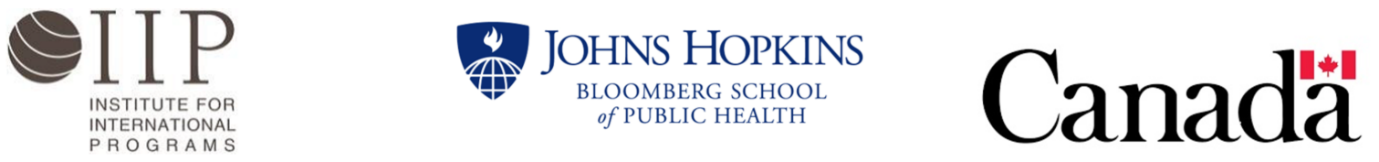
**Module 2**

**Community-Based Newborn, Child and Nutrition Services**

**Institute for International Programs, Johns Hopkins University Bloomberg School of Public Health**

**Global Affairs Canada (GAC)**

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**Acronyms**

ANC: Antenatal care

CAPI: Computer assisted personal interviewing

CBD: Community-based distributer

CHW: Community health worker

CV: Clinical vignette

FP: Family Planning

GAC: Global Affairs Canada

HW: Health worker

IC: Facility in-charge

ID: Identification number

MW: Midwife

NGO: Non-governmental organization

OC: Observation checklist

ODK: Open data kit

PI: Provider interview

RADAR: Real Accountability: data analysis for results

SC: Simulated client (checklist)

SRH: Sexual and Reproductive Health

STATA: Software for statistics and data science

STI: Sexually transmitted infection

RMNCH: Reproductive, Maternal, Newborn and Child Health

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# About the facility and community-based care surveys for reproductive, maternal, newborn and child health

Three survey modules supportplanning, imple­mentation, improvement, and monitoring and evaluation of facility and community-based services.

**Module 1** is used to assess the implementation strength and quality of facility and community-based family planning services. **Module 2** is used to assess the implementation strength and quality of community-based newborn, child and nutrition services. **Module 3** is used to assess the implementation strength and quality of facility-based intrapartum care services.

Implementation strength assessments review the capacity of staff and facilities to provide services. Quality assessments determine whether facility and community-based care meets quality practice standards. Methods are selected based on the objectives of the assessment and resources available.

**Facility and community-based surveys of RMNCH care by method**

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Module 1** | **Module 2** | **Module 3** |
| **Facility- and community -based family planning care** | **Community-based newborn, child and nutrition care** | **Facility -based intrapartum care** |
| **Implementation strength assessments using phone interviews or field visits** | | | |
| Provider interviews and inventory assessments |  |  |  |
| **Quality of care assessments using field visits** | | | |
| Observation of practice |  |  |  |
| Exit interviews |  |  |  |
| Provider interviews |  |  |  |
| Clinical vignettes |  |  |  |
| Simulated clients |  |  |  |
| OSCEs |  |  |  |

# Background

This survey collects data on the implementation strength and quality of key community-based newborn, child and nutrition services. The implementation strength assessment determines the capacity to provide community-based newborn, child and nutrition care. The quality of care assessment determines whether community-based newborn, child and nutrition care meets quality standards. Survey methods were developed and tested closely with partners in Africa by the Institute for International Programs at the Johns Hopkins University Bloomberg School of Public Health and Global Affairs Canada (GAC).

The survey is designed to be conducted at the national or sub-national level (district or regional levels) every 1-2 years. Data are used to supportplanning, imple­mentation, improvement, and monitoring and evaluation of community-based services.

**What information is collected by the survey?**

Eight questionnaires are used to collect survey information (table 1). Implementation strength assessments require completion of questionnaires with CHWs. Quality of care assessments require completion of observation of CHW practice checklists, a re-examination of sick children, and questionnaires with caregivers..

A sample of health providers is selected. Implementation strength questionnaires can be administered to providers by phone or direct interview. Quality of care questionnaires require direct observation or interview, with sampled CHWs visited by teams of interviewers, overseen by supervisors. Data for the survey are collected on paper questionnaires or tablets which use the CAPI data capture program. Paper questionnaires are retained in the event of a tablet failure.

**Table 1: Community-based newborn, child and nutrition care survey questionnaires**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Questionnaire** | **Content** | **Sick child care** | **Newborn home care** | **Nutrition home care** |
| **CHW interview – screening and care practices** | * Demographic characteristics * Supervision * Demand generation activities * CHW training * Availability of services * Availability and provision of medicines, supplies and equipment * Review of routine records and reports | * **\*** | * **\*** |  |
| **Observation of practice – screening and clinical care** | * Assessment, classification, treatment and counseling practices |  | * **\*\*** |  |
| **Re-examination** | * Re-examination of sick child |  |  |  |
| **Caregiver exit interview** | * Caregiver knowledge and practice |  |  |  |

\*One CHW questionnaire is used to collect data on both newborn and child care

\*\*Includes screening, assessment, referral and counseling tasks only

**When should a community-based newborn, child and nutrition care survey be conducted?**

The survey can be conducted as a baseline evaluation (before program implementation has begun), or as a mid-course or endline evaluation (after program implementation has begun).

Baseline evaluation

Before implementing new program activities, managers may decide to do a baseline survey to assess current capacity to provide services and staff knowledge and practices. These data can be used to explore how child care and nutrition interventions are delivered to children, mothers and families and barriers to implementation. Baseline data allow managers to determine feasible program objectives. Data can also be used to identify and prioritize problems within the focus area. Strategies to address problems or barriers can be planned in advance. In some situations, baseline surveys are required by development partners to document program achievements over time.

Mid-course and endline evaluations

Follow-up surveys are conducted after program implementation has begun and are designed to determine progress toward objectives. Data from mid-course surveys are used to identify areas that need improvement and to plan actions for addressing them (often conducted after 1 year of implementation). Endline surveys document progress at the end of a period of implementation to determine how effective program strategies have been. Follow-up surveys should be conducted when enough implementation has taken place to expect changes in coverage or in knowledge and practices. For follow-up surveys to be most useful, therefore, minimum standards of implementation should have been met. These could include:

* A minimum proportion of CHWs should have received planned training (for example

at least 50% of health workers for whom training is planned, should have received training).

* Essential supports (such as drugs and equipment) have been distributed to community-based staff (for example, essential supplies available to facilities or CHWs should have increased at least 50% above baseline).
* Community health workers should be available in a minimum proportion of villages (for example, at least 50% of villages should have workers available).
* Health promotion and behavior change activities should have been conducted as planned (for example, at least 50% of CHWs should have revised materials available and be using them; planned mass-media campaigns should have been completed.)

As implementation is expanded and incorporated into routine practice, surveys may be conducted more frequently, since changes in knowledge and practices are expected. Surveys to track mid-course progress can be made quicker and easier by selectively using more rapid survey methods. These include phone-based implementation strength assessments (with no requirement for field visits)..

**How ar**e **survey data used to improve health programming?**

The goal of newborn, child and nutrition care programs is to ensure that mothers, children and families receive appropriate preventive and curative interventions. This survey assesses the quality of community-based care provided by CHWs - including assessment, classification, treatment and counselling for sick children; screening of and counseling for newborns; and satisfaction with nutrition screening for mothers, children and families. It also reviews other factors that determine whether interventions are received, such as availability of medicines, equipment and supplies, staff supervision and training and communication activities. These data are used to determine whether there are gaps in access, availability, demand or quality of services in communities. By identifying gaps, actions can be taken to strengthen systems to further improve practices.

**What key actions are required to conduct a survey of community-based newborn, child and nutrition care?**

The survey requires careful planning and preparation to ensure that data collection is completed adequately. Data collection must follow strict protocols to ensure that data collected are accurate and reliable. Data must then be analyzed, interpreted and disseminated in a way that ensure key findings are used to make effective program changes.

Five key actions are required to implement the survey (table 2).

Each action step is supported by Worksheets, shown at the end of each section. Some worksheets are spreadsheets which automatically calculate sampling or supply needs. In addition, reference weblinks provide more detailed information, including technical guidelines and presentations for setting up electronic data entry and management systems, conducting training and data analysis.

Planning, preparation and conduct of the survey are all based on the core survey questionnaires which are presented in Annex A. Question-by-question summaries of questionnaires, including how questions should be asked, interpreted and coded are presented in Annex B. Survey consent scripts, which must be asked to all participants in the survey, are presented in Annex C.

**Table 2: Summary of actions required to conduct a community-based newborn, child and nutrition care survey**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Plan the survey | * Select the coordinator and manager * Establish objectives * Decide on geographic area and timing * Select the sample * Determine staffing needs * Estimate and secure the budget * Begin ethical approval | Worksheet 1: Sample size calculator  Worksheet 2: CHW listing form  Worksheet 3: Supply calculator  Worksheet 4: Budget template |
| 2 | Prepare to conduct the survey | * Adapt survey instruments * Translate, pre-test and pilot instruments * Select supervisors and interviewers * Prepare for electronic data entry * Plan analysis and dissemination * Prepare for survey staff training | Annex A: Survey instruments  Annex B: Survey question summaries  Worksheet 5: Survey indicators  Worksheet 6: Supervisor spreadsheet  Worksheet 7: HW listing sheet |
| 3 | Conduct and supervise the survey | Phone survey   * Make interviewer assignments * Call CHWs and facility providers * Finalize and check questionnaires * Complete end of day procedures | Worksheet 6: Supervisor spreadsheet  Worksheet 8: Interviewer performance checklist |
| Field survey   * Make arrangements for field work * Make CHW/facility field visits * Finalize and check questionnaires * Complete end of day procedures | Worksheet 7: HW listing sheet |
| * Recruitment and consent * Conduct survey interviews | Annex A: Survey instruments  Annex B: Survey question summaries  Annex C: Consent forms |
| 4 | Analyze and interpret data | * Retrieve/export data for analysis * Clean data * Finalize logistics * Conduct data review and analysis | Annex A: Survey instruments  Annex B: Question by question summaries  Worksheet 9: Priority indicators summary table |
| 5 | Use data for planning | * Establish a team to review findings * Review descriptive data * Review priority indicators * Explain observed gaps * Describe actions for improvement * Make conclusions/ recommendations * Summary report and feedback * Finalize and disseminate findings | Worksheet 10: Review of newborn, child and nutrition implementation strength and quality indicators  Worksheet 11: Factors contributing to observed indicators  Worksheet 12: Actions for improving observed indicators |

# Step 1: Plan the survey

***Plan the survey***

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Plan the survey | * Select the coordinator and manager * Establish objectives * Decide on geographic area and timing * Select the sample * Determine staffing needs * Estimate and secure the budget * Begin ethical approval | Worksheet 1: Sample size calculator  Worksheet 2: CHW listing form  Worksheet 3: Supply calculator  Worksheet 4: Budget template |
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**Plan the survey**

Careful planning is essential for a successful survey. The approximate time required for planning is four weeks. Additional time may be required to obtain data that will be used for sampling. An outline of planning tasks is shown in the table below. Deciding on the survey scope and objectives and then sampling are particularly important steps that will influence how survey data can be interpreted and used.

The following instructions describe each of the planning tasks in more detail. Use this information to guide what you and the survey planning team need to do in advance.

## Select survey coordinator

A coordinator is essential for planning and overseeing all survey activities. The coordinator will ensure that all survey tasks, from planning for the survey to follow-up activities, are completed in a timely manner. The survey coordinator is usually selected in collaboration with local staff involved with implementation of the program who may include Ministry of Health program managers at the national or district level and staff of implementing groups or organizations who work in close collaboration with the Ministry. No survey planning activities should begin until a competent survey coordinator has been selected. Desirable professional experience for the survey coordinator includes:

*Essential*

* Technical training in the area of newborn and child health and nutrition;
* Previous survey experience;
* Experience in administrating, managing and budgeting public health projects.

*Highly desirable*

* Current or previous work experience in the health system or school of public health or university;
* Familiarity with the public health system, local health staff, and good working relationship with staff in charge of implementing RMNCH programs;
* Knowledge of the geographic area where the survey will be conducted
* Knowledge of data analysis software.

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**→** Consult with national and local program managers to determine possible candidates for survey coordinator.

## Form a survey coordination team

A small team is useful for taking charge of planning and preparation. Members of the coordination team can also work as supervisors for the collection and interpretation of survey data. Later this team is responsible for ensuring that actions are taken based on the recommendations. Careful selection of team members can help ensure legitimacy of the survey and acceptance of survey findings. Staff from various levels who have knowledge of implementation in the field are important. If possible, staff with responsibility for community activities should be included – these staff will usually be from more peripheral areas. Staff should have time available for the full period of the survey.

The survey coordination team could comprise staff with expertise in:

* Newborn and child health
* Nutrition
* Health promotion/communication
* HMIS/statistics (data)
* Data management
* Electronic data capture programs (if using CAPI).

Types of staff that could be included include:

* National level staff involved with planning and implementing RMNCH programs –

especially child care. Staff from national statistics units with experience

in sampling and conducting household surveys may also be useful.

* Regional/district staff with responsibilities for RMNCH (eg. District Medical Officer,

district supervisor, head of district hospital, health care workers). Staff from other

divisions that are an important component of child health could also be included, including – health promotion/communication, health systems, and monitoring and evaluation.

* Partners supporting child health program locally (eg. local and international NGOs,

bilateral cooperation agencies, UNICEF and WHO).

* Staff from universities, nursing schools, research institutions or local pediatric

associations.

**→** Consultwith RMNCH program managers to decide on the membership of the survey

coordination team and form the coordination team.

## Establish survey objectives

The general objectives of the survey need to be reviewed and additional objectives added if necessary. The objectives will help determine the geographic area selected and the sampling strategy. The general survey objectives do not require changes to the basic survey instruments.

Additional objectives will depend on the scope of the survey. Some additional objectives may require larger sample sizes. This will add to the time required to collect data and to the overall cost of the survey.

The general objectives of the newborn, child and nutrition survey are to:

1. Provide program managers with information in targeted areas on:

* **Quality of care**: Current quality of community-based care delivered by community providers - including assessment, classification, treatment and counseling of sick children and their caregivers; screening and counseling of newborns and their caregivers; and satisfaction with nutrition screening.
* **Implementation strength**: Current availability of key health system supports that are required for the implementation of community-based newborn, child and nutrition care; including medicines, supplies and equipment, supervision, training, communication activities and availability of services.
* Principal barriers to effective newborn, child and nutrition services.

The purpose of the newborn, child and nutrition survey is to use this information to:

* Calculate key indicators for evaluating progress towards program targets.
* Prioritize and plan strategies for improving the quality of community-based care, including; case-management and counseling practices, medicines and supplies, supervisory practices, equipment needs and staffing.
* Plan and strengthen training for community health providers.
* Improve or develop strategies for supervision and monitoring of community health providers.

Additional objectives to be considered include:

* Compare results between different sub-groups

Sometimes it is useful for planning to have information on groups where utilization, implementation strength, and quality of care may differ. These include: different geographic areas; religious, language or ethnic groups; castes or tribal groups; and socioeconomic groups. In addition, in can be useful to compare areas where implementation strategies have been different. Comparisons between different population groups increases the sample size required – and therefore increases the time and costs of the survey. Data analysis is also more complicated.

* Compare intervention coverage in the same area over time

Longitudinal comparisons of the same area over time – before and after program implementation – require an increased sample size and more than one survey round. The time required and costs of collecting data in the field are increased. Data analysis is also more complicated.

When formulating objectives, it is important to decide whether implementation strength will be assessed alone or in combination with quality of care, since this can determine whether field visits are required for data collection.

**Implementation strength assessments** are used to determine whether or not health systems and providers have the capacity to deliver quality services. They may be conducted more frequently than quality of care assessments to track program implementation. Data are used to improve the provision of essential system supports for care. Implementation strength assessments can be conducted using phone interviews if a high proportion of community-based staff have phones, phone numbers are available and phone connections are reliable. Otherwise, implementation strength assessments must be done in person using field visits.

**Quality of care assessments** are used to determine whether CHWs deliver care according to quality standards. Quality of care assessments require field visits and direct observations of care. Since field visits are required, quality of care assessments are usually combined with implementation strength assessments to reduce staff and logistics costs. It is recommended that all quality of care assessments include an implementation strength assessment, since data on availability of essential medicines and supplies and other systems supports is required to assess quality.

**→** Work with survey coordination team to review basic survey objectives and decide whether additional objectives are needed.

|  |
| --- |
| **Consider a phone-based implementation strength assessment when:**   * Observations of practice are not required * Field conditions make travel to communities difficult or time-consuming * All or a majority of CHWs in the target area have mobile phones * Phone networks provide reliable coverage to all or most of the target area * Telephone numbers for all or a majority of CHWs can be obtained by calling facilities or from district records |

## Decide on the geographic area and timing of the survey

### Geographic area for the survey

The geographic area for the survey will be determined by survey objectives. Since the survey is usually designed for sub-national planning, areas selected for the survey will usually be local administrative divisions. Survey areas could include:

A single district

To determine estimates of implementation strength and quality of care in one district that is delivering community-based newborn, child and nutrition interventions or is the target for new interventions. These data are used by district managers to review and plan activities in their own district.

A sub-population within a single district

To determine estimates of implementation strength and quality of care in a sub-population in one district that is delivering community-based newborn, child and nutrition care interventions or is the target for new interventions. Sub-populations might include high risk or remote areas. Data will enable district managers to review and plan activities in the sub-population. This option may be appropriate if: 1) the sub-population represents a high proportion of the total population of the district; 2) the sub-population is believed to be performing differently than others in the district; 3) program activities are specifically targeting the sub-population.

A group of districts or region

To determine estimates of implementation strength and quality of care in a group of districts or a region that are delivering community-based newborn, child or nutrition care interventions or are the target for new interventions. These data will enable district managers to review and plan activities in the selected group of districts. By combining districts, costs and staff time required are reduced for each district. This option may be appropriate when the populations of the selected districts are believed to be similar on a number of key criteria including: geographic, socioeconomic, ethnic or tribal characteristics, and the aim of the survey is to determine what is happening across the districts as a group rather than each district on its own.

The catchment area for specific projects or health organizations

To generate project-level estimates of implementation strength and quality of care in areas managed by a project organization. These data will enable project staff to plan interventions in the project area, with repeated surveys, to evaluate progress over time.

A study area for operations research

To determine implementation strength and quality of care to evaluate different approaches to delivering new or existing community-based newborn, child or nutrition care interventions. Sampling for the surveys is conducted to allow comparisons between an intervention and a comparison group. Survey findings are shared with national and local health authorities to improve the planning and implementation of family planning programs. Operations research methods are not discussed in these guidelines.

**→** Work with survey coordination team to review survey objectives and decide on the geographic area for the survey

### Timing of the survey

If implementation strength is being assessed by phone survey, without field visits, then survey timing may be less important because staff can be called at any time, phone network coverage permitting. Issues to consider when deciding when to conduct the field visits include:

Seasonal variation in weather conditions, income, farming activity and disease prevalence.

There may be times of the year when care seeking in communities is increased or decreased by changes in accessibility, availability of income or seasonal activities such as farming. Seasons of high malaria transmission or of childhood diseases may also increase care seeking for these conditions.

Accessibility of communities, availability of surveyors and transportation

All survey activities must take place when communities are accessible. This should be the primary consideration when deciding on timing. Surveys are often difficult during rainy periods. In addition, it is important to ensure that local staff who will be interviewers and supervisors are available, and able to spend at least 4 weeks on survey activities. Transportation for survey teams must be available during the proposed survey period.

Local holidays, festivals or market days and planting or harvest periods

Ideally, clients will be visiting community providers at the time of visits by survey teams. It is important to maximize the chances of finding clients by paying attention to religious or community events that will mean that provider visits will be less likely. Visits should not be scheduled during festivals or market days. During some seasons, in particular the harvest season, respondents may be less likely to make provider visits since they will be working on the harvest. Ideally, provider visits should not be scheduled during this period. It is important that local knowledge of all of these factors be taken into account when scheduling dates for the survey.

**→** Work with survey coordination team to decide on the timing of the survey. Once survey dates have been finalized, the survey coordinator can begin selecting and notifying interviewers and supervisors, and planning dates for interviewer training.

## Select a sample of CHWs

To ensure that the providers included in the survey are representative of all community health workers (CHWs) in the target area, the survey coordination team must use a rigorous sampling method. To ensure that the survey results provide precise estimates of quality, it is important to select a sufficiently large sample.

### Decide whether to use a census or sample of community providers

A **census** includes all CHWs in the geographic target area of the survey. Sampling is not required. This provides the most precise description of implementation strength and quality of care delivered at in the target area. A complete census might be possible where the geographic target area of the survey is small, and the number of CHWs is limited, as would be the case in a small district, or a health project with a limited geographic scope.

A randomly selected **sample** of CHWs is more practical when it is not possible to visit all providers in a target area. Samples provide valid information, with a high level of confidence, on what is happening in the target area as a whole. To ensure that the CHWs in the sample are representative of all CHWs in the target area, the survey coordinator, in collaboration with local counterparts, must use a rigorous sampling method to select CHWs to be surveyed. To ensure that the survey results provide a precise estimate of newborn, child, and nutrition care, it is important to select a sufficiently large number of CHWs.

**→** Review the objectives of the survey, the size of the target area for the survey and the estimated time and resources available (see section 1.6) to decide whether to conduct a census or sample of CHWs.

### Decide whether to use a single sample or a stratified sample

Select a **single sample** of CHWs from all the CHWs in the survey area if the program is interested in the *overall results* of the survey. This means that the program does not want to compare results between different areas or groups in the survey area.

Select a **stratified sample** when:

* *The country-specific objectives require a comparison of newborn, child and nutrition services in different locations under different conditions*. For example, separate samples could be selected from different geographic areas, or between urban and rural communities.
* *Newborn, child and nutrition services are provided by different groups of CHWs.* Each group of CHWs should be sampled separately if valid information is required on indicators for both areas.
* *Important differences are expected between different groups of CHWs*. A stratified sample may be taken because differences are expected in program implementation or the quality of case management provided by different groups or types of CHWs. For example, in some countries, the care received by CHWs who have received 1-year government training may be different from those who have not received this training. For this reason, it may be helpful to select a separate, independent sample of CHWs who received more comprehensive training. Each group of CHWs compared within the same survey is considered a sampling stratum, and a sample is drawn from each stratum.

There are important practical considerations when deciding whether or not to stratify the sample. With a stratified sample, the required sample of CHWs must be drawn from *each* stratum, in order to be able to detect differences between strata. This increases the numbers of CHWs required for the whole survey and the amount of time required to collect the data. There are other important limitations to stratification of the sample. It is may be difficult to observe a sufficient number of cases to demonstrate differences between management practices between different strata. Also, analyzing the results of a stratified sample is more difficult. The sections that follow will focus on how to select a random sample of facilities when the primary interest of the survey is the overall results.

### *Determine the sample size*

For this survey, the primary sampling unit is CHWs providing newborn, child and nutrition care. CHWs are interviewed, client interactions observed, and caregivers interviewed. Sick children are re-examined after the CHW has seen them.The sample size required depends on a number of parameters, including the indicator being measured, the range of values expected, the margin of error that will be accepted, and the design effect. In addition, sample size will vary depending on whether data will be used as a single point estimate, or whether baseline and endline surveys will be used to look for differences over time after an intervention has been conducted (detectable differences between groups). Worksheet 1, the sample size calculator, is used to estimate sample size (See worksheet 1 and table 3). Survey coordinators use the sample size spreadsheet to input all the sample assumptions used locally. The spreadsheet will then automatically calculate the sample size required.

Enter the parameters needed to calculate the sample size into the spreadsheet:

**Indicator to be measured (column A in the spreadsheet)**.

A full list of indicators is presented in Worksheet 5. For sampling, the primary sampling unit is CHWs. For sampling, indicators fall into 2 categories:

1. Community health worker knowledge, practice and support (CHWs receiving training, supervision, providing care with essential equipment, medicines and supplies available)
2. Observed home client care (sick children receiving care according to standards, including assessment, classification, treatment and counseling; newborns receiving assessment and referrals, and their caregivers receiving counseling, according to standards);

**Denominator for each indicator (column B in the spreadsheet)**.

Denominators vary depending on the indicator being calculated. Column B describes the denominator required to measure the indicator. For example, sick children receiving care according to standards is calculated for all sick children seen by the CHW; and knowledge of counseling by method is calculated for CHWs.

**Number of units available in the stratum (column C in the spreadsheet)**.

The number of CHWs or clients in the sampling frame are estimated. Numbers of CHWs may be available from district, regional or national records or program documents. The number of expected clients in the sampling frame is based on the estimated number of children < 5 years; pregnant women or postpartum women (from census estimates or projections).

**Estimated coverage (column D in the spreadsheet)**

The coverage for each indicator is estimated. Estimates should be based on local data, if available. If local data are not available, it is recommended that a coverage estimate of 50% be used to ensure that the sample size is large enough. For estimates of detectable differences, estimates of coverage both before and after the intervention are needed.

**Desired precision** (**Column E in the spreadsheet**)

The limits of precision (margin of error) that will be accepted is entered – in percentage points. If a 10% margin of error is assumed, and the survey calculates a coverage of 70%, then we are 95% confident that the true population rate lies between 60% and 80%. The smaller the margin of error, the more precise the estimates will be. The larger the margin of error, the less precise the estimates will be.

**Design effect (Column F in the spreadsheet)**

Sampled CHWs represent ‘clusters’ of child and nutrition clients. Clients managed by the same CHW (or cluster) are more likely to be managed in the same way (because they are seen by the same health worker, under the same conditions), than if each was observed with a different CHW picked using random sampling. This sameness (homogeneity) means that we learn less from two cases managed by the same CHW than we would from two cases not managed by the same CHW. This introduces a new level of imprecision to the calculation of overall estimates called the design effect. **To compensate for this design effect, the number of clients sampled in a cluster sample should be increased.** The design effect can be calculated after a survey and depends on three things: the average cluster size, the variation between clients managed by the same CHW and the variation between different CHWs.The median design effect for facility surveys is estimated to be approximately 1.5. The design effect must be taken into account when calculating sample sizes for comparing results between groups (see section 7 for a further summary).

**Required number of units for an infinite sample (column G in the spreadsheet).**

Having entered the required data, the spreadsheet will automatically compute the required number of CHWs or clients needed if there was no limit to the number that could be sampled (the infinite sample size). Since most sampling frames are limited, this total is then adjusted for the number expected.

**Required number of units adjusted for available units (column H in the spreadsheet).**

The sample size is adjusted by the finite population correction factor, using data on the expected numbers of providers and clients. The finite correction factor for providers is calculated using the number in the sample area (column C). The finite correction factor for number of clients calculated using the number in the sample area (column C), adjusted for the number of CHWs available in each area (estimated from district or program records) and the number of clients that can be seen by each provider on the day of the facility survey visit – including sick children < 5 years, pregnant women or postpartum women. The number of client visits expected each day can be estimated using CHW register data, if available (see section 1.5.4). At least 1-2 average client visits are required to allow observations on the day of the survey visit.

**Required number of units adjusted for available units adjusted for non-response (column I in the spreadsheet).**

For field surveys, it is recommended that the estimated number of clients needed be increased by 10%, to allow for non-response (such as refusals or non-consent); and that the number of CHWs is also increased by 10% to allow for non-availability and other factors that make contact difficult. For phone surveys, it is recommended that the estimated number of CHWs is increased by 20% to allow for non-response due to poor network coverage, broken phones and other factors that make contact difficult.

Decide on the final sample size

The number of CHWs that must be selected to obtain the desired sample size will vary with the indicator being measured. Implementation strength assessments will require CHW interviews, while quality of care measures require observations. Indicators for which the coverage is estimated to be lower, will require larger sample sizes and higher numbers of CHWs. When deciding on the final sample size, ensure that assumptions about the estimated numbers of the target population at each facility and estimated current indicator coverage are updated with recently available data. Consider adjusting the desired precision. Finally, select the largest sample that is logistically feasible, taking into account the availability of time, financing, staff and whether field visits will be required. It may not be possible to estimate all indicators with a reasonable precision if they require a number of CHW visits that is logistically impractical.

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| SUMMARY: WHEN IS A SAMPLE BIG ENOUGH?It is important to balance the desire for precision with the amount of effort and resources needed to collect data. When considering the optimal sample size ask, “How much would we gain from the extra cost and effort to collect additional data?” Smaller samples with lower levels of precision may be adequate to provide descriptive data for sound decision making. If the survey is to be used for hypothesis testing or other forms of analytic research, greater precision may be necessary. Consider increasing the sample size only if you are interested in making comparisons—either across time, between control and intervention communities, or between different segments of the target population. |

**→** Work with survey coordination team to decide on a final sample size and number of CHWs to be visited. Take into account the precision needed, the logistics of collecting data (whether telephone interviews or field visits will be necessary) and the time and resources available

**Table 3: SAMPLE SIZE SPREADSHEET FOR RADAR ISA QoC SURVEY - PRECISION FOR POINT ESTIMATES**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** |
| **Indicator** | **Denominator** | **Number of units in stratum** | **Estimated value (%)** | **Desired precision (% points)** | **Design effect** | **Required number of units for an infinite sample** | **Required number of units adjusted for available units** | **Required number of units adjusted for non-response** |
| **Section A - Indicator with CHW as unit of analysis (when entire list available / sampling frame known)** | | | | | | | |  |
| % providers with knowledge of at least 4 counseling messages for exclusive breastfeeding | Number of CHWs in strata | 100 | 50 | 5 | 1 | 400 | 80 | 88 |
| % of CHWs with a working infant and child scale | Number of CHWs in strata | 100 | 50 | 5 | 1 | 400 | 80 | 88 |
| % of CHWs receiving supervision visit in last 3 months | Number of CHWs in strata | 100 | 50 | 5 | 1 | 400 | 80 | 88 |
| **Section B - Indicator with CHW as unit of analysis (when entire list not available / sampling frame unknown)** | | | | | | | |  |
| % provider with knowledge of at least 4 counseling messages for exclusive breastfeeding | Number of CHWs in strata | 100 | 50 | 5 | 3 | 1200 | 92 | 101 |
| **Section C - Indicator with clients / users as unit of analysis (sampling frame unknown)** | | | | | | | |  |
| % sick children correctly classified | Number of sick children s in strata |  |  |  |  |  |  |  |
| % of postpartum women given at least 5 messages on complementary feeding | Number of postpartum women in strata |  |  |  |  |  |  |  |

### List all the CHWs in the sampling area

Obtain a complete list of CHWs eligible for inclusion in the survey

A complete list of all eligible CHWs in the sampling area is required. CHWs include those supported by the government as well as by NGOs and mission activities, depending on the objectives of the survey. Data on functional CHWs are best obtained from district-level staff. *A separate list is needed for each stratum if stratified sampling is to be conducted*.

Exclude CHWs from the sampling frame if necessary

Ideally, no CHWs should be excluded from the list from which the sample is drawn (the sampling frame). This will ensure that the sample is representative of all CHWs in the survey area, and will therefore present the most accurate picture of current practices. It is sometimes necessary, however, to exclude some CHWs for practical reasons. To determine whether exclusions are necessary, local health staff (usually district staff) should be consulted.

Reasons for excluding a CHW include:

• Does not provide newborn, sick child, or nutrition services;

• Is not working regularly;

• Cannot be reached during the survey period because of security concerns or difficulties accessing the CHW area due to geographic isolation or difficult travel conditions (field visits).

Observations of sick child care and newborn and nutrition screening and counseling are usually possible in the field because CHWs can conduct home visits to identify cases and conduct counseling when the survey team is present.

Order the list of CHWs by geographic area

Systematic random sampling is used to select CHWs to be included in the sample. To ensure that the sample is representative of all CHWs in the sampling area, the list of CHWs needs to be ordered by geographic area. For example, within a district the CHWs can be listed from the most remote to those that are closest to the district capital. Similarly, when several districts are to be included, CHWs can be listed by each district in turn. By ordering the list in this way, it makes it more likely that the sample will include all geographic areas, making it representative of the sampling. Worksheet 2, the CHW listing form, is used to list CHWs (See worksheet 2: facility listing form).

### Select a sample of CHWs

CHWs are selected by **systematic random sampling**. The final list of CHWs compiled in section 5.4. represents all CHWs eligible for sampling and is called the sampling frame. The *sampling frame* should include all CHWs in the geographic area that have been identified as eligible for inclusion in the survey. It is from this list that the final sample of CHWs is selected.

**Select the sample of CHWs to be visited using systematic random sampling**

1. Number all the CHWs in the sampling frame sequentially. Give each CHW a unique number. Write the CHW number in the space provided in Worksheet 2 (see example in Table 3).
2. Select a sampling interval (*n*). The sampling interval is the total number of CHW in the sampling frame divided by the required sample size.

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| **Formula for calculating a sampling interval:**  SAMPLING INTERVAL = Total number of CHWs to be surveyed (sample size)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Number of CHWs  Example:  Example: There are 400 CHWs in the sampling frame. The required sample size is 88. The sampling interval is 500/100 = 4.54 (5).  *Note:* round the sampling interval up to the nearest whole number |

* Sample CHWs. Use a random number table to select a random number (see Table 3). This number is the starting point on the list to begin selecting CHWs. The random number must be less than or equal to the sampling interval. You can select this random number by using a calculator, a computer, a table of random numbers from a statistics textbook or even by asking someone to choose a number within this range. In the example presented in Table 3, the random number selected is 0.04. This is multiplied by the total number of facilities to give the number 4. This is the randomly selected starting CHW.
* Identify the corresponding CHW on the list of all CHWs and mark this CHW as a selected CHW.
* The first selected CHW is the starting point for the sample. Count down the list by the sampling interval (n). If you reach the end of the list start again from the top. The nth facility on the list is the next selected CHW. Repeat this process until the total number of CHWs selected is equal to the total sample size.
* If the sample is stratified, the above steps need to be completed for each stratum separately.

Note: Occasionally, CHWs may have left the area of or may not be working on the day of the survey visit. In this situation, a replacement CHW is selected from the list of extra CHWs selected during sampling (10% of the required sample) (Page 20). Supervisors list pre-selected replacement CHWs in the stratum or population area that are accessible to the survey team. One replacement CHW is then chosen by simple random sampling. This is done by in discussion with district managers (see Step 3).

**Table 3: Example systematic sample of CHWs**

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| **Total CHW N = 400** | | | **Number of CHWs**  **in the sample: N =88**  **Sampling interval: n = 5** |
| District/geographic area | CHW name | Number | Selected facility |
| Manya-Krobo District | Akuse | 1 |  |
|  | Anyaboni | 2 |  |
|  | Odumase | 3 |  |
|  | Sekesua | 4 | * Random start |
|  | Djama | 5 |  |
|  | Aborpa | 6 |  |
|  | Akateny | 7 |  |
|  | Kpong | 8 |  |
|  | Alima | 9 |  |
|  | Assesiwa | 10 |  |
| Atwima District | Barekese | 11 |  |
|  | Abuakwa | 12 |  |
|  | Nkawie | 13 |  |
|  | Asuofua | 14 |  |
|  | Gyereso | 15 |  |
|  | Ntoboroso | 16 |  |
|  | Nyahinahin | 17 |  |
|  | Alanin | 18 |  |
|  | Katany | 19 |  |

This table shows the selection of the first four CHWs from a list of CHWs ordered by district. The random number selected was four, so the fourth facility on the list was selected as the starting point. The sampling interval was five and every fifth facility was selected. This process is repeated, down the list, until the desired sample size (in this case 88) is obtained.

## Estimate and secure the budget

Once the CHW sample has been selected, it is possible to calculate the estimated budget. It is important that a clear and detailed budget is prepared and agreed upon before initiating activities. The amount of resources available will also influence decisions about sample size, total staff needed and time required for data collection.

All survey activities should be included in the budget, including those related to analysis, feedback and dissemination of results. If the budget is limited, it may be possible to reduce the number of personnel used to save costs.

Worksheet 3, the field supply calculator, is used to estimate supplies needed based on the number of staff in the field (See worksheet 3). Worksheet 4, the budget template, is used to estimate the total budget based on estimated staff requirements and days of work (see worksheet 4). The content of these worksheets is shown at the end of this section.

To estimate budget requirements estimates of total staff and days of fieldwork are required:

### Total staff needed to conduct the survey

*Phone survey (no field visits)*

Interviewers based in a central location call CHWs providing newborn, sick child and nutrition care. Teams are usually composed of 1 supervisor and 2 interviewers. The number of teams required depends on the number of CHWs sampled, the number of questionnaires that need to be completed and time allocated for data collection. Total questionnaires completed for the newborn and child survey and the nutrition care survey is 1 (1 CHW interview on care services and practices). It is assumed that each team can on average complete interviews for 2- 4 staff per day (with interviews sometimes spaced over several days depending on staff availability). Each team of 3 can therefore conduct interviews with 10-20 CHWs per 5-day week. Four teams (12 people) can complete 40-80 CHWs per week. To ensure that interviewers are well trained and produce valid and reliable data, it is recommended that the number of interviewers does not exceed 30.

*Field visits*

For the sick child assessment, one of the interviewers should have a clinical background because they will be conducting re-examinations of sick children.

Survey teams each visit one CHW per day on average. Teams are comprised of 1 supervisor, 1 general interviewer and 1 interviewer with a clinical background (3 people). The number of teams required will depend on the number of CHWs selected, the geographic scope of the survey and the time available for field work (See box). Total questionnaires completed are: newborn and sick child survey 6 (1 CHW interview, 1 observation of sick child practice, 1 re-examination of sick child, 1 exit interview – sick child, 1 observation of newborn home care, 1 exit interview- newborn); nutrition care survey 2 (1 CHW care service interview; 1 exit interview). To maintain data quality, it is best to keep the number of interviewers as low as possible to ensure that interviewers all ask and interpret questionnaires in the same way; while ensuring that numbers are large enough to allow data to be collected as quickly and efficiently as possible. Where feasible, around 30 interviewers make training easier and help maintain data quality. Four or 5 additional interviewers should be included in training in case of drop-outs and to ensure that all interviewers meet performance standards (test scores, participation, field pilot).

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| **Deciding on the number of interviewers: example field survey**  100 CHWs are sampled in 6 districts   * 8 survey teams are established * Each team has 1 supervisor (8) * Each team has 2 interviewers (16) * Two central supervisors oversee field teams (2)   Total personnel for data collection = 26 |

### Days of fieldwork and travel

Phone surveys do not require field work. A central venue may be required where teams can be based for phone calls.

*Field survey*

Survey teams visit 1 CHW per day on average. Additional days should be budgeted for facilities requiring a second day (see Box). Time for travel to and from field sites should also be budgeted and time off when needed. Total days required increases with the sample size and number of teams.

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| **Deciding on days of fieldwork and travel: example field survey**  100 CHWs sampled in 6 districts  Eight teams of 3 people visit an average of 12 CHWs   * Assume 96 CHWs will be visited on 1 day (12 days) * Assume 4 CHWs will require an additional day (4 days) * Assume 2 days are required for travel to and from field sites (2) * Assume a break of 2 days in the middle of data collection (2)   Total days required: 20 |

Shorter periods in the field are desirable, since it is often difficult to get supervisors away from their routine responsibilities. The number of interviewers, supervisors, and days required to complete the survey will vary according to factors such as resources, weather conditions, and number of interviews needed. Sometimes the availability of personnel and transport will influence how many teams can be used.

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| **Balancing quality of data and efficiency of data collection: field surveys**  It important to consider the trade-offs between the number of interviewers, the length of data collection, and the quality of data. Having a small number of interviewers (and therefore, fewer survey teams) increases the amount of time needed to complete all of the interviews and observations, but may increase the internal consistency of the information collected. Increasing the number of people involved in data collection can reduce the time required in the field and promote greater ownership of the data collection process and results. A larger number of interviewers might result in greater variation (less consistency) in the quality of interviews and observations conducted. |

### Coordination and management

One or more survey coordinators and 2-4 field data collection coordinators are needed. The number of coordinators will vary with the size of the survey. Since the survey will use electronic data entry using tablets, a data Manager / IT specialist is required to set up these systems, solve problems and assist with data management and analysis. Total days required needed to be estimated, depending on locally decided roles and responsibilities. Both categories of staff may need time for field visits, as well as time in a central location. The survey coordination team may provide external oversight of survey and mapping teams (see above), which will determine how many days in the field will be required.

Once total personnel, days of fieldwork and travel have been estimated, it is possible to estimate field supplies needed and estimate the detailed budget (Worksheet 3: field supply calculator and Worksheet 4: Budget template for estimating field survey costs).

Additional key components of the budget include:

* Preparatory meetings to plan the survey (including deciding on objectives, scope,

geographic area, sampling and survey methods, applying for and securing ethical review), and prepare the survey (including identifying supervisors and interviewers, planning field work and training).

* Adapting and back-translating the survey.
* Pre-testing survey instruments with survey staff not involved in questionnaire

creation to ensure that that question wording, answer choices, and skip patterns all

make sense.

Pilotingsurvey instruments with CHWs not been sampled for the surveyand

walking through the survey tasks including observing practice, conducting exit interviews and testing instruments with real staff for clarity.

* Training of survey staff (4-5 days with size of the venue and other costs dependent

on the number trained);

* Data management including preparing for electronic data entry using tablets or PDAs

and data management, cleaning and analysis;

* Field work (interviewers, supervisors, vehicles, fuel, drivers and accommodation);
* Field supplies (Occasionally small gifts may be given to CHWs or caregivers who

participate in the survey. This may be appropriate in certain cultures and must be approved by national and regional authorities. Costs are generally low, but need to be budgeted).

* Communications for field staff, supervisors and coordinators (cell phone and other);
* Analysis and discussion of findings (staff, computers and a venue);
* Dissemination of findings (production of report, workshops or meetings).

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| **Planning the budget: Develop a transportation plan**   * Transportation is required to the location where each CHW will be interviewed and observed.. Drop-offs and pick-ups will need to be scheduled in advance. * If resources permit, it is recommended that each survey team have one vehicle. Staff may share vehicles, take taxis, motorbikes, or use bicycles. * Calculate the number of vehicles needed (to and within the survey area). Teams in adjacent survey sites may share vehicles. Do not forget that supervisors may need a vehicle during the day to move between teams. * Map the survey sites to determine location and time/distance in getting to CHWs. It is helpful to indicate important landmarks such as roads, schools, and churches, temples, or mosques on each map. Use the map to decide on types of transportation needed. * Calculate budget for fuel, maintenance, and drivers. Hire drivers who are familiar with the layout of the project area. Drivers can also serve other roles during the survey such as guides or providing security for equipment, if necessary. |

It is the responsibility of the survey coordinator, in collaboration with local counterparts, to identify and secure funding for the full budget. National and international partners may be interested in contributing resources for the survey.

**→** Work with survey coordination team to finalize and secure the budget. Ensure that all elements of the survey, including data analysis, discussion and dissemination of findings, are funded. Modify sample size, number of staff needed or timing if required.

## Begin ethical approval

Most countries have a process of ethical approval for research with human participants or personal data, requiring review by a national research ethical body. This body will have protocols for community-based surveys. The survey coordinator should apply to the ethics body to secure the local protocol required. Example ethics review templates are included in Reference weblink 1: planning

Ethical review will require the following parameters to be addressed:

### Respecting autonomy

Wherever possible, the survey should demonstrate that the autonomy of individuals involved in the research is respected. Normally this will include:

* Providing research participants with sufficient information to make an informed decision as to whether to take part in research (informed consent), both before the interview and, if necessary, during the interview;
* Ensuring that participants are not subject to coercion to take part or penalty for not taking part, including reassurance that there is no risk to their employment status by participating, nor that their performance will be shared with supervisors;
* Ensuring that participants are aware that they are free to withdraw from the research at any time without giving a reason and without prejudice;
* Protecting and respecting personal data provided by participants through rigorous and appropriate procedures for confidentiality.

### Maximizing benefit

The research should have beneficial effects that outweigh the risks posed by the project (see below). The potential benefits of research should be presented realistically and not be exaggerated. To maximize benefit, it is required that the research is designed, reviewed and conducted using methods that maximize the quality of data obtained; ensuring that research is effectively and appropriately disseminated; and ensuring that aims of the research are transparent and that the methodology used is appropriate to addressing them.

### Minimizing harm

All possible risks of harm that might be posed should be minimized, keeping in mind that certain harms, such as distress, embarrassment or anxiety, can be subjective and difficult to predict. For observation of clinical observations, survey procedures, strategies to minimize embarrassment are needed including using female observers and ensuring that they observers are positioned to maintain modesty. Ethics committees require a clear statement about how potential harm will be avoided and dealt with, should it occur. It is normally expected that any risks of harm are outweighed by the benefits of the survey.

### Fairness

Research should be fair to those participating in research. It is important to show that the survey team will make efforts to ensure that data are used to help facilities, communities and participants where data are collected and that the survey does not unfairly discriminate against certain individuals or groups.

### Behaving with integrity

Any actual or potential conflicts of interest that affect the survey research should be identified. It is important to be honest and transparent throughout the ethical approval process and the research process. Any plans to withhold information from research participants should be explained and justified in an application for ethical approval.

Provided the above principals are applied through the local ethical review process, there should be no difficulty securing approval for the survey which should pose to significant risks to survey populations, respects autonomy has potential benefits for the populations under review.

**→** Obtain protocols and paperwork from the ethical review committee locally. The timing for approval should be carefully noted and submissions made early enough to ensure that approval will have been received prior to beginning fieldwork. If fees are required, ensure the survey budget includes amounts, mechanism for payment and is adequate to pay all fees.

**Worksheet 2: CHW listing form for the sick child and nutrition care survey**

(Worksheet 2: community listing form). Enter the district, CHW name and number).

|  |  |  |  |
| --- | --- | --- | --- |
| **Total N =** | | | **Number of CHWs in the sample:**  **Sampling interval:** |
| District/geographic area | CHW name | Number | Selected CHW |
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**Worksheet 3: Field supplies required for the newborn, child and nutrition care survey**

(Worksheet 3 field supply calculator). Enter the number of teams and total staff for the survey. The worksheet will estimate total supplies needed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Description** | **Required for phone survey** | | **Required for field survey** | | **Total number required** |
| **Yes** | **Quantity** | **Yes** | **Quantity** |
| **Field supplies** | | | | | | |
| Backpack | For interviewers and team leaders / supervisors to carry and protect all items | No | 0 | Yes | 0 | **0** |
| Batteries for lamps (optional) | For lighting if lodging does not have electricity | No | 0 | Yes | 0 | **0** |
| Pens | For writing | Yes |  | Yes | 0 | **0** |
| Box Files | Organize incoming paper data quality forms and signed consent forms | No | 0 | Yes | 0 | **0** |
| Clip board | Hard surface to for writing | No | 0 | Yes | 0 | **0** |
| Erasers | For erasing on maps | Yes | 0 | Yes |  | **0** |
| Extra lead for pencils | For completing questionnaires | Yes | 0 | Yes |  | **0** |
| First aid kit | Standard first aid supplies in case of emergency or injury | No | 0 | Yes | 0 | **0** |
| Hole puncher | For papers to put in box files | No | 0 | Yes | 0 | **0** |
| ID Cards | Name, title, and project affiliation for all staff | No | 0 | Yes | 0 | **0** |
| Insurance for survey field workers (optional) | Depends on in country / partner requirements | No | 0 | Yes | 0 | **0** |
| Lamps (optional) | For lighting if lodging does not have electricity | No | 0 | Yes | 0 | **0** |
| Mosquito nets (optional) | For malaria protection if lodging does not provide | No | 0 | Yes | 0 | **0** |
| Notebooks | For note keeping | Yes | 0 | Yes |  | **0** |
| Permanent markers | For training | Yes | 0 | Yes | 0 | **0** |
| Plastic Folders / binders | For carrying mapping manual and forms | Yes | 0 | Yes | 0 | **0** |
| Project Picture Card (s) | Laminated card explaining purpose of program and/or copy of letter from national or regional authorities giving permission to conduct the survey | No | 0 | Yes | 0 | **0** |
| Reams of paper | For printing paper consent forms, manuals, checklists, and quality control forms | Yes | 0 | Yes | 0 | **0** |
| Stamp pad | Obtaining consent finger print for respondents who cannot sign | No |  | Yes | 0 | **0** |
| Stapler and staples | For stapling | Yes |  | Yes | 0 | **0** |
| Umbrellas / rain coats (optional) | Rain protection, optional depending on season | No | 0 | Yes | 0 | **0** |
| **IT Supplies / Equipment** | | | | | | |
| Tablets | Computer assisted interviewing | Yes |  | Yes | 0 | **0** |
| Tablet sleeve / protector | To protect the tablet from harm | Yes |  | Yes | 0 | **0** |
| Mobile phones with chargers | Phone calls to facility and community staff and survey staff | Yes |  | Yes |  |  |
| Phone airtime | For daytime use during survey period | Yes |  | Yes |  |  |
| Power Bars with surge protection | To charge tablets every night | Yes |  | Yes | 0 | **0** |
| Adapters | Needed if tablets have a different electrical outlet | Yes |  | Yes | 0 | **0** |
| Solar chargers | To add extra battery if needed in the field | No |  | Yes | 0 | **0** |
| Generator plus fuel | Needed if lodging does not have electricity for charging and/or if electricity is not reliable | No |  | Yes | 0 | **0** |

**Worksheet 4: Budget template for estimating newborn, child and nutrition survey costs**

Calculate the number of staff and field days for the survey. Estimate supplies needed. The worksheet will estimate total budget needed (Worksheet 4: survey budget template).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item** | **Number** | **Frequency** | **Detail** | **Unit cost** | |
| **USD** | **Local currency** |
| **Personnel** |  |  |  |  |  |
| **All activities** |  |  |  |  |  |
| Survey Coordinator / Consultant |  |  |  |  |  |
| Data Manager / IT |  |  |  |  |  |
| Coordination Team Per Diem/field Overnight allowances |  |  |  |  |  |
| Data Manager / IT Per Diem/field Overnight allowances |  |  |  |  |  |
| Survey implementation team |  |  |  |  |  |
| **Phone survey** |  |  |  |  |  |
| Trainers |  |  |  |  |  |
| Supervisors - training days |  |  |  |  |  |
| Supervisors - call days |  |  |  |  |  |
| Interviewers - training days |  |  |  |  |  |
| Interviewers – call days |  |  |  |  |  |
| Central Supervision - call days |  |  |  |  |  |
| Additional personnel transport fees |  |  |  |  |  |
| **Field Survey** |  |  |  |  |  |
| Interviewers - training days |  |  |  |  |  |
| Interviewers - fieldwork days |  |  |  |  |  |
| Supervisor / Team Leader - training days |  |  |  |  |  |
| Team leader - fieldwork days |  |  |  |  |  |
| Supervisor - fieldwork days |  |  |  |  |  |
| Language expert - training days |  |  |  |  |  |
| Professional translator |  |  |  |  |  |
| Driver Perdiem - field work days |  |  |  |  |  |
| Additional personnel transport fees |  |  |  |  |  |
| Local guides in each district |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
| **Field accommodation** |  |  |  |  |  |
| Field accommodation supervisors/  Interviewers/coordinators |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Vehicles/Transport and Fuel** |  |  |  |  |  |
| Vehicles- field survey Team (field days+travel days) |  |  |  |  |  |
| Fuel – Field survey team |  |  |  |  |  |
| Vehicles - Field survey practice |  |  |  |  |  |
| Fuel - Field survey practice |  |  |  |  |  |
| Vehicles – Field survey - Central supervision |  |  |  |  |  |
| Fuel – Field survey - Central supervision |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Communications – phone and field surveys** |  |  |  |  |  |
| Airtime - Survey Coordinator |  |  |  |  |  |
| Airtime - Data Manager |  |  |  |  |  |
| Airtime - Central supervisors |  |  |  |  |  |
| Airtime – Phone or field Supervisors |  |  |  |  |  |
| Airtime - Interviewers – phone or field survey |  |  |  |  |  |
| External hard drive |  |  |  |  |  |
| Corporate sim cards |  |  |  |  |  |
| Talktime bundles |  |  |  |  |  |
| Internet bundles |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Phone or field Survey ToT Logistics** |  |  |  |  |  |
| Training venue rental |  |  |  |  |  |
| Coffee breaks |  |  |  |  |  |
| Lunch |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Ethics** |  |  |  |  |  |
| Local ethics committee fees |  |  |  |  |  |
| Foreign ethics committee fees |  |  |  |  |  |
| Data transfer agreement data |  |  |  |  |  |
| Local research permits |  |  |  |  |  |
| Local mapping institution fee |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Dissemination** |  |  |  |  |  |
| Data validation meeting costs |  |  |  |  |  |
| Dissemination events costs |  |  |  |  |  |
| Food |  |  |  |  |  |
| Copying/formatting needs |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Field supplies (supply calculator)** |  |  |  |  |  |
| **Sub-total** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Total direct costs** |  |  |  |  |  |
| **Margin** |  |  |  |  |  |
| **Overhead** |  |  |  |  |  |
| **Grand total** |  |  |  |  |  |

# Step 2: Prepare to conduct the survey

***Prepare to conduct the survey***

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Plan the survey | * Select the coordinator and manager * Establish objectives * Decide on geographic area and timing * Select the sample * Determine staffing needs * Estimate and secure the budget * Begin ethical approval | Worksheet 1: Sample size calculator  Worksheet 2: CHW listing form  Worksheet 3: Supply calculator  Worksheet 4: Budget template |
| 2 | Prepare to conduct the survey | * Adapt survey instruments * Translate, pre-test and pilot instruments * Select supervisors and interviewers * Prepare for electronic data entry * Plan analysis and dissemination * Prepare for survey staff training | Annex A: Survey instruments  Annex B: Survey question summaries  Worksheet 5: Survey indicators  Worksheet 6: Supervisor spreadsheet  Worksheet 7: HW listing sheet |
| 3 | Conduct and supervise the survey | Phone survey   * Make interviewer assignments * Call CHWs and facility providers * Finalize and check questionnaires * Complete end of day procedures | Worksheet 6: Supervisor spreadsheet  Worksheet 8: Interviewer performance checklist |
| Field survey   * Make arrangements for field work * Make CHW/facility field visits * Finalize and check questionnaires * Complete end of day procedures | Worksheet 7: HW listing sheet |
| * Recruitment and consent * Conduct survey interviews | Annex A: Survey instruments  Annex B: Survey question summaries  Annex C: Consent forms |
| 4 | Analyze and interpret data | * Retrieve/export data for analysis * Clean data * Finalize logistics * Conduct data review and analysis | Annex A: Survey instruments  Annex B: Question by question summaries  Worksheet 9: Priority indicators summary table |
| 5 | Use data for planning | * Establish a team to review findings * Review descriptive data * Review priority indicators * Explain observed gaps * Describe actions for improvement * Make conclusions/ recommendations * Summary report and feedback * Finalize and disseminate findings | Worksheet 10: Review of newborn, child and nutrition implementation strength and quality indicators  Worksheet 11: Factors contributing to observed indicators  Worksheet 12: Actions for improving observed indicators |

## Adapt survey instruments

### Decide on indicators to be collected

The survey is designed to collect data on newborn, child and nutrition indicators (Worksheet 5, shown at the end of this section and in Worksheet 5: survey indicators). It is recommended that all indicators are included in the survey. However, in some cases certain indicators many not be relevant to a program. If newborn, child and nutrition care are provided by different CHWs, then they survey may conduct an assessment of one technical area at a time, and therefore may not need all indicators. In addition, some approaches to demand generation or training topics may not be used locally. In these cases, indicators may need to be removed or modified.

In some cases, survey coordinators and program managers may need to add questions to collect data relevant to the local program not currently collected by the survey. This could include knowledge or practices relevant to other interventions. In these cases, it may be necessary to add indicators to track performance in these areas.

**→** Review indicators with local managers and decide on those to include in the survey. Identify sections of the survey that need adaptation to capture the updated indicator list if necessary.

### Adapt survey instruments

The implementation strength assessment is divided into 3 questionnaires: 1 CHW interview (newborn and child care), 1 CHW interview (nutrition care) and 1 CHW interview (nutrition knowledge). The quality of care assessment is divided into 7 questionnaires or checklists: 2 practice observations (newborn and child care and counseling);3 caregiver exit interviews (newborn, child and nutrition care); and 1 re-examination of a sick child (sick child assessment). Changes to existing questions may affect the ability to report on the indicators, quality of the data and the comparability of the indicators to other sources. For this reason, it is recommended that changes are kept to a minimum.

There are five possible areas of adaptation:

**Country-specific adaptations to be consistent with local norms, standards and practices**

These adaptations make questions consistent with local providers of care, ethnic groups, medicines and other local contextual factors. Adaptation should be conducted in close collaboration with local program managers and health staff. More detail on adaptations is provided in the question-by-question summaries for each questionnaire in Annex 2.

To ensure that all surveys and indicators are consistent, adaptations should not change the meaning of the existing questions. All adaptations should be consistent across all survey questionnaires and modules.

**Adaptations to add or modify questions**

Following review of indicators, some questions may need to be added or modified. Unnecessary data which will not be used to calculate indicators or be used to interpret indicator data should not be included. To avoid disruptions in numbering, it is ideal if new questions are added or to the end of an existing section. In these cases, it is important that interviewer skip patterns and instructions are modified to capture the new additions.

If new questions relate to an existing topic area, they may need to be added between existing questions in the survey modules. Adding questions into existing survey questionnaires has the potential to introduce errors. Subsequent questions must be renumbered and every skip pattern before and after added questions checked and revised if necessary.

If new questions are needed within existing questionnaires, they should be inserted where they can naturally be asked by interviewers and given unique alphanumeric codes (a, b, c etc.) that do not change existing numbering. By keeping existing question numbers consistent, the flow of questions and skip patterns can be retained; and question by question explanations and data analysis instructions do not need to be changed. This makes it simpler to generate the final adapted questionnaire.

**Adaptations to remove questions**

Based on the indicator review, some questions may not be needed. Removing entire questionnaires is straight forward. If questions within questionnaires are removed, it is important not to renumber questions to preserve the flow of questionnaires so that question-by-question instructions and analysis plan can be left unchanged.

**Adaptations to remove modules**

Some modules may not be used for the survey. For example, if nutrition counselling is done by different CHWs then these modules can be removed. Removing complete modules is relatively uncomplicated because this does not change the numbering of other questionnaires.

**→** Allocate members of the survey coordination team to adapt survey modules. Ensure that they consult with local managers, health staff and communities, when necessary.

**Table 5: Survey instrument questions for possible adaptation**

**Implementation strength provider interviews – newborn and child health**

|  |  |
| --- | --- |
| **Questions to review** | **Action needed** |
| **Administration and background** | |
| 1.02 – 1.08 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. Adapt the title given to the CHW throughout questionnaires. |
| 1.10 | Add local languages used in the survey area |
| 1.15 | Socio-cultural group. Add local groups. |
| 1.22 | Reading sentence to establish reading fluency. Generate paragraph to use locally – based on CHW tasks or text of training materials |
| **Training** | |
| 1.25, 1.32 | Adapt for local categories of training used locally |
| **Supervision** | |
| 1.35, 1.37b, 1.39, 1.44 | Adapt for usual frequency of supervisory visits |
| 1.36, 1.37c, 1.40 | Adapt for usual staff conducting supervision |
| 1.37, 1.37d, 1.41 | Adapt for tasks usually conducted during supervisory visits |
| **Drugs, equipment and materials** | |
| 2.12 A -K | Adapt contents of standard CHW kit for local standards |
| 2.22 – 2.61 | Adapt medications for locally approved medicines for CHW use |
| 2.62 – 2.8 | Adapt FP medications for those distributed by CHWs |
| 2.81 | Source of medicine supply- adapt for local re-supply mechanisms |
| **CHW register** | |
| 3.13 -3.20 | Adapt for types of community activity conducted locally |
| 3.21, 3.22 | Adapt for types of recording forms and registers used by CHWs |
| 3.25 A-M | Adapt for information included on the standard recording form |
| 3.29 | Adapt child classifications for those used locally |
| 3.3 | Adapt for types of medications given locally by CHWs |
| 3.34,3.46, 3.40, 3.41, 3.45 | Adapt for locally used CHW recording forms – and follow-up information collected |

**Implementation strength provider interviews – nutrition care**

|  |  |
| --- | --- |
| **Questions to review** | **Action needed** |
| **Administration and background** | |
| 1.03– 1.11 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. Adapt the title given to the CHW throughout questionnaires. |
| 1.14 | Add local ethnicities used in the survey area |
| **Training** | |
| 1.23 | Adapt for local categories of training used locally |
| **Supervision** | |
| 1.24, 1.25 | Adapt for usual frequency of supervisory visits |
| 1.26 | Adapt for usual staff conducting supervision |
| 1.28 | Adapt for tasks usually conducted during supervisory visits |
| **Service availability** | |
| 1.30 | Adapt for categories of clients seen locally |
| 1.31 | Adapt for type of client tracking sheet used locally |
| **Demand generation** | |
| 1.34, 1.35, 1.36 | Adapt for the tracking form used and types of group activities and topics covered locally |
| **Equipment** | |
| 1.37-1.46 | Adapt for standard package of equipment used by CHWs |
| **CHW literacy** | |
| 1,47 | Reading sentence to establish reading fluency. Generate paragraph to use locally |

**Quality of care – newborn and sick child care**

|  |  |
| --- | --- |
| **Questions to review** | **Action needed** |
| **Observation** | |
| 6.01 – 6.07 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. Adapt the title given to the CHW throughout questionnaires. |
| 6.23 | Adapt for name of MUAC tape used locally. Ensure that the procedural steps used locally are reflected in the questions. |
| 6.26 A - U | Adapt for any additional or different danger signs used locally |
| 6.32, 6.34 | Include the local name of the vaccination document. Adapt vaccination schedule to match local schedule |
| 6.4 -6.43 | Adapt to match classifications used locally |
| 6.46-6.57 | Adapt treatment medications and doses administered to match local standards |
| 6.66 | Adapt to match local pre-referral medications given by CHWs |
| 6.68 | Adapt to match counselling advice messages given pre-referral |
| 6.71 A and B | Adapt to match CHW recording forms or sheets used locally |
| **Companion interview** | |
| 7.01 – 7.11 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. Add local languages used. Adapt the title given to the CHW throughout questionnaires. |
| 7.17 | Adapt for local socio-cultural groups |
| 7.32 | Adapt for diagnoses used locally |
| 7.34 – 7.45 | Adapt treatment medications and doses administered to match local standards. Prepare photographs of medications or package of common medications to show clients during interview. |
| **Sick child re-examination** | |
| 8.01 – 8.11 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. |
| 8.16 C, D | Adapt for type of malaria test used locally |
| 8.18 | Adapt for MUAC classification used locally |
| 8.26 | Adapt for local immunization schedule |
| 8.29-8.32 | Adapt for classifications used locally |
| **Observation of newborn home visit** | |
| 9.01-9.08 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. |
| 9.40 | Adapt for safety precautions used locally |
| 9.43-9.61 | Adapt for routine interventions delivered by CHWs at newborn home visits and type of recording form or book used |
| 9.75 | Adapt for referral forms or procedures used locally |
| **Mothers interview - newborn home visit** | |
| 10.01-10.09 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. Add local languages used. Adapt the title given to the CHW throughout questionnaires. |
| 10.12 | Adapt for local socio-cultural groups |
| 10.25 | Adapt for safety messages used locally |
| 10.30-10.33 | Adapt for the type of and name of the local referral facility |

**Quality of care – nutrition care**

|  |  |
| --- | --- |
| **Questions to review** | **Action needed** |
| **Counselling exit interview** | |
| 2.01 – 2.09 | Add names and codes for region, district and health area. Give each interviewer and CHW a unique number. If using CAPI the name and number can be added to a drop-down menu. Adapt the title given to the CHW throughout questionnaires. |
| 2.14 | Adapt for local socio-cultural groups |

## Translate, pre-test and pilot survey instruments

Translation

All questionnaires must be administered in the principal local language. The use of accurate local terms is particularly important. Translators should work closely with the survey coordinator and local health staff to ensure that the appropriate terms are used. In some cases, it can be useful to write in both the national language and the local language. This can make it easier for interviewers to convey the correct meaning in the local language.

Translation of instruments into the local language should always be followed by a back-translation into the national language to check whether the translation is appropriate; local counterparts who are not familiar with the original version of the instrument will ideally conduct back-translation. Even good local translations may need to be further modified during interviewer training to ensure that all questions are clear and consistent.

In areas with many languages and dialects a single translation may not be adequate for all areas. This is particularly true for client exit interviews administered to caregivers. In these circumstances, translation of survey instruments into many different local dialects may not be possible or may be expensive and time-consuming. A more practical solution is to use local interpreters to ask questions in these areas. Ideally, surveyors who speak local languages are recruited who are able to translate questions directly during interviews. If questions are to be interpreted in this way, it is important that local language translations of relevant questions are reviewed and discussed during training to ensure accuracy (see section 2.10). It is important for the survey coordinator to allow sufficient time for the translation, review and modification of the instruments.

Pre-test survey instruments

After instruments have been adapted and translated, they should be reviewed by members of the survey team not involved with adaptation or a small group of non-sampled CHWs. The purpose of this review is to check for understanding, clarity of organization and translation and technical content. It is important that instruments are both easy to understand and use; and technically consistent with local policies and guidelines. In addition, staff should review pre-coded responses and create new response codes to avoid using the “Other” category. This review can be conducted by staff independently and then discussed in small groups. Consensus on modifications needed is reached.

Pilot survey instruments

The aim of piloting is to test both the survey instruments and field work processes and logistics. All adapted, translated instruments should be piloted. Two to four survey staff will be needed to test the tools. A short half-day training should be conducted with staff to orientate them to the tools and checklists prior to piloting. It may also be useful to conduct piloting before survey training with staff selected for the survey as a way to familiarize them with survey instruments and field methods and gather context-specific information for training, such as photographs of medications and supplies.

The direct observation checklist, in-person questionnaires and client exit interviews should be tested on at least three CHWs/clients in non-survey areas. Numbers of staff can be increased if several new questions have been added which require testing. Two survey staff will be required for each questionnaire, one to administer the tool and one to record observations, clarity of questions, and interview flow.

Piloting should be continued until no new questions/responses are generated.

The purpose of the pilot is to:

* Check the clarity of the translated questionnaires and modify if necessary;
* Check the comprehension of the translated questionnaire and modify if necessary;
* Check that the adaptation accurately reflects local conditions and make corrections if required;
* Ensure that the questionnaire format and skip patterns are not confusing or difficult to

manage.

* Check question responses and ensure that common responses are inserted as response

codes in the final version of the instrument.

* Provide an opportunity for field staff to “practice” in a real-world scenario, so they

are more capable and confident when deployed for field work.

**→** Work with survey coordination team to select a translator. Allocate staff to oversee the translation process and the back translation. Identify one or two local staff to assist the survey coordinator with the field test. Update questionnaire based on field test findings.

## Select supervisors and surveyors

Survey staff are selected by the survey coordinator in collaboration with the survey coordination team. As soon as candidates have been identified, they should be notified and given the dates for the survey. Total numbers of supervisors and surveyors are discussed in **section 1.6**. Each survey team will consist of 3 people. One person on each team is a supervisor and 2 are surveyors, with one conducting child health assessments having clinical training so they can conduct observations of practice. Two to four central supervisors are used to oversee field teams. Further guidance on interviewer hiring is presented in Reference weblink 1: interviewer hiring and job descriptions.

Characteristics of interviewers

* Have health or previous survey experience
* Able to speak the local language (s) fluently
* Experience working in communities - communicating with CHWs/clients
* Available full-time for training and data collection. Some interviewers will also

participate in data analysis and discussion

* Able to read and write well
* Physically fit (field data collection only)
* Female (in settings where this is culturally necessary and appropriate)

Interviewers could include: doctors, nurses, medical assistants, midwives, community

health workers, and the staff of local NGOs. In some cases, students from nursing or

medical schools are suitable.

Characteristics of clinical observers (sick child)

As for interviewers, but with IMNCI or equivalent child health clinical training that allows

them to assess, classify, treat and counsel children and caregivers using IMNCI standards.

Observers could include: doctors, nurses, medical assistants and senior medical or nursing students.

|  |
| --- |
| **Remember:**  When selecting interviewers, consider the impact of gender dynamics on the quality of interviews and therefore the quality of survey data. In many societies, it is not acceptable for a woman to have contact with a male other than her husband or relatives. Even when such restrictions do not exist, some women might feel more comfortable talking to another woman than to a man. Therefore, consider using female interviewers for observations and client interviews. |

Characteristics of supervisors

In addition to the characteristics suggested for interviewers and observers, ideally supervisors should have the following:

* Previous experience with supervision
* Previous experience conducting similar surveys
* Experience using data for making programme decisions
* Previous experience with tablet-based data collection

Supervisors may include district supervisors, program managers, regional or district public health program staff, or experienced health care workers. In some circumstances it is useful to identify supervisors in advance to ensure that an adequate number of people with appropriate skills is available. It may also be possible to identify supervisors from the best participants during the survey training. Specific tasks and responsibilities for team supervisors are discussed in the Conduct the Survey section (Step 3).

Total time requirements – supervisors and surveyors

It is important that all team members are available for the duration of the survey. Time requirements will depend on: a) time required for training. Time required for training can range between 4 days (phone survey) to 7-8 days (field survey); b) time required for data collection. This will vary with parameters selected in planning, including sample size, number of interviewers and resources available; c) time required to participate in data analysis and discussion – usually data analysis and discussion of findings requires 3-5 days. Not all supervisors and interviewers will need to participate in data analysis and discussion.

**→** Work with survey coordination team to select participants in the survey as soon as survey areas and dates have been decided. Potential participants need to be notified as early as possible to ensure their availability.

## Inform selected districts, obtain key information and notify CHWs

It is important to inform district leaders and health managers in advance that the survey will be conducted in their area and likely dates. If there is a community health or maternal, newborn and child health coordinator, it is important that they are also notified. This may be able to be done by letter, at scheduled meetings or using phone or messaging. District staff can help plan logistics of field visits. They can also advise whether local guides or translators will be necessary in some areas. If needed, the survey coordinator and district staff must agree on costs and scope of work of guides and translators, to ensure that they are only used when necessary to accomplish survey objectives.

For phone surveys, districts or health facilities within districts may need to be called in advance to obtain phone numbers CHWs (see section 2.5).

For field surveys, advance notification is required to obtain phone numbers of CHWs, to arrange for district staff to accompany teams to serve as guides and if necessary, and to identify local translators if needed. Survey teams often must carry letters from district or regional authorities with them, explaining the purpose and methods of the survey. When possible all CHWs must have been informed prior to the field visit by phone and arrangements made for where and when to meeting them in the community (see section 2.5).

**→** Work with the coordination team and local staff to notify districts, give them approximate dates for survey activities, obtain phone numbers and make local arrangements.

## Complete CHW and surveyor allocation sheets

### Phone surveys

Telephone numbers for community-based staff are obtained in advance. Teams are allocated CHWs to interview each day by the data manager. The supervisor is responsible for completing the designated supervisor spreadsheet. On the spreadsheet, interviews are allocated to interviewers in the team using the interviewer ID number. Calls allocated to each interviewer can then be printed out as interviewer tracking sheets each day. Sheets include the CHW name and contact phone numbers. The supervisor spreadsheet (Worksheet 6) is shown at the end of this section and in (Worksheet 6: designated supervisor spreadsheet).

### Field surveys

The survey has one tracking sheet.

**CHW listing sheet.**The names and numbers of all selected CHWs are listed. Columns A – F are entered prior to data collection. Columns G-N are completed as data collection progresses. There will be one sheet per district.If CHW phone numbers are not available or if they cannot be contacted in advance, then CHW listing and contact must be completed in the district in collaboration with district staff.

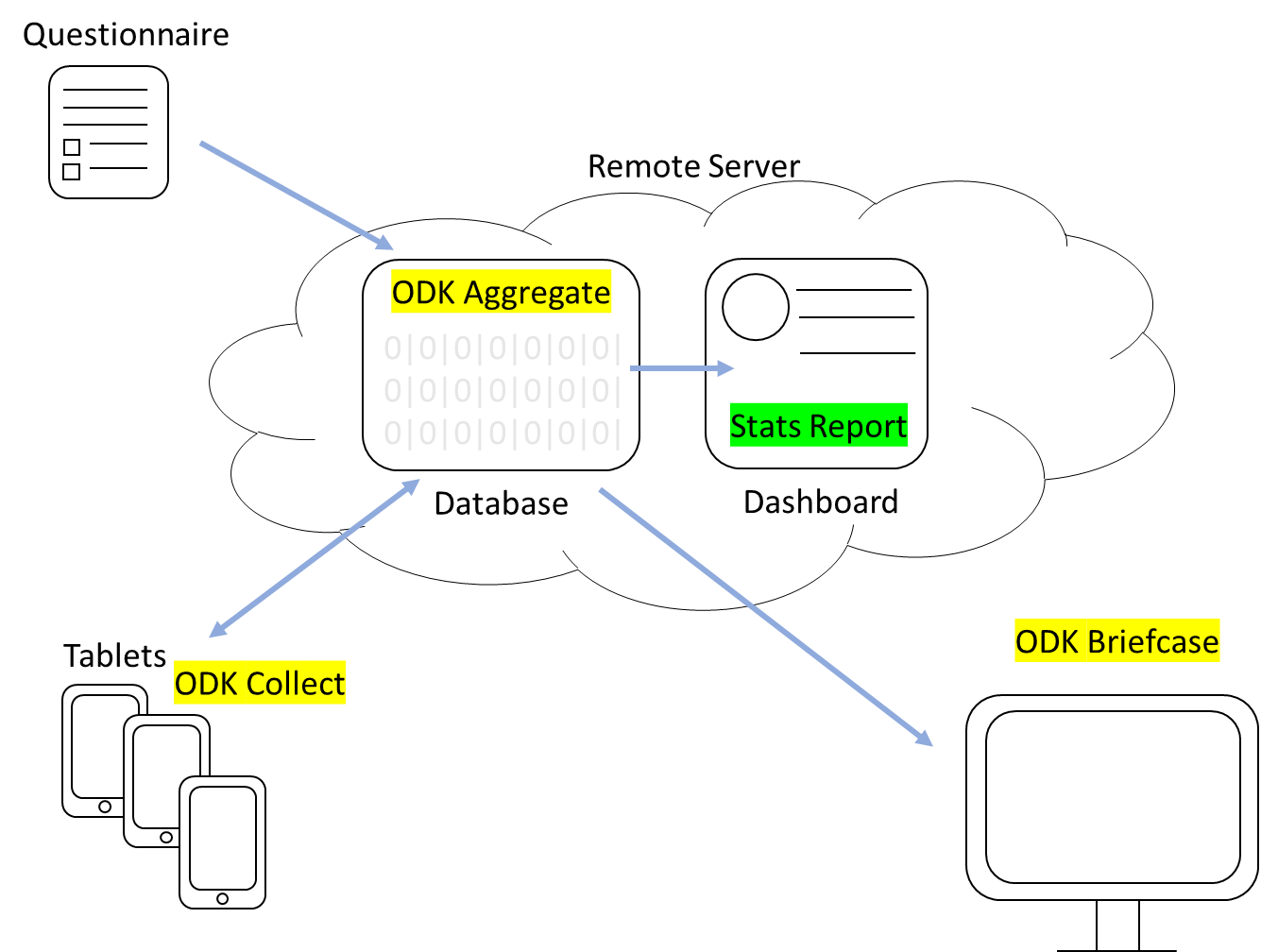
|  |
| --- |
| Key data on the CHW listing sheet includes:   1. **District:** Enter name 2. **District ID:** Assign each district a numeric ID code. Example: The IDs will be 1 through 5 if there are 5 districts. 3. **Locality:** Enter name of census sub-division or sub-district unit 4. **Village:** Enter name of village 5. **Name of CHW**: providing child or nutrition services 6. **CHW ID** This is a numeric code. Example: If there are 80 CHWs then assign each a number 1-80. 7. **Phone number of CHW**. 8. **Consent given** 9. **Date(s) of sick child observation(s), re-exam, client interview** 10. **Date (s) newborn home visit child observation(s), client interview** 11. **Date (s) of nutrition care home visit observation, client interview** 12. **Date of CHW interview:** newborn and child care 13. **Date of CHW interview:** nutrition care 14. **Interviewer(s) who conducted assessment** (if applicable) 15. **Interviewer ID number** |

**→** Work with the survey coordination team to complete listing sheets. For field surveys, CHWs should be contacted in advance by phone to arrange where and when to meet, where possible.

## Prepare for data entry, analysis and dissemination

The RADAR facility survey uses Computer Assisted Personal Interviewing (CAPI). This approach is designed to make data collection, aggregation and analysis easier, more accurate and quicker (figure 1). It is recommended that set up of the CAPI system be done by a survey data specialist, recruited for this purpose. Once the system has been established, if can be used for all subsequent surveys. Technical details about setting up a server, uploading questionnaires, enabling data entry through tablets and managing and analysing questionnaire data are presented in Reference weblink 2: Setting up a CAPI data management system.

**Figure 1: CAPI data management system**



There are six key steps required to establish a CAPI system:

Set up server and database

A remote server must first be established for storage of all forms and raw data. An open data kit (ODK) is recommended for managing data because it is free, open-source, based on Excel format and can be used with many existing data management platforms. Johns Hopkins University (JHU) has developed a simple system for managing RADAR survey data called Stats Report which has been tested and used for surveys in several different settings.

Upload the adapted questionnaire to the database

The final questionnaire must be put onto the server, ready to receive data. To do this, the adapted questionnaire (usually edited in Excel format) must be converted to an XForm format for use with the ODK tools. The questionnaire in XForm format is then uploaded to the ODK server created in the previous step. The server is then ready to receive completed forms.

Set up handheld devices and link to database

The “ODK Collect” application (“app”) must be downloaded to the devices used to collect data. CAPI requires the use of android compatible tablets. Once loaded, the ODK collect program appears as a clipboard icon on the tablet. ODK collect and the ODK aggregate software on the previously created server then need to be linked. This is done through the configure platform settings command in ODK collect.

Fill in questionnaires and send to database

Blank questionnaires loaded onto the server must be downloaded to the tablet. This is done using the “get blank form” command on the ODK collect software. Downloaded blank questionnaires are completed on the tablet beginning with the “fill blank form” command in ODK collect. Questionnaires are then completed as they are asked during interviews and checklists, with interviewers scrolling through questions by clicking arrows or swiping the screen. Forms as saved as unique forms on the tablet. When questionnaires are complete, a screening message stating that the end of the form has been reached is displayed. The interviewer then saves the form and returns to the main menu of ODK collect and selects the “send the final form” command to send the questionnaire to the server. All sent questionnaires are saved on the tablet and should not be deleted. Saved questionnaires on survey tablets are an important data backup.

Monitor incoming data mid-survey

Data compiled from completed questionnaires can be viewed on the ODK aggregate page on the server. From the ODK server page, “submissions” are reviewed, which present data from each entered questionnaire. Variables for each questionnaire are arranged in rows. Data can be sorted by specific variables and exported to separate files. Access to raw data during a survey is usually limited to supervisors or survey managers.

Retrieve/export data for analysis

Questionnaire data can be reviewed in two ways.

First, a summary of data can be seen on the survey dashboard. The dashboard does not present raw data. Instead the dashboard presents summary variables such as response rates, the number of simulated clients seen or observations conducted and exit interviews completed. Summary data give survey managers and supervisors an idea of whether the survey sample is likely to be representative based on assumptions, or whether there may be problems with the sampling or interview methods.

Second, data can be downloaded from the server using an ODK briefcase to a laptop or desktop computer. This allows data to be viewed and analyzed remote from the server. The ODK briefcase program must be installed on laptop or desktop computer using Java software. It can then be used to link with the ODK aggregate data on the server, download to the computer and to put the downloaded data into a format that be viewed and used.

## Develop a data entry and analysis plan

It is useful to plan strategies for analysing and using data with counterparts before the survey begins. An approach to data analysis is summarized in Step 5. During the preparatory phase, the survey coordinator can:

* Establish a protocol for data protection and management. All surveyors and supervisors require login information and passwords for entering data on tablets or accessing the data server. It is recommended that completed questionnaires are uploaded daily. All completed questionnaires should also be saved on tablets in case there are problems with the server. In addition, to prevent problems with tablets, it is important that one person on each team is designated for tablet maintenance. This person is responsible for ensuring that tablets; all have power cords and are charged daily; have data apps loaded and functional; have unnecessary files or programs deleted or disabled to conserve battery life; and have date and time set correctly. In addition, supervisors should know contact information for the data specialist for problems encountered in the field which cannot be solved by team members.
* Ensure that survey protocols emphasize that questionnaire data are checked by team supervisors each day before uploading to the server.
* Ensure that enough time and budget have been allocated for the data verification,

analysis, and dissemination of survey findings

* Ensure that adequate data management and analysis support is available

Before, during and after fieldwork, data systems and data collected need to be periodically checked and problems solved. Set up and maintenance of the CAPI system, data management and analysis support may be done by one or more staff, depending on staff skills. A data manager/IT specialist is required to oversee this process (**see section 1.6**) The roles of staff providing data support should be clearly defined. The data support staff should participate in survey planning and training, and become familiar with survey instruments, the rules for completing the instruments, how to calculate key indicators and data analysis tables. Staff responsible for supporting data analysis should also be familiar with STATA software, used for data analysis

* Prepare for data analysis and discussion of findings following the field work

The data analysis team needs to be identified. Members of this team could include: selected supervisors and interviewers; training facilitators; district and regional programme managers; national programme planners. **The analysis plan, tables and indicators should be reviewed and discussed**. Dates for the analysis (usually immediately following field work) should also be scheduled. The data analysis plan is presented in Step 5.

* Identify at least three portable or desktop computers to use for data analysis and install

software for analysis (STATA). Participants often work in teams and

one computer per person is ideal.

* Identify a venue for data analysis activities. As there are usually fewer participants than

for interviewer and supervisor training, the venue need not be large.

**→** Identify a data manager/IT specialist and any other staff needed to support data management and analysis. Include staff in supervisor and interviewer training. Work with the survey coordination team and the data manager/IT specialist and other data support staff to review the analysis plan.

## Prepare data dissemination plan

The survey coordinator should also plan for feedback and dissemination of results with local counterparts. Ideally, this feedback should take place before finalizing the survey report.

Possible approaches to dissemination include:

1. Dissemination of a summary of the survey findings, highlighting the major

achievements and issues. A distribution plan for the summary report can be developed and should include community and first-level health workers.

2. Feedback and planning meetings with local health workers and community leaders to highlight achievements, prioritize problems and develop possible strategies for strengthening the programme and addressing problems (feedback meetings can be conducted in small or large groups).

3. Feedback and planning meetings with regional and district level staff to highlight achievements, prioritize problems and develop possible strategies for strengthening the programme and addressing problems through existing public health programmes and resources.

1. Feedback and planning meetings with local NGOs, bilateral projects and donor organizations.
2. Dissemination of the final report and include key comments and recommendations

made during feedback meetings with local health authorities. Preparation of short summaries or flyers with key messages for decision makers.

1. Public advocacy to help raise awareness about the major findings and areas that need particular attention. Advocacy can take the form of community meetings, short editorials in local newspapers, and seminars with local medical groups or other professional groups.

*Note:*

Follow-up meetings should be arranged in advance to ensure that all relevant staff are available. Meetings with local health facility and community staff are often very useful because they can provide opportunities to better understand the survey findings and generate practical recommendations for addressing problems. These meetings should take place as soon as possible after the completion of survey activities, and the outcomes of these meetings should be used for planning.

**→** Decide on a dissemination plan with the survey coordination team. Schedule meetings in advance.

## Prepare for training

Training content for supervisors and interviewers is presented in Step 3. All training materials, including presentations, homework and tests are presented in Reference weblink 3: Survey training materials: CHW newborn, child and nutrition surveys.

There are a number of preparatory tasks required to prepare for the training and these are summarized here.

### Identify and train facilitators

The number of facilitators needed will depend on the number of interviewers and supervisors to be trained. One trainer for each 6 participants is recommended. If 8 supervisors and 16 interviewers (total 24 staff) are used, 4 facilitators may be required. Before training begins, facilitators should become familiar with the survey instruments, the conduct of the survey section of these guidelines, the question-by-question instructions for the instruments, and the training schedule. Roles and responsibilities for each facilitator should be decided in advance. Facilitators are responsible for recording the rules agreed upon by the training group at the end of each day. These rules and guidelines need to be updated daily and circulated to all participants.

Ideally facilitators will have previous survey experience and will have been involved with planning and preparing for the survey. The survey coordinator is usually the lead facilitator. Members of the survey coordination team often make good facilitators, particularly if they have been involved with survey preparation and are already familiar with survey methods and tools. It may be necessary to organize a 1-2-day orientation for facilitators in advance of training.

### Select and administrative assistant/secretary

An administrative assistant can assume responsibility for coordinating all administrative arrangements, including accommodations, distribution of per diems, management of vehicles, photocopying, document preparation, and procurement of materials and supplies.

### Select a venue

The venue for training activities will need to be large enough to hold all participants and allow work in small groups. Lighting and ventilation should be adequate and the venue should be accessible for participants.

### Procure materials and supplies for field work

A full list of materials and supplies needed for field work is summarized in Worksheet 4. This form was used in Step 1 to estimate the survey budget. The final list of materials and supplies needs to be procured in advance of training.

These include formatted survey tablets with phones and air-time, charging cords, adapters and power bars, photographs of all child health and nutrition commodities that are assessed by the survey (as photograph cards or photographs on survey tablets), and IDs for all survey supervisors and interviewers. Hard copies of all informed consent scripts are required for all participants. Hard copies of adapted, translated and pre-tested instruments will be required for training activities.

*Note:* Ensure you have sufficient time and staff to format survey tablets, install the CAPI program, and charge tablets before the training begins.

|  |
| --- |
| **Key materials and supplies required for the phone survey**  Each day phone survey teams must have the following items:   * Survey manual/guidelines * Tablet and charger * Mobile phone and charger * Airtime for each day * Consent scripts * Interviewer progress sheet * Calendars (reference, planning) * Notebook, pen, folder |
| **Key materials and supplies required for a field survey**  Prior going to the field, a survey team must ensure it has the following items:   * Letters of introduction * Identification badges * Phone contacts of the study coordinators, and supervisors * Health worker listing sheets * Tablet with CAPI data capture program (plus charger and related supplies) * Guidelines for conducting the main survey * Laminated copies of consent recruitment and information scripts * Hard copies of consent forms for signature and participant distribution * CAPI User Manual * Hard copies of all questionnaires (for backup) * Supplies (sheets of white paper, notebooks, pencils, erasers, rulers, blue pens, clipboards, folders to keep forms, bags) * Rain boots and umbrellas |

### Arrange training visits to local CHWs

The survey coordinator and survey coordination team will need to contact local CHWs for field practice sessions. Ideally, each team will contact 2-3 CHWs. Phone survey practice can be done using phone-calls to CHWs. Field assessments require visits. None of these CHWs should have been included in the final sample for the survey. CHWs should be contacted and informed about the survey training, including the proposed days of visits, and the expected number of interviews that will be needed.

**→** Select an administrative assistant and identify facilitators as soon as survey dates are finalized. Schedule training immediately before field work begins.

## Train interviewers and supervisors

Training for survey staff is ideally organized just before the survey work begins. Days required may vary with the number of questionnaire modules that will be used and the level of experience of the interviewers. Field surveys require field visits to CHWs to practice methods. Interviewers and supervisors should attend training.

Training involves a combination of classroom training and practical experience. Participants practice their skills through mock interviews, role plays and a survey pilot. Classroom training includes lectures, discussion, Q&A and quizzes. Example training agendas for mapping and the main survey are shown in Tables 6 and 7. Core training content is presented in Step 3 and in Annexes 1, 2 and 3.

### Establish training objectives

The objectives of the main survey training are to prepare interviewers and supervisors to:

1. Be familiar with survey objectives, methodology, and plans for use of the findings.
2. Perform all survey tasks, including identifying CHWs, selecting children for observation and observing newborn and nutrition home visits, using the survey instruments, conducting interviews, using data entry tablets and identifying solutions to problems.

3. Establish rules on how to interpret survey questions, so they are all conducted in the same way.

1. Reach agreement and consistency on survey procedures and completion of survey instruments so that inter-surveyor reliability is high.

### Finalize training agendas

Training and practice in the use of questionnaires is necessary in order to increase reliability, reduce errors, and increase efficiency in doing survey tasks. Enough time is needed for interviewers and supervisors to become comfortable with all survey procedures and instruments. Practice phone surveys are needed for phone-based surveys. Field practice is critical when field visits are to be made; a minimum of 1 to 2 days practice is recommended.

The phone survey agenda (Table 6) is conducted over 4 days, with two days of practice calls and de-briefings. Contact numbers of community staff not included in the survey need to be selected in advance.

The field survey agenda (Table 7). It is assumed that all team members will attend the training. Specific training for supervisors is conducted on Day 6. The full agenda requires 8-9 days. The agenda can be adjusted if child health and nutrition are not being done in the same survey. One to 2 days are allocated for field practice and de-briefing for interviewers and it recommended that these are retained.

### Key training tasks

Training of supervisors and surveyors is critical to obtaining valid and reliable survey results. For this reason, a great deal of emphasis is placed on the training process. The key tasks that are accomplished during training are:

* Identification of interviewers and supervisors and formation of survey teams;
* Finalization of the call-schedule (phone survey) or survey itinerary (field survey);
* Agreement on how to select CHWs and clients;
* High inter- and intra-interviewer reliability for completing survey instruments

so that there is reasonable confidence that all interviewers are asking or interpreting questions in the same way;

* Clearly defined roles for supervisors including how to conduct supervision, technical

issues to watch for and how to solve common problems, including obtaining consent,

effective interview technique, and

use of tablets.

**→**  Work with the administrative assistant and facilitators to prepare for training.

# Table 6: Example training agenda: RADAR phone-based newborn, child and nutrition implementation strength survey

If newborn, child and nutrition surveys are being conducted together consider adding time to allow review of all questionnaires.

|  |  |  |
| --- | --- | --- |
| **Day 1** | **Topics** | **Presenter/Facilitator** |
| 8:30 | Registration – HR process |  |
| 9:30 | Introductions and workshop rules |  |
| 10:15 | Survey review – Intro and Admin  *(review manual – section 2.9-2.10)* |  |
| 10:45 | Tea Break |  |
| 11:00 | Study procedures *(review Step 3: conducting and supervising the survey)* |  |
| 11:30 | CHW interview review – newborn/child *(Annexes A and B)* |  |
| 12:15 | CHW interview review – newborn/child (continued) (*Annexes A and B*) |  |
| 13:00 | Lunch |  |
| 14:00 | CHW interview review – nutrition care and knowledge (*Annexes A and B*) |  |
|  |
| 15:45 | Tea Break |  |
| 16:00 | Contacting and tracking participants  *(review manual, tracking sheets, and tablets – section 3) & practice introducing study & tracking* |  |
| 16:30 | Review, catch up and homework assignment |  |
| 17:00 | Adjourn |  |

|  |  |  |
| --- | --- | --- |
| **Day 2** | | |
| 8:30 | Review day 1, discuss any questions, homework |  |
| 9:30 | CHW interview review – finalize all questionnaires *(review manual: Annex A and B)* |  |
|  |
| 10:15 |  |  |
| 10:30 | Phone and Tablet Setup, Use, & Distribution  *(review manual–Step 2: prepare to conduct survey)* |  |
| 11:30 | Checking Survey Translation in language groups |  |
| 12:00 | Feedback session with larger group |  |
| 12:30 | Lunch |  |
| 13:30 | Survey team responsibilities  *(review Step 3: conducting and supervising the survey)* |  |
| 14:00 | Contacting and tracking participants  *(review manual, tracking sheets, and tablets – section 3) & practice introducing study & tracking* |  |
| 15:00 | Break |  |
| 15:15 | Tracking and Mock Interviews Exercise in Translation Teams |  |
| 16:45 | Feedback session |  |
| 17:00 | Adjourn |  |

|  |  |  |
| --- | --- | --- |
| **Day 3** | | |
| 8:30 | Tracking and Mock Interviews Exercise in Translation Teams (2nd session) |  |
| 9:45 | Feedback session | Supervisors |
| 10:00 | Introduction to Practice calls |  |
| 10:15 | Piloting - Practice with actual Health Workers in teams | Supervisors monitor each team |
| 12:00 | Lunch |  |
| 13:00 | Practice Calls Continued |  |
| 14:30 | Feedback and Q&A Session by team | Supervisors |
| 15:30 | Lessons Learned from First ISA Phase | Supervisors |
| 16:00 | Exam |  |
| 17:00 | Adjourn |  |

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| --- | --- | --- |
| **Day 4** | | |
| 9:00 |  |  |
| 9:15 |  |  |
| 9:25 | Schedule for Monday; team assignments |  |
| 9:45 | Administrative/HR for interviewers via NSO |  |
| 12:00 | Adjourn |  |

**Table 7: Example training agenda: RADAR field-based newborn, child and nutrition quality of care and implementation strength survey**

|  |  |  |
| --- | --- | --- |
| **Time** | **Activity** | **Presenter/facilitator** |
| **Day 1** | |  |
| 8:00 | Welcome, review training agenda and expectations. |  |
| 8:30 | Training manual section 1:   * Survey objectives, design and content |  |
| 10:30 | **Break** |  |
| 11:00 | Review Step 3: Conducting and supervising the survey   * Preparations in the district * Beginning fieldwork * Roles of team members |  |
| 13:00 | **Lunch** |  |
| 14:00 | Review Step 3:   * Data collection procedures * Data quality assurance * Reducing non-response |  |
| 15:30 | **Break** |  |
| 16:00 | Interviewing tips and techniques |  |
| 17:00 | **Adjourn** |  |
| **Day 2** | |  |
| 8:00 | Review and Q&A |  |
| 8:30 | CHW interview tool review – newborn and child health (Annex A and B) |  |
| 9:30 | CHW interview and knowledge tool review – nutrition (Annex A and B) |  |
| 11:00 | **Break** |  |
| 11:30 | CHW observation and child re-exam – child health, (Annex A and B) |  |
| 13:00 | **Lunch** |  |
| 14:00 | Client exit-interview - child health  CHW observation and exit interview– newborn (Annex A and B) |  |
| 15:30 | **Break** |  |
| 16:00 | CHW observation and exit interview - nutrition (Annex A and B) |  |
| 17:00 | **Adjourn** |  |
| **Day 3** | |  |
| 8:00 | Review and Q&A |  |
| 8:30 | Finalize CHW observation and client exit interview - nutrition |  |
| 10:00 | * Tablets for training distributed * Using tablets and electronic data procedures |  |
| 11:00 | **Break** |  |
| 11:30 | CHW interviews: role plays and mock interviews |  |
| 12:30 | Provider interview: debrief |  |
| 13:00 | **Lunch** |  |
| 14:00 | CHW interviews: role plays and mock interviews |  |
| 15:30 | **Break** |  |
| 16:00 | CHW observation – role plays |  |
| 17:00 | **Adjourn** |  |
| **Day 4** | |  |
| 8:00 | Review and Q&A |  |
| 8:30 | CHW observation - debrief |  |
| 9:00 | Direct observation: role plays |  |
| 11:00 | **Break** |  |
| 11:30 | Direct observation: debrief |  |
| 12:00 | Client exit interviews: role plays and mock interviews |  |
| 13:00 | **Lunch** |  |
| 14:00 | Client exit interviews: role plays and mock interviews, con’t |  |
| 15:00 | Client exit interviews: debrief |  |
| 15:30 | **Break** |  |
| 16:00 | Review and Q&A |  |
| 17:00 | **Adjourn** |  |
| **Day 5** | |  |
| 8:00 | Review and Q&A |  |
| 8:30 | Quiz 1: written exam |  |
| 10:30 | **Break** |  |
| 11:00 | Review of quiz |  |
| 12:00 | Respectful health care   * Introduction * Group work |  |
| 13:00 | **Lunch** |  |
| 14:00 | Review and repeat role plays as needed |  |
| 17:00 | Adjourn |  |

|  |  |
| --- | --- |
| **Day 6 - Supervisors** | |
| 8:00 | Review supervisor manual and protocols |
| 10:30 | **Break** |
| 10:45 | Review supervisor manual and protocols, *cont* |
| 13:00 | **Lunch** |
| 13:30 | Review supervisor tracking sheets |
| 15:00 | **Break** |
| 15:15 | Practice supervision observations |
| 16:30 | Finalize logistics and plans for travel and interviewer assignments |
| 18:00 | **Adjourn** |

|  |  |
| --- | --- |
| Day 7: **Full team** | |
| 8:00 | Recap and review |
| 8:30 | Quiz 2: Standardized respondent test:   * CHW interviewer (including knowledge) * Direct observation (newborn, child and nutrition) * Client exit interview (newborn, child and nutrition) * Child re-examination (sick child) |
| 11:30 | **Break** |
| 12:00 | Review of quiz |
| 13:00 | **Lunch** |
| 14:00 | * Training participants: Review, role plays and practice as needed * Senior staff: review and assign survey positions |
| 17:00 | **Adjourn** |
| Day 8: **Pilot day 1** | |
| 7:30 | Travel and pilot at clinic(s) |
| 13:00 | Lunch |
| 14:00 | Debrief |
| 17:30 | Adjourn |
| Wednesday **Optional pilot day 2** | |
| Thursday **Deploy teams** | |

**Worksheet 5: Newborn, child and nutrition indicators collected by the RADAR community provider survey**

**Implementation strength indicators– child care and family planning**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Indicator** | **Numerator** | **Denominator** |
|  | **Training** | | |
|  | Percentage of CHW’s trained in iCCM in the previous 2 years | # of CHWs trained in iCCM in the lats 2 years | Surveyed CHWs providing sick child care |
| 1. 2 | Percentage of CHW's trained in iCCM who also have retrained to care for sick children age 2-59 months in the previous 2 years | # of CHWs retrained in iCCM 2-59m in the last 2 years | Surveyed CHWs providing sick child care |
| 1. 3 | Percentage of CHW's that have had practice sessions with children aged 2-59 months during first training | # of CHWs trained in IMCI using practice sessions | Surveyed CHWs providing sick child care |
| 1. 4 | Percentage of CHW's trained to treat children with individual clinical conditions in the previous 2 years | # of CHWs trained by topic area (pneumonia, cough/cold, diarrhea, malaria, malnutrition) in the last 2 years | Surveyed CHWs providing sick child care |
| 1. 5 | Percentage of CHW's trained in FP in the previous 2 years | # of CHWs trained in FP in the last 2 years | Surveyed CHWs providing sick child care |
| 1. 6 | Percentage of CHW's trained in individual FP topics in the previous 2 years | # of CHWs trained by FP topic area (counseling, lactational amenorrhea, condoms, OCP, injectables) in the last 2 years | Surveyed CHWs providing sick child care |
|  | **Supervision** | | |
| 1. 9 | Percentage of CHW's supervised with observation of a sick child consultation in the last 3 months | # of CHWs receiving child care supervision while caring for a child age 2-59 months within last 3 months | Surveyed CHWs providing sick child care |
| 1. 10 | Percentage of CHW's supervised with observation of a sick child consultation in the last year | # of CHWs receiving child care supervision while caring for a child age 2-59 months within last year | Surveyed CHWs providing sick child care |
| 1. 11 | Percentage of CHW's supervised at last once during the past year, during which the child register was examined | # of CHWs receiving child care supervision with observation of child register in last 1 year | Surveyed CHWs providing sick child care |
|  | Percentage of CHW's receiving newborn screening and counseling supervision in the previous 3 months | # of CHWs receiving newborn screening and counseling supervision within previous 3 months | Surveyed CHWs providing newborn screening and counseling |
|  | Percentage of CHW's supervised in the last year with observation of a newborn screening and counseling consultation | # of CHWs supervised in the last year with observation of a newborn screening and counseling consultation | Surveyed CHWs providing newborn screening and counseling |
|  | Percentage of CHW's supervised in the last year with review of the newborn register | # of CHWs supervised in the last year with review of the newborn register | Surveyed CHWs providing newborn screening and counseling |
| 1. 12 | Percentage of CHW's supervised in the past month on FP | # of CHWs receiving FP supervision in the last month | Surveyed CHWs providing sick child care |
| 1. 13 | Percentage of CHW's supervised in the past year during a FP consultation | # of CHWs receiving FP supervision with observation in last 1 year | Surveyed CHWs providing sick child care |
| 1. 14 | Percentage of CHW's supervised at least once in the past year, during which the FP registers were examined | # of CHWs receiving child care supervision with observation using the FP register in last 1 year | Surveyed CHWs providing sick child care |
|  | **Materials and supplies** | | |
| 1. 17 | Percentage of CHW's with a working scale | # of CHWs with a working scale | Surveyed CHWs providing sick child care |
| 1. 18 | Percentage of CHW's with a working thermometer | # of CHWs with a working thermometer | Surveyed CHWs providing sick child care |
| 1. 19 | Percentage of CHW's with a working timer or stopwatch | # of CHWs with a working timer or stopwatch | Surveyed CHWs providing sick child care |
| 1. 20 | Percentage of CHW's with a picture flip book for households | # of CHWs with a picture book | Surveyed CHWs providing sick child care |
| 1. 21 | Percentage of CHW's with a working lockable box | # of CHWs with a working safety box | Surveyed CHWs providing sick child care |
| 1. 22 | Percentage of CHW's with a trash disposal | # of CHWs with a trash disposal | Surveyed CHWs providing sick child care |
| 1. 24 | Percentage of CHW's with a functional hygiene and sanitation kit | # of CHWs with a functional hygiene and sanitation kit | Surveyed CHWs providing sick child care |
| 1. 25 | Percentage of CHW's with a raincoat | # of CHWs with a raincoat | Surveyed CHWs providing sick child care |
| 1. 26 | Percentage of CHW's with a stapler and staples | # of CHWs with a stapler and staples | Surveyed CHWs providing sick child care |
| 1. 27 | Percentage of CHW's with a functional bag | # of CHWs with a working bag | Surveyed CHWs providing sick child care |
| 1. 28 | Percentage of CHW's with all working IMCI materials the day of the evaluation | # of CHWs with a working IMCI materials | Surveyed CHWs providing sick child care |
| 1. 29 | Percentage of CHW's with blank individual recording sheets for Sick Children | # of CHWs with recording sheets | Surveyed CHWs providing sick child care |
| 1. 30 | Percentage of CHW's with consultation register for sick children | # of CHWs with consultation register for sick children | Surveyed CHWs providing sick child care |
| 1. 31 | Percentage of CHW's with medication sale register | # of CHWs with medication sale register | Surveyed CHWs providing sick child care |
| 1. 32 | Percentage of CHW's with stock register | # of CHWs with stock register | Surveyed CHWs providing sick child care |
|  | **Medications** | | |
| 1. 36 | Percentage of CHW's with properly stored medications (according to directions) on interview day | # of CHWs with properly stored medications | Surveyed CHWs providing sick child care |
| 1. 37 | Percentage of CHW's with all key child medicines (unexpired) in stock | # of CHWs with non-expired medicines available by type (amoxacillin, carbocysteine, balembo, anti-malarials, ORS, paracetamol, zinc, albendazole, iron/folic acid, vitamin A, Plumpy Sup, Plumpy Nut) | Surveyed CHWs providing sick child care |
| 1. 38 | Percentage of CHWs with no stock-outs of all key child medicines in the last 3 months | # of CHWs with no stock-outs of non-expired child medicines available in the last 3 months | Surveyed CHWs providing sick child care |
|  | Percentage of CHW's with ORS | # of CHWs with oral rehydration salts | Surveyed CHWs providing sick child care |
|  | Percentage of CHW's with no stock-outs of ORS in the last 3 months | # of CHWs with no stock-outs of ORS in the last 3 months | Surveyed CHWs providing sick child care |
|  | Percentage of CHWs with zinc | # of CHWs with zinc | Surveyed CHWs providing sick child care |
|  | Percentage of CHWs with no stock-outs of zinc in the last 3 months | # of CHWs with no stock-outs of zinc in the last 3 months | Surveyed CHWs providing sick child care |
| 1. 39 | Percentage of CHW's that had a rapid diagnostic test for malaria in stock | # of CHWs with non-expired malaria test kit available | Surveyed CHWs providing sick child care |
| 1. 40 | Percentage of CHWs with no stock-outs of malaria diagnostic tests in the last 3 months | # of CHWs with non-expired malaria test kit available in the last 3 months | Surveyed CHWs providing sick child care |
| 1. 41 | Median number of days CHW was out of stock for child medicines in the last 3 months | Median value (3 months) | Surveyed CHWs providing sick child care |
| 1. 42 | Percentage of CHW's with all FP commodities on the date of observation | # of CHW's with all essential FP commodities on the day of observation | Surveyed CHWs providing sick child care |
| 1. 43 | Percentage of CHW's with no stock-outs of FP commodities in the last 3 months | # of CHW's with stock-outs of all essential FP commodities in the last 3 months | Surveyed CHWs providing sick child care |
| 1. 44 | Median number of days CHW was out of stock of FP commodities in the last 3 months | Median value (3 months) | Surveyed CHWs providing sick child care |
|  | **Demand Generation** | | |
| 1. 46 | Percentage of CHW's supervising community volunteers | # of CHW's supervising community volunteers | Surveyed CHWs providing sick child care |
| 1. 47 | Percentage of CHW's conducting supervision of a community volunteer in the past 3 months | # of CHW's supervising community volunteers in the last 3 months | Surveyed CHWs providing sick child care |
| 1. 48 | Percentage of CHW's holding at least educational talk on breastfeeding and Infant and Young Child Feeding in the past month | # of CHW's providing at least one educational talk on infant and young child feeding education in the last month | Surveyed CHWs providing sick child care |
| 1. 49 | Percentage of CHW's that hosted at least one nutritional demonstration session in the past month | # of CHW's that hosted at least one nutritional education session in the last month | Surveyed CHWs providing sick child care |
| 1. 50 | Percentage of CHW's conducting at least one educational talk on FP in the past month | # of CHW's conducting at least one educational talks on FP in the past month | Surveyed CHWs providing sick child care |
| 1. 51 | Percentage of CHW's conducting at least one counseling session on FP in the past month | # of CHW's conducting at least one counselling session on FP in the past month | Surveyed CHWs providing sick child care |
| 1. 52 | Percentage of CHW's conducting at least one home visit to raise awareness of prenatal care for pregnant women in the past month | # of CHW's conducting at least one home visit to raise awareness of prenatal care for pregnant women in the past month | Surveyed CHWs providing newborn care |
| 1. 53 | Percentage of CHW's conducting at least one newborn home visit in the past month | # of CHW's conducting at least one newborn home visit in the past month | Surveyed CHWs providing newborn care |
| 1. 54 | Percentage of CHW's leading at least one educational talk on the advantages of prenatal care, assisted childbirth, and post-natal care in the past month | # of CHW's leading at least one educational talk on the advantages of prenatal care, assisted childbirth, and post-natal care in the past month | Surveyed CHWs providing newborn care |
|  | Median number of active community volunteers supervised by the CHW in the last 3 months | Median value (3 months) | Surveyed CHWs providing sick child care |
|  | **Availability of services** | | |
| 1. 59 | Percentage of CHW's that have a completed "Consultation Register" | # of CHW's with a complete consultation register | Surveyed CHWs providing sick child care |
| 1. 60 | Percentage of CHW's that have a completed Medication Sale journal record | # of CHW's with a complete medication sale journal record | Surveyed CHWs providing sick child care |
| 1. 61 | Percentage of CHW's with completed Medication Stock form | # of CHW's with a complete medication stock form | Surveyed CHWs providing sick child care |

**Implementation strength indicators–nutrition care**

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| --- | --- | --- | --- |
|  | **Indicator** | **Numerator** | **Denominator** |
|  | **Training** | | |
|  | Percentage of CHWs trained in maternal, infant and young child feeding (MIYCF) counseling in he last 2 years | # of CHWs trained in MIYCF counseling in the last 2 years | Surveyed CHWs providing MIYCF counseling |
| 1. 3 | Percentage of CHWs trained in MIYCF counseling by topic: breastfeeding; nutrition education; MUAC; other | # of CHWs trained in MIYCF counseling by topic at last training: breastfeeding; nutrition education; MUAC; other | Surveyed CHWs providing MIYCF counseling |
|  | **Supervision** | | |  |
| 1. 5 | Percentage of CHWs supervised in nutrition/feeding counseling in the last 6 months | # of CHWs receiving at least 1 supervisory visit in nutrition/feeding counseling in the last 6 months | Surveyed CHWs providing MIYCF counseling |
|  | Percentage of CHW's supervised with observation of a nutrition counseling session | # of CHWs observed conducting nutrition counseling at last supervision within the last 6 months | Surveyed CHWs providing MIYCF counseling |
|  | Percentage of CHW's supervised with a review of nutrition assessment and counseling supplies | # of CHWs with nutrition assessment and counseling supplies assessed at last supervision within the last 6 months | Surveyed CHWs providing MIYCF counseling |
|  | **Materials and supplies** | | |
| 1. 9 | Percentage of CHWs with a nutrition counseling flip book | # of CHWs with a nutrition counseling flip book | Surveyed CHWs providing MIYCF counseling |
| 1. 10 | Percentage of CHWs with a MUAC band | # of CHWs with a MUAC band | Surveyed CHWs providing MIYCF counseling |
| 1. 11 | Percentage of CHWs with nutrition home visits recording forms available | # of CHWs with nutrition home visits recording forms available: referral notes; group activity tracking; pregnant woman tracking; PP women 0-5 months tracking; PP women 6-12 months tracking | Surveyed CHWs providing MIYCF counseling |
|  | **Demand Generation** | | |
| 1. 20 | Percentage of CHWs with summary sheets for all group activities on nutrition led in the past 6 months | # of CHWs with summary sheets for all group activities on nutrition led in the past 6 months? | Surveyed CHWs providing MIYCF counseling |
| 1. 21 | Percentage of CHWs that have led at least one group outreach activity in the last 6 m | # of CHWs that have led at least one group outreach activity in the last 6 m | Surveyed CHWs providing MIYCF counseling |
| 1. 22 | Percentage of CHWs conducting group outreach in the last 6m by topic | # CHWs conducting group outreach in the last 6 m by topic: pregnancy diet; breastfeeding; WASH; dietary diversity; father’s role; FP; growth monitoring | Surveyed CHWs providing MIYCF counseling |
|  | Median number of group activities led by CHWs in the past month | Median |  |
|  | **Availability of services** | | |
| 1. 24 | Percentage of CHWs with tracking sheets for all households visited in the last month | # of CHWs with tracking sheets for all households visited in the last month | Surveyed CHWs providing MIYCF counseling |
| 1. 25 | Median number of household visits made by CHWs in the past month for nutrition care | Median value: pregnant women; PP women 0-5 months; PP women 6-12 months | Surveyed CHWs providing MIYCF counseling |

**Quality of care indicators -child care and family planning**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Indicator** | **Numerator** | **Denominator** |
|  | **Child assessment** | | |
|  | Median time required for companions to find and receive care from a CHW | Median value | Surveyed CHWs providing sick child care to children spontaneously seeking care from CHW |
|  | Median number of children seen in the last 3 months by condition (pneumonia, cough/cold, malaria, diarrhea, malnutrition) | Median value (from register) | Surveyed CHWs providing sick child care with complete registers of child consultations in the past 3 months |
|  | Percentage of children having their Mid-Upper Arm Circumference (MUAC) checked | # of children having their Mid-Upper Arm Circumference (MUAC) checked | Number of children 6 – 59 months seen |
|  | Percentage of children whose MUAC is the same as the gold standard | # of children whose MUAC is the same as the gold standard | Number of children 6-59 months receiving a MUAC assessment |
|  | Percentage of children evaluated for all danger signs | # of children evaluated for all 14 dangers signs | Number of children seen |
|  | Percentage of children with vaccination status checked | # of children with vaccination status checked | Number of children seen |
|  | Percentage of children seen with a cough or cold who had RR counted | # of children seen with a cough or cold who had their RR counted | Number of children with cough/cold or difficulty breathing seen |
|  | Percentage of children with RR count within 5 breaths of the gold-standard | # of children who had their RR counted with RR count within 5 breaths of the gold-standard | Number of children with cough/cold or difficulty breathing seen with RR counted |
|  | Percentage of children with fever who received a rapid malaria test as indicated | # of children with fever who received a rapid malaria test | Number of children with fever seen |
|  | Percentage of children with fever receiving a rapid malaria test with a positive result | # of children with fever receiving a rapid malaria test with a positive result | Number of children with fever receiving a rapid malaria test |
|  | Percentage of children with diarrhea correctly assessed | # of children with diarrhea asked about bloody stool, watery stool, check for sunken eyes, verify if the child is thirsty of drinking avidly, perform the skin fold test | Number of children with diarrhea |
|  | **Newborn home care assessment** | | |
|  | Percentage of newborns with temperature properly taken | # of newborns with temperature properly taken | # newborns seen |
|  | Percentage of newborns correctly weighed | # of newborns correctly weighed | # newborns seen |
|  | Percentage of newborns with respiratory rate counted | # of newborns with respiratory rate counted | # newborns seen |
|  | Percentage of newborns correctly evaluated for icterus (jaundice) | # of newborns correctly evaluated for icterus (jaundice) | # newborns seen |
|  | Percentage of newborns with umbilical cord examined | # of newborns with umbilical cord examined | # newborns seen |
|  | **Classification** | | |
|  | Percentage of children with malaria classified correctly | # of children classified as malaria | # of children with positive rapid malaria test |
|  | Percentage of children with pneumonia classified correctly | # of children with pneumonia classified correctly | # of children with gold standard classification of pneumonia |
|  | Percentage of children with cough/cold correctly classified | # of children with cough/cold classified correctly | # of children with gold standard classification of cough/cold |
|  | Percentage of children with diarrhea correctly classified | # of children with diarrhea correctly classified | # of children with gold standard classification of diarrhea |
|  | Percentage of children with malnutrition correctly classified by CHW | # of children with severe uncomplicated and moderate malnutrition correctly classified | # of children with gold standard classification of severe uncomplicated and moderate malnutrition |
|  | Percentage of children with vaccination status correctly determined | # of children with vaccination status correctly determined | # of children seen |
|  | Percentage of children with vitamin A status correctly determined | # of children with vitamin A status correctly determined | # of children seen |
|  | **Treatment** | | |
|  | Percentage of children with key classifications given correct treatment (pneumonia, cough/cold, malaria, diarrhea, malnutrition) | # of children with key classifications given correct treatment | # of children seen with key classification |
|  | Percentage of children with an upper respiratory tract infection receiving antibiotics | # of children who with an upper respiratory tract infection receiving antibiotics (inappropriate use) | # of children seen with an upper respiratory tract infection |
|  | Percentage of children with watery diarrhea receiving antibiotics | # of children who with watery diarrhea receiving antibiotics (inappropriate use) | # of children seen with watery diarrhea |
|  | Percentage of children with negative rapid malaria test receiving anti-malarials | # of children with negative rapid malaria test receiving anti-malarials | # of children seen with a negative rapid malaria test |
|  | Percentage of children requiring treatment given or prescribed the full treatment dose | # of children requiring treatment given or prescribed the full treatment dose | # of children seen requiring treatment |
|  | Percentage of children requiring treatment given the first treatment dose in front of the CHW | # of children requiring treatment given the first treatment dose in front of the CHW | # of children seen requiring treatment |
|  | Percentage of children needing vitamin A given vitamin A | # of children needing vitamin A referred for or given vitamin A | # of children seen requiring vitamin A |
|  | **Counseling and home care** | | |
|  | Percentage of companions asked to repeat treatment advice | # companions asked to repeat the treatment advice | # of children seen prescribed home treatment |
|  | Percentage of companions who were given correct advice about danger signs | # of companions given correct advice about danger signs | # of children seen |
|  | Percentage of companions counselled to give more fluids and continue feeding | # of companions counselled to give more fluids and continue feeding | # of cases of diarrhea seen |
|  | Percentage of companions given any follow-up appointment; and a follow-up appointment that follows practice guidelines | # of companions given any follow-up appointment; and a follow-up appointment that follows practice guidelines | # of children seen requiring a follow-up appointment |
|  | Percentage of companions able to correctly recall treatment advice | # of companions able to correctly recall treatment advice | # of children seen prescribed home treatment |
|  | Percentage of companions satisfied with services provided | # of companions satisfied with services provided | # of children seen |
|  | **Newborn home counseling** | | |
|  | Percentage of caregivers counseled on the importance of thermal care for newborns | # of caregivers counseled on the importance of thermal care for newborns | # of newborns seen |
|  | Percentage of caregivers counseled on maternal Kangaroo care (skin-to-skin) | # of caregivers counseled on maternal Kangaroo care (skin-to-skin) | # of newborns seen |
|  | Percentage of caregivers counseled on advantages of breastfeeding in at least 4 key areas. | # of caregivers counseled on at least 4 messages on advantages of breastfeeding in key areas: easy to digest; healthy; free; growth; cognition; prevention of disease; bonding; temp control; birth control < 6 m | # of newborns seen |
|  | Percentage of caregivers counseled on advantages of exclusive breastfeeding | # of caregivers counseled on advantages of exclusive breastfeeding | # of newborns seen |
|  | Percentage of caregivers counseled on baby's first bath | # of caregivers counseled on baby's first bath | # of newborns seen |
|  | Percentage of caregivers counseled on key safety precautions in at least 4 areas | # of caregivers counseled on key safety precautions: sleeping under bed nets; not sleeping on stomach; not sleeping on edge of bed; not sleeping near fire; not throwing and catching; not holding by the feet; following the vaccination schedule | # of newborns seen |
|  | Percentage of caregivers visited more than 2 days after birth counseled on family planning (FP) | # of caregivers visited more than 2 days after birth counselled on family planning (FP) | # of newborns seen at least 2 days after birth |
|  | Percentage of caregivers correctly recalling at last 4 advantages of breastfeeding | # of caregivers correctly recalling advantages of breastfeeding: easy to digest; healthy; free; growth; cognition; disease prevention; growth; temp control; birth control < 6m | # of exit interviews |
|  | Percentage of caregivers correctly describing exclusive breastfeeding | # of caregivers correctly describing exclusive breastfeeding | # of exit interviews |
|  | Percentage of caregivers knowing at least 3 ways to maintain baby’s temperature | # of caregivers correctly describing at least 3 ways to maintain baby’s body temperature | # of exit interviews |
|  | Percentage of caregivers knowing at least 4 newborn danger signs | # of caregivers correctly describing at least 4 newborn danger signs | # of exit interviews |
|  | Percentage of caregivers given advice to go to the health center for postnatal visits | # of caregivers given advice to go to the the health center for postnatal care | # of exit interviews |
|  | **Referral care - children** | | |
|  | Percentage of children needing referral given a correct pre-transfer treatment | # of children needing referral given a correct pre-transfer treatment | # of children needing referral |
|  | Percentage of children needing referral given correct advice prior to transfer | # of children needing referral given correct advice prior to transfer | # of children needing referral |
|  | Percentage of children needing referral receiving help organizing transport | # of children needing referral receiving help organizing transport | # of children needing referral |
|  | Percentage of children needing referral receiving a referral card or note | # of children needing referral receiving a referral card or note | # of children needing referral |

**Worksheet 6: Supervisor spreadsheet for phone interviews**

Enter details of date, staff to be interviewed by category, phone number and calls made (Worksheet 6: supervisor spreadsheet -phone interviews).

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| **District Code** | **District Name** | **HW ID** | **HW Name** | **Mobile # 1** | **Mobile # 2** | **Date Assigned** | **Interviewer ID** | **Note** | **# calls made so far** | **Latest result code** | **Date complete** |
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**Worksheet 7: Health Worker Listing Form for field visits**

List all community-based health providers providing child health or nutrition services

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **District name** | **District ID** | **Locality** | **Village** | **Name of CHW** | **CHW ID number** | **Phone number of CHW** | **Consent given** | **Date of sick child observation, client interview and re-exam** | **Date of newborn home visit observation, client interview** | **Date of nutrition home visit observation, client interview** | **Date of CHW interview – newborn/ child care** | **Date of CHW interview - nutrition care** | **Interviewer Name and ID** |
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# Step 3: Conducting and supervising the survey

***Conducting and supervising the survey***

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| --- | --- | --- | --- |
| 1 | Plan the survey | * Select the coordinator and manager * Establish objectives * Decide on geographic area and timing * Select the sample * Determine staffing needs * Estimate and secure the budget * Begin ethical approval | Worksheet 1: Sample size calculator  Worksheet 2: CHW listing form  Worksheet 3: Supply calculator  Worksheet 4: Budget template |
| 2 | Prepare to conduct the survey | * Adapt survey instruments * Translate, pre-test and pilot instruments * Select supervisors and interviewers * Prepare for electronic data entry * Plan analysis and dissemination * Prepare for survey staff training | Annex A: Survey instruments  Annex B: Survey question summaries  Worksheet 5: Survey indicators  Worksheet 6: Supervisor spreadsheet  Worksheet 7: HW listing sheet |
| 3 | Conduct and supervise the survey | Phone survey   * Make interviewer assignments * Call CHWs and facility providers * Finalize and check questionnaires * Complete end of day procedures | Worksheet 6: Supervisor spreadsheet  Worksheet 8: Interviewer performance checklist |
| Field survey   * Make arrangements for field work * Make CHW/facility field visits * Finalize and check questionnaires * Complete end of day procedures | Worksheet 7: HW listing sheet |
| * Recruitment and consent * Conduct survey interviews | Annex A: Survey instruments  Annex B: Survey question summaries  Annex C: Consent forms |
| 4 | Analyze and interpret data | * Retrieve/export data for analysis * Clean data * Finalize logistics * Conduct data review and analysis | Annex A: Survey instruments  Annex B: Question by question summaries  Worksheet 9: Priority indicators summary table |
| 5 | Use data for planning | * Establish a team to review findings * Review descriptive data * Review priority indicators * Explain observed gaps * Describe actions for improvement * Make conclusions/ recommendations * Summary report and feedback * Finalize and disseminate findings | Worksheet 10: Review of newborn, child and nutrition implementation strength and quality indicators  Worksheet 11: Factors contributing to observed indicators  Worksheet 12: Actions for improving observed indicators |

## Conduct implementation strength phone survey

Supervisors ensure that the space assigned for data collection has adequate numbers of tables and chairs and sufficient space for each interviewer to make calls without disrupting others. Each team should consist of 1 supervisor and 2 interviewers, depending on sample size and time available. Supervisors ensure that they have required supplies needed for each day (see section 2.9.4) (box).

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| **Implementation strength phone surveys use:**  *For a newborn and child health assessment*:   * A CHW interview questionnaire for newborn and child care   *For a nutrition care assessment*   * CHW interview questionnaire for nutrition care |

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| **Daily supervisor preparation and oversight tasks: phone surveys**   * Ensure that interviewers’ mobile phones have 1) Full charge, 2) Phone numbers of supervisor, data manager, and survey coordinator, 3) Airtime and SIM cards installed, 4) Sufficient airtime for the day. * Update and review the electronic airtime tracking sheet to summarize use from each team member; present the form and needs to the survey coordinator. * Ensure interviewers’ tablets have the most up to date CAPI surveys, are fully charged, have Wifi disabled, and turn on properly. * Ensure that each interviewer’s tracking sheet (whether newly printed or existing) is checked, ready for use and has interviews to conduct. For the CHW interviews, ensure notes about preferences for date/time of interview are included. * Distribute interviewers’ phones, tablets and tracking sheets. Ensure interviewers update the daily attendance sheet. * Hold daily de-brief meetings to discuss questions and issues that arise, problem-solve, and maintain team morale.   See: Worksheet 6: supervisor spreadsheet - phone interview  See: Reference weblink 4: phone survey forms (daily attendance and airtime tracking sheet) |

See the flowchart in Figure 2.

**Step 1: Make interviewer assignments**

Data managers assign districts and CHWs to interview teams. Names and contact numbers of all CHWs to be contacted are loaded onto supervisor spreadsheets. Supervisors assign to specific interviewers using their interviewer ID. The names and numbers of health workers appear in the individual interviewer tabs in the spreadsheet. These are printed as interviewer tracking sheets and given to each interviewer in the team.

**Step 2: Call CHWs**

* The correct survey for the category of health worker being interviewed should be loaded on the tablet.
* If the CHW requests that the interviewer call back at a time outside of normal business hours, the interviewer should consult with the study team supervisor and if feasible, try to accommodate the preferred time.
* If the CHW cannot be reached after 2 attempts *made at different times of the day* over a period of 1 day the interviewer will send a text to schedule a time. If the interviewee schedules a time via text, the interviewer will call back at the day/time scheduled.
* If the CHW cannot be contacted via call or text, the interviewer will try to call again twice over period of another day.
* If there is no response from the CHW by phone or text after 5 attempts, the interviewer will notify the team supervisor. The supervisor will make a plan for how to reach the interviewee, document this plan on the questionnaire and discuss with the interviewer. If the interviewee still cannot be reached, they will be placed on the hard-to-reach list.

Details of survey instruments and how to conduct interviews are presented in section 3.3

**Step 3: Finalize and check each questionnaire after the call**

* Interviewers save the form on the tablet but do not click the finalize button (this is done by supervisors).
* Record the status of the call (completed, call back date/time, could not be reached, etc) on the Interviewer Tracking Sheet.
* Record the airtime used for the call on the Interviewer Tracking Sheet
* Interviewers show their tablet to their supervisor who will review the saved form for quality and completeness, and finalize.

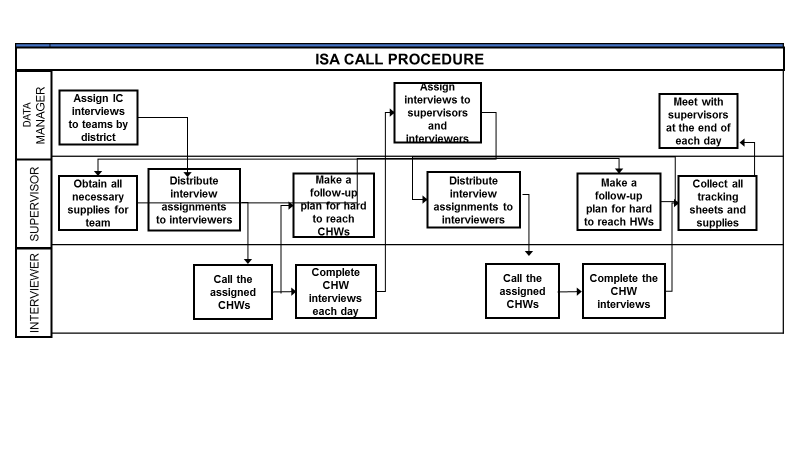
**Step 4: Complete end-of-day procedures**

* Interviewers update tracking sheets and share with supervisors who update the supervisors tracking sheet.
* All supplies are returned to the supervisor who ensures that all tablets and phones are plugged in at their team’s designated charging station.
* Interviewers sign out on the Daily Attendance Sheet.
* Supervisors conduct individual debriefing sessions with survey coordination staff at the end of each day and a group debriefing that will take no longer than 1 hour. Progress, airtime use, quality of interviews, and any challenges with interviewers are discussed.

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| **Supervisor tasks during and after phone interviews**   * Monitor interviewers and provide corrective feedback when needed to ensure interviewers follow protocols for contacting CHWs, administration of the survey, documenting each “call attempts” before and after the call and updating their airtime sheet. * Oversee interviewing. Observe at least one interview per day by each interviewer and document the observation using the performance checklist. Ensure interviewers do not speak too loudly or make noise while others are conducting interviews. Trouble-shoot and guide interviewers as requested and required. Submit completed checklists to the survey coordinator at the end of each day. Observe interviews using the interviewer performance checklist. See the worksheet at the end of this section and Worksheet 8: interviewer performance checklist. * Develop strategies for managing unsuccessful calls (see box) * Collect each interviewer’s tracking form and discuss any concerns about progress with each interviewer. Hold a brief team meeting to review tracking forms debrief and discuss any concerns. * Inspect and account for phones and tablets. Ensure they are plugged in and charging. Upload interviews by turning on the Wifi for each of the tablets. Open ODK Collect to confirm that all surveys are uploaded to the server. * Update the Supervisor Tracking and Summary airtime forms, ensuring they reflect all calls that occurred. * Meet with the study manager and data manager to discuss Supervisor Tracking and Summary airtime forms, provide general updates and/or feedback, and solicit advice for any problems identified. |

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| **Supervisors approach for facility providers who are difficult to reach**  If at least 4 call attempts to a CHW have been made at different times over a period of 2 days, the supervisor is responsible for making further arrangements, including:   * Contacting facility supervisors or ICs to check that phone numbers are correct and obtaining correct numbers if available. * Asking contactable facility supervisors, ICs or CHWs whether the interviewee can be contacted using the phone of a colleague on days when they are at the facility for work, routine meetings, supplies, or payment (If the interviewee does not have a functional mobile phone). * Asking facility supervisors, IC or CHWs to inform the CHW about the call (perhaps through another CHW with network coverage in a nearby catchment area or radio) and set an appointment to conduct the call in a location with network coverage (if the interviewee has a phone but limited network coverage). * Ensuring that community-based providers are told in advance that they need their community register/forms to provide information on current drug stocks and child health and nutrition caseloads (specifying which drugs and the need to check whether any are expired). |

**Figure 2: Summary of call procedure: implementation strength phone survey**

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## Conduct implementation strength and quality of care field survey

The CHW listing sheets are used to track progress of CHW interviews, observations and client interviews (Worksheet 7: CHW listing sheet).

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| **Field surveys include both implementation strength and quality of care assessments.**  **Field surveys are conducted with:**  *For a newborn and child health assessment*   * A CHW interview questionnaire for: 1) newborn and child care * CHW observation checklists for: 1) sick child care; 2) newborn home care * Caregiver exit interview questionnaires after: 1) sick child care; 2) newborn home care * A sick child re-examination checklist after the CHW sick child consultation   *For a nutrition assessment*   * CHW interview questionnaires for: 1) nutrition care * Caregiver exit interview questionnaires for: 1) nutrition home care |

**Step 1: Make arrangements for field work**

*Introduce the survey team to the district health manager and child health and nutrition coordinator*

Ensure that district leaders and health managers are aware of the purpose of the survey, and the basic methods that will be used. Explain how the data will be used, and ask if there are any questions or recommendations. The supervisor is usually responsible for introducing the survey team and explaining the purpose of the visit.

*Finalize logistics of field visits*

In collaboration with district staff, supervisors:

* Confirm phone numbers and location of selected CHWs; (Step 1, section 1.5)
* Update the CHW listing sheets, including names and phone numbers of CHWs. If necessary, facility in-charges can be called to confirm details of CHWs phone numbers and locations.
* Call and make arrangements for when and where to meet CHWs. If newborn care home visits are scheduled, ask the CHW to delay routine visits (where possible according to the visit schedule)), until the day of the visit so that the team can accompany them. F
* Make a schedule of community visits based on discussions with CHWs and district health staff. Finalize where teams will spend nights and team roles and responsibilities.

*Identify a local guide (if necessary)*

Local guides can be useful to help find community health workers and to help explain the presence of the survey team. In the planning phase, the survey coordinator ensures that unnecessary use of additional staff is avoided.

*Identify a local interpreter (if necessary)*

* In areas with a number of local languages or dialects, it may not be possible to translate all questionnaires in advance. Instead they can be translated directly from the questionnaire during the interview by a local interpreter. A local interpreter should be fluent in the national language as well as the local language.

**Step 2: Make field visits to CHWs**

Survey teams visit CHWs in pre-arranged locations. See box for eligibility criteria for sick

children, caregivers and newborns.

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| **Sick newborn and child assessments**  **Sick child inclusion criteria**   * Between 2 and 59 months of age; * Described as sick by the caregiver, having at least one of the following complaints: danger signs (lethargy/loss of consciousness, recent or current convulsions, vomiting everything, unable to drink or breastfeed), fever, cough, fast/difficult breathing, diarrhea, or nutritional problems; * Have not been seen any other CHWs for the current illness episode; * Caregiver gives consent   **Newborn inclusion criteria**   * Children aged 0-45 days who are due for a home visit by the CHW as part of their routine program activities within their catchment area; * Caregiver gives consent   **Caregivers inclusion criteria**  Caregivers bringing children to the CHW or visited at home must be at least 18 years of age. Individuals 15 to 17 years of age may be included if they are married or have had at least one child. |

1. Observe sick child or newborn home visits

*Sick child*

* On the morning of the assessment, visit the CHW from 7.30am to 10:00am. During this time the CHW questionnaire is completed, and caregivers of eligible children brought to the CHW invited to participate in the survey (observation of case management by the CHW, re-examination and caregiver interview). A maximum of 2 children are observed. If more than 2 children are waiting, divide the total by 2 to obtain a sampling number and select clients accordingly (for example if there are 10 clients, select every fourth client (10/2)).
* At 10:00am, if fewer than 2 eligible children have presented to the CHW, the data collection team accompanies the CHW door to door throughout the village, using a random selection procedure (see box), to identify sick children. Observations, re-examination and caregiver interviews are then conducted at the household.

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| **Randomly selecting households to identify sick children for observation**   1. Estimate the number of households between the CHWs household and the edge of the village. Randomly select a number between 1 and the estimated number of households (k). 2. Find a starting direction. Spin a pen to find a starting direction from the CHWs household.      1. Visit the kth. household. If there is a sick child[[1]](#footnote-2) aged 2 to 59 months in the household who is eligible for inclusion, ask the caregiver for his or her consent. 2. If consent is given, the CHW manages the sick child at the child’s home (with observation and re-examination per study guidelines). If there is more than one eligible sick child in the household, the CHW manages all sick children, but only the first child will be included in the survey. 3. If there is no eligible child in the household, or if the caregiver refuses to participate, the CHW and data collection team continues to the next household. 4. Repeat until the required number of sick children are identified (2). If necessary, a new direction should be selected from the CHWs house, with a new random number selected and households visited until a minimum of 2 consultations in 2 different households have been observed. |

*Newborn and nutrition home visits*

* Where possible, 2 newborn home visits will be observed. Newborn visits may not be possible in all villages, depending on population size and structure. If conducting a sick child assessment, these visits are done after the sick child observations and client interviews. If they are being done without sick child assessments, they can be done at the beginning of the day, as pre-arranged with the CHW. Ideally CHWs will have delayed scheduled visits until the day of the survey visit. If no scheduled visits are planned, ask CHWs to make the visits to households that have planned visits scheduled in the near future. No more than 2 visits will be scheduled if there are more than 2 visits due.

*Observations*

* All observation data are recorded on a paper form.
* For sick child observations, one interviewer conducts all direct observations and while the clinically trained observer completes the re-examination of sick children. For newborn home care observations, both surveyors can conduct observations. One re-examination is conducted for each sick child observed.
* Newborn care observations are conducted for 2 home care visits if possible.
* Ask the CHW to practice as usual. Observers should position themselves so as not to interfere with routine practice. They should not speak, offer advice or correct the CHW.
* If the re-examination of the sick child finds that the CHW classified or treated the child incorrectly, it is important to be sensitive to the role of the CHW in the community. The re-examining surveyor should not tell the caregiver that the CHW made a mistake or give alternative treatment themselves. Instead, they should inform the CHW of the error, explain the reasons why a new classification and treatment is needed, and allow the CHW to review the child and take the proposed action themselves.

1. Conduct interviews with caregivers and providers

*Interviews – caregivers*

* All caregiver interviews are entered directly using the tablet and conducted immediately after observations. They should be conducted away from the CHW in a place with physical and auditory privacy.
* Caregiver interviews – child health. The interviewer who conducts the caregiver interview should be different than the interviewer who conducts the clinical observation so as not to create bias. One caregiver interview is completed for each sick child observed.
* Newborn and nutrition caregiver interviews can be conducted by both surveyors. Interviews are conducted after every newborn care and nutrition counseling interaction. For newborn assessments, the mother of the newborn is interviewed. For nutrition assessments, the primary target for nutrition counseling is interviewed (usually a woman of reproductive age, pregnant or postpartum).

*Interviews – CHWs*

* When possible, conduct CHW interviews after clinical observations and caregiver interviews to avoid bias in responses. Find a quiet space away from other CHWs and community members. If there are no sick children available at the beginning of the day, CHW interviews should be done first to save time; if cases arrive during interviews, they can be interrupted and completed after sick child observations and exit interviews.

**Step 3: Finalize and check each questionnaire**

* Interviewers transfer observation data from the paper form to the observation checklist on the tablet.
* All forms are saved on the tablet but do not click the finalize button (this is done by supervisors).
* Interviewers show their tablet to their supervisor who will review the saved form for quality and completeness, and finalize.

**Step 4: Complete end-of-day procedures**

* Interviewers update the CHW tracking sheet and share with supervisors.
* Supervisors conduct individual debriefing sessions with the survey team at the end of each visit. Progress, quality of interviews, and any challenges with interviewers are discussed.
* Travel to the overnight location in preparation for the next facility visit.

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| **Role of supervisors in maintaining data quality – field visits**  **In the community**   * Observe at least 1 provider interview and caregiver exit interview per week for each interviewer. * Conduct more supervisory visits at the beginning of field work, when data collectors are learning how to administer questionnaires , and at the end of field work, when data collectors may be tired and applying standards less rigorously. * Do not observe client consultations to limit bias. * Observe interviews using the interviewer performance checklist. See the worksheet at the end of this section and Worksheet 8: interviewer performance checklist.   **ID management**  **CHW name à** Ensure the correct provider name and ID is entered in the direct observation and client exit interview. IDs must match across forms for correct analysis.  **Client ID code and color à** Ensure the client ID is entered in the direct observation checklist and matches the client exit interview. |

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| **Data management: supervisors and team members**  **Review all saved forms on the tablet**   * Send only finalized forms to the server. Submitted forms cannot be edited. * If errors are found on a form that has been sent to the server, contact the field coordinator or central office and report the errors. * Ask the clinician on the survey team to review observation and re-examination data prior to submission. * Send the forms once all data collection is complete as soon as possible   **Check data available prior to submission**  It is essential to check all data to ensure that all required checklists have been completed and that there are no omissions, inconsistencies or other errors. Where possible check data prior to departure from the CHW or facility so data problems can be addressed by asking staff if necessary   * Have all direct observations been entered into the tablets? * Is one direct observation and client interview completed per client? * Have provider interviews been conducted for every provider? * Have the correct number of direct observation and client interviews been completed? * Do the number of forms completed for each CHW match what is entered on the CHW progress sheets? |

## Recruitment and consent for the survey

### CHWs

The recruitment and consent scripts must be read to every participant before starting the interviews. Whether the participant has or has not given consent must be recorded on every questionnaire.

For phone surveys, interviewers will obtain verbal consent for each CHW prior to beginning the interview. For field surveys all selected CHWs will be recruited and then asked to provide informed consent for all eligible study procedures at the time of the field visit. Consent is required before conducting any CHW interviews.

Consent scripts for all providers are presented in Annex C.

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| **It is important that each CHW understands that:**   * Participation is voluntary. * Answers will be kept confidential. Responses will not be shared with supervisors or managers. Results will be reported in aggregate rather than by health worker. All data are stored on password protected computers with access given only to the survey team. * The survey will not be used as a measure of job performance or to compare workers. This is to help improve newborn, child and nutrition care. * The participant will not receive any payment for participating in the study (Occasionally small, token gifts are given to CHWs and caregivers as thanks for their participation in settings where this is considered appropriate and is approved by local and national authorities). |

### Sick child, newborn and nutrition caregivers

Field study staff will be responsible for recruiting and obtaining consent for caregivers for the caregiver interview.

Inclusion criteria are usually included in the study protocol submitted for ethical approval. For the standard RADAR survey clients are:

1. Female (although male clients can be included)
2. Older than 18 years of age or between 15-17 years of age if either (1) married, or (2) having a biological child (sometimes called an emancipated minor).

See Annex C for the recruitment and consent scripts for sick child, newborn and nutrition care caregivers. Interviewers read the recruitment script. If caregivers agree to participate, they are given a verbal description of the two-part study (observation and exit interview) and asked to provide informed verbal consent before the consultation.

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| **It is important that interviewers:**   * Tell caregivers to ask questions about the survey or their participation at any time, before, during or after the survey procedures are complete.      * Pause the interview to answer any questions. |

## Conduct survey interviews – phone and field surveys

Details of how to ask and code survey questions are summarized in Annex B. To ensure that survey results valid and reliable, all eligible providers and clients must have questionnaires completed. If an interviewer reports an unusually high number of refusals, it may indicate that he or she gives up too easily or explains the survey inadequately.

Successful interviewing is a skill which can be practiced but it should not be treated as a mechanical process. Each interview represents an exchange of information but it can also be an interesting and pleasant interaction. The first responsibility of the interviewer is to establish a good rapport with a respondent. At the beginning of an interview, the respondent and interviewer are strangers[[2]](#footnote-3). The respondent’s first impressions will influence his or her willingness to cooperate with the survey.

The following principles apply to all interviews:

### Encourage participation

*Reassure respondents*

* Make a good first impression by being polite, conducting introductions, explaining the purpose of the survey and showing identification;
* Think about timing. Try schedule the interview at a time when the respondent has time available. Indicate willingness to conduct the interview at another time if it is inconvenient for the respondent to answer questions.
* Answer all questions about the survey and why the CHW and facility were selected.
* Show the tablet for data collection and explain how it works; a brief demonstration may satisfy curiosity and build trust.
* Pay attention to your body language and the messages it sends. Gestures such as sitting at the same level as a respondent and having open body language go a long way towards establishing trust.

### *Maintain confidentiality of participant’s responses*

Reassure all participants that all information is confidential, anonymous and not presented by CHW. Do not show or discuss completed questionnaires with team members, supervisors or study coordinators in front of a respondent or any other person.

### Conduct interviews to maximize the quality of responses

### *Interview respondents alone to ensure they answer independently*

The presence of a third person during an interview can prevent a respondent from being honest or open. All individual interviews must be conducted privately and all questions answered by the respondent. If others attempt to listen, be firm. Establishing privacy from the beginning will allow the respondent to feel more comfortable, attentive and honest.

### *Do not rush the interview*

Ask the questions slowly to ensure that the respondent understands what is being asked. After asking a question, pause and give the respondent time to think. If the respondent feels hurried or is not allowed to formulate his or her own opinion, they may hastily respond with, “*I don’t know*” or give an inaccurate answer. Tell the respondent, “*There is no hurry. Your opinion is very important, so consider your answers carefully.*”

### *Encourage accurate and honest responses*

* Remain neutral. Never approve or disapprove of any of the respondent’s responses. There is no right or wrong answer. Do not express, verbally or non-verbally, any judgements about responses given.
* Clarify if responses are not clear or if the respondent says they do not know. Ask: “*Can you explain a little more?”,* “*I did not quite hear you; could you please tell me again?”,* “*There is no hurry. Take a moment to think about it*.”
* Repeat questions if the respondent is off topic or talks about subjects unrelated to the question; allow them to speak, but bring them back to the questions being asked
* Never treat respondents differently based on expectations about the ability, educational level, literacy, wealth or knowledge. All questions should be asked in the same way to all participants.
* Do not let data entry using the tablet to interfere with the timing of the interview or prevent effective listening. Too much attention to data entry may interfere with how questions are asked and responses given. If there are technical problems with particular questions, wait until the end of the interview to solve them. If there are larger technical problems pause the interview and consult the team leader or supervisor.
* If necessary, explain again that all responses are confidential and anonymous

### Ask survey questions consistently

### *Never suggest answers*

If a respondent does not know the answer to a question or gives a response that is unclear or not relevant, do not give possible responses or read out listed options from the question. This is called prompting. It affects the accuracy of the survey because respondents will often agree with prompted options, even if they are not applicable to them. Instead, interviewers should leave questions open and probe by repeating the question and using open-ended questions (*Is there anything else you can think of? What happens would you do?)*.

*Ask the questions exactly as they are written and in the same order*

Even small changes in wording can alter the meaning of a question. If the respondent does not understand, the question should be repeated. If necessary, interviewers can explain the question, but must be careful not to change its meaning.

*Ask all the questions, even if the respondent answers two questions at once*

Interviewers can explain that they must ask each question individually, or say: “Just so that I am sure…” or “Just to refresh my memory…” and then ask the question.

*Never leave a question unanswered unless the questionnaire explicitly requires it to be skipped.*

Questions left blank are difficult to deal with later. During the analysis it is difficult to know whether the question was asked or not. For some questions, the ‘DK’ code is given as an option, and once interviewers are sure that the respondent is unable to provide an answer, this can be entered. In questions where no ‘DK’ response is provided on the questionnaire, interviewers must make sure that the respondent provides an answer.

*Record answers immediately.*

Delaying data entry can lead to recall errors. The whole questionnaire should be entered and checked before leaving the CHW or household to be sure it is completed correctly.

*Use an appropriate local language*

Questionnaires are administered in the primary language spoken by the respondent. Advance preparations have been made to translate and field test questionnaires to ensure accuracy (Step 2). Interviewers are selected to ensure they visit areas where they speak local languages. In areas with multiple local languages or dialects, local translators may be needed. Immediate translation is not preferred, because it slows down interviews and can lead to problems with comprehension. It is important not to change the meaning of questions when rephrased or adapted to another language or dialect.

### Reduce non-response

A serious bias could result if the level of non-response is high. One of the most important duties of the supervisor and team members is to minimize this problem and to obtain the most complete information possible. A non-response rate higher than 5% is indicative of problems in data collection. Non-response may be classified into two basic types:

**Type 1: The selected CHW cannot be contacted**

To ensure all selected CHWs are contacted, interviewers and supervisors should:

* Conduct interviews at times and in places convenient for the provider.
* Make arrangements to compensate for poor network coverage by arranging calls in areas where coverage is more reliable.
* Make a mobile phone available – through arrangements with other staff

If these approaches are not successful, the supervisor should immediately inform the survey coordinator and data manager to discuss how to proceed.

**Type 2: The respondent refuses to participate in the study**

The number of refusals reported by each data collector are closely monitored. If a data collector reports an unusually high number of refusals, it may indicate that he or she gives up too easily or explains the survey inadequately. Suggestions for handling potential refusals include the following:

1. Approach respondents from their point of view.Refusals may stem from misconceptions about the survey or other prejudices. The interviewer must consider the respondent’s point of view, adapt to it, and reassure them.
2. Explain risks and benefits. The risks of this study are minimal and the benefits can be substantial, both for the individual respondent and for the community. Interviewers should explain that the data collected will be kept confidential and will be used to improve health services.
3. Reassure that this is not a performance evaluation. Interviewers should explain that performance measures such as number of sick children seen, availability of supplies and supervision are not used to monitor performance. Information about individual health workers is not shared with the MOH. More important is the need for accurate information so actions to improve program performance can be made.
4. Postpone the interview to another time.If interviewers’ sense that they have arrived at an inconvenient or awkward time, they should leave before the respondent declines the interview and return at another time when circumstances are more likely to result in a successful interview.

**→** Review Questionnaires and question-by-question instructions presented in Annexes A and B. Ensure that the meaning of all questions and how to answer them is clear. Local adaptations to the questionnaire to the standard version are noted.

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| **Monitoring interviewer performance**   * The supervisor will ensure the quality of data collection by observing all team members conducting an interview regularly and conducting regular feedback sessions with interviewers and advise them of any problems. Worksheet 8: interviewer performance checklist is used by supervisors for observations of interviewer performance. * Each interviewer is observed during the first two days of fieldwork so that errors are identified before many survey interviews have been conducted. Thereafter, observations of each interviewer are conducted at least once every 2-3 days. It may be necessary to increase the number of supervision observations towards the end of fieldwork, to encourage a consistent level of performance. * To conduct observations, the team leader or supervisor first explains to the respondent that they are supporting the interviewer’s work, not the respondent’s answers to the questions. They should sit close enough to see data entered by the interviewer. Notes of problems should be kept. They should not intervene during the course of the interview and keep all feedback until after the interview. Intervention should only be considered if a serious mistake has been made that requires immediate correction. * After each observed interview, supervisors give feedback to the interviewer. This should be and negative findings should be discussed. * Questions that the team leader / supervisor should consider while observing interviews include: * Are the questions asked as they are written? * Does the interviewer translate appropriately? * Are the responses recorded correctly? * Does the interviewer follow established guidelines for each question? For example, probing when necessary; skip patterns; procedures for determining dates and identifying medicines. * Does the interviewer remain neutral or does he/she suggest responses to the questions? * Does the interviewer treat the respondents with respect and put them at ease? * Does the interviewer allow the respondent time to think and answer properly? |

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| Providing feedback to interviewers Regular meetings allow common problems or issues encountered during fieldwork to be discussed. Mistakes identified during observations can be presented. It is important not to embarrass individual interviewers by mentioning them by name. Re-reading guidelines from the survey guidelines with the team can help resolve problems. Interviewers should be encouraged to talk about any situations encountered in the field that were not covered in training, so the group can discuss how to handle similar situations.  A standard approach to a daily discussion could address the following:   * What went well today? * What were the issues / challenges and how can these issues be remedied and/or improved? * Identification of problems found during observations and re-interviews; and feedback on how to manage these problems. * Updates to the schedule (any changes to fieldwork days, confirm dates and time of daily departure, team composition, etc.) * A review of logistical issues (e.g. accommodation, contracts, per diems, payments to local guides, vehicle issues, airtime) * Recognition and appreciation of the team members * Any other business   The supervisor should expect to spend considerable time evaluating and instructing interviewers at the start of fieldwork. If they feel that the quality of work is not adequate, interviews should stop until errors and problems have been fully resolved. In some cases, an interviewer may fail to improve and will have to be replaced. |

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| **Prepare the survey team for emergencies or sub-standard care**  There is a small risk that severely unwell sick children or newborns will be encountered; and that care provided by the CHW is sub-standard. If a case is identified to be at high risk of morbidity or mortality, the team should agree on action steps.  Action steps to manage high-risk cases include:   * Assist with referral of the child to a referral facility by providing transportation directly or by providing funds to pay for appropriate transportation. * As a last resort: senior clinicians with appropriate clinical experience on the survey team can discuss problems with the CHW and try to correct errors. They should intervene to provide essential life-saving care if there are no other options and if the risk of morbidity or mortality is high. |

**Worksheet 8: Supervisor Interviewer Performance Checklist: observation of phone or field-based interviewers**

Interviewers ID:…… Interviewer Name :…………………

HW Number …….

Supervisor ID:…… Supervisor Name:…………………

Date of observation: \_\_\_\_\_\_\_\_\_ Time of observation: \_\_\_\_\_\_\_\_\_

***0=poor, 1=average, 2= can do better, 3 =good, 4=very good, 5=excellent***

|  |  |  |  |
| --- | --- | --- | --- |
| **Area of Performance** | **Comments** | **Score**  **(out of 5)** | **Correction provided? Yes/No** |
| 1. Followed appropriate greeting protocol |  |  |  |
| 1. Correctly administered informed consent |  |  |  |
| 1. Polite, professional tone and volume of voice |  |  |  |
| 1. Consistent, slow but steady pace through the interview |  |  |  |
| 1. Explains all terms clearly, and answers questions patiently |  |  |  |
| 1. Solved problems that emerged |  |  |  |
| 1. Completed entire questionnaire (with appropriate skips) |  |  |  |
| 1. Followed appropriate closure protocol |  |  |  |
| 1. Correct updated of tracking sheets (including result codes, reschedule plans, airtime and cost logging) |  |  |  |
| 1. Fills out questionnaire accurately (after checking saved form) |  |  |  |
| **Overall/summary Comments:** | | |  |

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# Step 4: Analyze and Interpret Data

## Analyze and interpret data

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| 1 | Plan the survey | * Select the coordinator and manager * Establish objectives * Decide on geographic area and timing * Select the sample * Determine staffing needs * Estimate and secure the budget * Begin ethical approval | Worksheet 1: Sample size calculator  Worksheet 2: CHW listing form  Worksheet 3: Supply calculator  Worksheet 4: Budget template |
| 2 | Prepare to conduct the survey | * Adapt survey instruments * Translate, pre-test and pilot instruments * Select supervisors and interviewers * Prepare for electronic data entry * Plan analysis and dissemination * Prepare for survey staff training | Annex A: Survey instruments  Annex B: Survey question summaries  Worksheet 5: Survey indicators  Worksheet 6: Supervisor spreadsheet  Worksheet 7: HW listing sheet |
| 3 | Conduct and supervise the survey | Phone survey   * Make interviewer assignments * Call CHWs and facility providers * Finalize and check questionnaires * Complete end of day procedures | Worksheet 6: Supervisor spreadsheet  Worksheet 8: Interviewer performance checklist |
| Field survey   * Make arrangements for field work * Make CHW/facility field visits * Finalize and check questionnaires * Complete end of day procedures | Worksheet 7: HW listing sheet |
| * Recruitment and consent * Conduct survey interviews | Annex A: Survey instruments  Annex B: Survey question summaries  Annex C: Consent forms |
| 4 | Analyze and interpret data | * Retrieve/export data for analysis * Clean data * Finalize logistics * Conduct data review and analysis | Annex A: Survey instruments  Annex B: Question by question summaries  Worksheet 9: Priority indicators summary table |
| 5 | Use data for planning | * Establish a team to review findings * Review descriptive data * Review priority indicators * Explain observed gaps * Describe actions for improvement * Make conclusions/ recommendations * Summary report and feedback * Finalize and disseminate findings | Worksheet 10: Review of newborn, child and nutrition implementation strength and quality indicators  Worksheet 11: Factors contributing to observed indicators  Worksheet 12: Actions for improving observed indicators |

## Retrieve/export data for analysis

Set up and maintenance of the CAPI system, data management and analysis are supported by one or more staff, depending on staff skills. A data manager/IT specialist is required to oversee this process. Staff responsible for supporting data analysis should also be familiar with STATA software, used for data analysis.

For analysis, questionnaire data are downloaded from the server directly or using ODK briefcase application to a laptop or desktop computer. This allows data to be viewed and analyzed remote from the server. The ODK briefcase program must be installed on laptop or desktop computer using Java software. It can then be used to link with the ODK aggregate data on the server, download to the computer and to put the downloaded data into a format that be viewed and used.

## Clean questionnaire data

The data manager should review the final database for each questionnaire. All incomplete files should be removed from the database. By running frequencies and cross tabulations of related variables in each module, data inconsistencies can be identified. Most inconsistencies due to data entry errors can be identified and corrected. In some cases, the data manager will need to discuss inconsistencies or errors with field supervisors. It is therefore important that data are monitored continuously so that errors can be addressed while fieldwork is fresh in a supervisor’s mind.

Common errors to check for include:

* Duplicate CHW or client IDs
* Dates that don’t correspond to field visits
* Missing forms

At the end of each form, there is a free text question where data collectors record pertinent information that was not noted in the questionnaire, such as the reason consent was not given. During cleaning, the data manager should make sure any notes in this section are used to inform data availability of gaps.

## Finalize logistics

A small team will conduct the analysis. A data analysis team has been identified (Step 2). Members of this team could include: selected supervisors and interviewers; training facilitators; district and regional program managers; national programme planners. Dates for the analysis (usually immediately following field work) should also be scheduled. To prepare for the analysis, survey coordinators:

* Confirm attendance with proposed analysis team members. A team of 10-12 is recommended. Two to three days is required.
* Identify four portable or desktop computers to use for data analysis and install

the ODK briefcase program and software for analysis (e.g. STATA). Participants work

in teams of 2-3 and one computer per team is ideal.

* Confirm the venue for data analysis activities, adequate for a group of around 12 people.

## Conduct analysis using the data analysis plan

The proposed analysis plan calculates priority indicators. For each indicator, several explanatory measures may be calculated to help explain practices, how interventions are delivered, and possible problems or barriers to delivery. The numerators and denominators required to calculate coverage indicators are described in the next section. Descriptive information about the sample providers and clients is calculated first. *It is useful to provide participants with a code book summarizing variable names for each question.*

### Review data analysis software commands

The survey **coordinator** and IT coordinator introduce the basic commands of the data analysis software being used. Participants do not need to have extensive knowledge of this software to calculate and discuss coverage indicators. Example rules for STATA data analysis software are reviewed in the box. For more information on data analysis using data software for analysis see Reference weblink 6: Analyzing RMNCH survey data

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| **Rules for data analysis using STATA as an example**  **Data processing:**   * All incomplete records are removed before beginning the analysis.   + - Missing, “don’t know” and unknown responses are removed from the numerator and denominator (using the subpop command) when reporting on the final indicators.     - The proportion of missing, “don’t know” and unknown responses should be reported for each indicator.     - If the proportion of missing/unknown is >10% for an indicator, interpret the indicator with caution and consider imputation strategies   **Subnational estimates:**   * When reporting disaggregated estimates, do not report estimate if there are fewer than 25 respondents.   **Adjusting for the survey design:**   * Use STATA svyset for all analysis (to adjust for two stage clustering only, not women and children clustering) * Set svy design: svyset cluster [pw=sw], strata(strata) singleunit(centered) * singleunit(centered) specifies that strata with one sampling unit are centered at the grand mean instead of the stratum mean.   **Reporting:**   * Always report the weighted proportion and sample size. * Always report the standard error and 95% confidence intervals applying the clustering and strata (if applicable). |

### Review the survey objectives

Survey objectives have been determined in advance. The indicators and explanatory measures collect information on the core objectives (outlined in Step 1). The survey may have other objectives that require specific information. For example, if the survey collected stratified data (for different population sub-groups for example), then indicators need to be calculated for each stratum separately.

### Describe the sample

Descriptive data are important for presenting an overview of the population of CHWs and clients sampled. An example of a summary of descriptive information is presented below. If a stratified sample has been selected, then descriptive information should be calculated for each stratum.

**Table 8: Number of CHWs interviewed**

Frequency of CHWs interviewed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Staff interviewed** | | **Geographic area n/N (%)** | | | | |
| District A | District B | District C | District D | Total |
| District | CHWs |  |  |  |  |  |
| **Overall Total** |  |  |  |  |  |  |

**Summary statistics**:

* Total number of CHWs interviewed;
* Proportion of CHWs interviewed by geographic area.

**Table 9: Number of client observations and interviews: breakdown by technical area**

Frequency of client observations and interviews by technical area and district

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **Geographic area n/N (%)** | | | | |
| District A | District B | District C | District D | Total |
| Sick child | Observations |  |  |  |  |  |
| Re-examinations |  |  |  |  |  |
| Client interviews |  |  |  |  |  |
| Newborn | Observations |  |  |  |  |  |
| Client interviews |  |  |  |  |  |
| Nutrition | Observations |  |  |  |  |  |
| Client interviews |  |  |  |  |  |
| **Overall Total** | Observations |  |  |  |  |  |
| Re-examinations |  |  |  |  |  |
| Client interviews |  |  |  |  |  |

**Summary statistics**:

• Total number of observations and client interviews conducted by technical area;

• Total number of observations and client interviews by geographic area;

• Proportion of observations and interviews by technical area;

• Proportion of observations and interviews by technical area and geographic area;

### Calculate priority indicators

The survey calculates a core set of indicators to measure implementation strength and quality of care. For each indicator or group of indicators, additional information that can help explain indicators is also collected. If indicators show an upward or downward trend over time, then the explanatory data may help explain reasons behind this trend.

Priority indicators and how they are calculated are presented in this section. Additional information that can be calculated by the survey is summarized. Indicators can be disaggregated by factors that may be relevant to interpreting results including geographic area. Indicators are summarized in Worksheet 9 (Worksheet 9: priority indicators summary table).

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### Implementation strength indicators

**Child care and family planning**

1. Health worker training coverage

* Percentage of CHW’s trained in iCCM in the last 2 years.
* Percentage of CHW's trained in iCCM who also have retrained in care for sick children age 2-59 months in the last 2 years.
* Percentage of CHW's trained to treat children with individual clinical conditions (pneumonia, cough/cold, diarrhea, malaria, malnutrition) in the last 2 years
* Percentage of CHW's trained in FP in the last 2 years
* Percentage of CHW's trained in FP topics (counseling, lactational amenorrhea, condoms, OCP, injectables) in last two years

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| **Numerator** | Number of CHWs trained in iCCM, retrained in iCCM, trained individual clinical conditions, trained in FP, trained in FP topics in the previous 2 years. |
| **Denominator** | Total number of CHWs providing child health/FP services. |
| **Question Number**  **Numerator** | Use CHW questionnaire – child health  1.28: *During your first training did you practice giving care to children 2-59 months?* AND 1.26 *How long ago did you receive your first training.* Select Y if at least 2 years since first training.  1.27. *How long ago did you receive your most recent training or re-training in giving care to sick children aged 2 to 59 months?* Select if re-training has been received in the last 2 years.  1.25: *For what diseases have you been trained to give care to children aged 2 to 59 months?* List training received by topic.  1.30, 1.31: *Did you receive a training that contained topics on family planning?* Select Yes if training received *AND How long ago did you receive your first training that contained family planning topics?* Select Y if received in the last 2 years.  1.32: *What was the content of this first training that contained topics on family planning?* List training received by topic. |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Present CH and FP training, by training topic. |

1. Health worker supervision coverage

* Percentage of CHW's receiving child care supervision in the last 3 months
* Percentage of CHW's supervised within the last year with observation of a sick child consultation
* Percentage of CHW's supervised within the last year with review of the child register
* Percentage of CHWs receiving newborn screening and counseling supervision in the last 3 months
* Percentage of CHW's supervised within the last year with observation of newborn screening and counseling
* Percentage of CHW's supervised within the last year with review of the newborn register
* Percentage of CHW's that were supervised on FP in the last 3 months
* Percentage of CHW's supervised within the last year with observation of a FP consultation
* Percentage of CHW's supervised within the last year, with review of the FP register

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| **Numerator** | Number of CHWs supervised in the last 3 months for sick child care, newborn screening and counseling and FP; and number of CHWs supervised within the last year with observation of practice and review of the register for sick children, newborn care and FP |
| **Denominator** | Total number of CHWs providing sick child care. |
| **Question Number**  **Numerator** | Use CHW questionnaire –Form 1: child health  1.34: *How long has it been since you received your last supervision on care for sick children aged 2-59 months?* Select 1 (0-3 months).  1.37: *What did your supervisor do during your last supervision on care for sick children aged 2-59 months?* Select C (observed child care) and 1.34 *How long has it been since you received your last supervision on care for sick children aged 2-59 months?* Select (0-12 months).  1.37: *What did your supervisor do during your last supervision on care for sick children aged 2-59 months?* Select G (review of consultation register) and 1.34 *How long has it been since you received your last supervision on care for sick children aged 2-59 months?* Select (0-12 months).  1.37a: *How long has it been since you received your last supervision on newborn screening and counseling?* Select 1 (0-3 months).  1.37d: *What did your supervisor do during your last supervision on newborn screening and counseling?* Select C (observed child care) and 1.37a *How long has it been since you received your last supervision on care for sick children aged 2-59 months?* Select (0-12 months).  1.37d: *What did your supervisor do during your last supervision on newborn screening and counseling?* Select G (review of consultation register) and 1.37a *How long has it been since you received your last supervision on care for sick children aged 2-59 months?* Select (0-12 months).  1.38: *How long has it been since you received your last supervision on family planning?* Select 1 (0-3 months).  1.41: *What did your supervisor do during your last supervision on care for sick children aged 2-59 months?* Select C (observed FP consultation)  1.41: *What did your supervisor do during your last supervision on care for sick children aged 2-59 months?* Select G (review of consultation register) |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Present supervision indicators separately. |

1. Availability of materials and supplies

* Percentage of CHW's with a working scale
* Percentage of CHW's with a working thermometer
* Percentage of CHW's with a working timer or stopwatch
* Percentage of CHW's with a picture flip book for households
* Percentage of CHW's with a working lockable box
* Percentage of CHW's with a trash disposal
* Percentage of CHW's with a functional hygiene and sanitation kit
* Percentage of CHW's with a raincoat
* Percentage of CHW's with a stapler and staples
* Percentage of CHW's with a working bag
* Percentage of CHW's with all working iCCM materials
* Percentage of CHW's with blank individual recording sheets for Sick Children
* Percentage of CHW's with consultation register for sick children
* Percentage of CHW's with a medication sale register
* Percentage of CHW's with a supply stock register

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| **Numerator** | Number of CHWs with functional supply of all listed materials and supplies available at the time of the interview |
| **Denominator** | Total number of CHWs providing child health services. |
| **Question Number**  **Numerator** | Use CHW questionnaire –Form 1: child health  2.12 A-K: *Now I would like to ask you questions about your equipment and supplies for the treatment of sick children and newborns. Can you show me the following materials?* Select Y if item is available (1 – Yes) and in good or fair condition (2-fair, 3 -good).  3.21*: Do you have any blank Individual Sheets for the Care of a Sick Child?* Select 1 – Yes.  3.22: *Do you have a « Curative Consultation Register » for sick children?* Select 1 – Yes.  3.41*: Do you have a filled out « Register of Daily Medication Sales » available?* Select 1 – Yes.  3.45: *Do you have any filled out ASC Stock Sheets available?* Select 1 - Yes |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Present indicators separately. * Consider combining some indicators and presenting as a composite indicator in categories, for example: clinical care, record keeping, |

1. Medications and commodities

* Percentage of CHW's with properly stored medications (according to directions)
* Percentage of CHW's with all key child medicines (unexpired) in stock
* Percentage of CHWs with no stock-outs of all key child medicines in the last 3 months
* Percentage of CHW's with ORS in stock
* Percentage of CHW’s with zinc in stock
* Percentage of CHW's that had a rapid diagnostic test for malaria in stock
* Percentage of CHWs with no stock-outs of malaria diagnostic tests in the last 3 months
* Median number of days CHW was out of stock for child medicines in the last 3 months (by type)
* Percentage of CHW's with all FP commodities on the date of observation
* Percentage of CHW's with no stock-outs of FP commodities in the last 3 months
* Median number of days CHW was out of stock of FP commodities in the last 3 months

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| **Numerator** | Number of CHWs with properly stored medications, all child health medications, ORS, zinc and malaria tests available on the day of the visit and in the last 3 months, all FP medicines available on the day of the visit and in the last 3 months, and median duration of stockouts for child health FP medicines in the last 3 months |
| **Denominator** | Total number of CHWs providing child health services. |
| **Question Number**  **Numerator** | Use CHW questionnaire –Form 1: child health  2.13, 2.14, 2.15: Are medicines kept in a ventilated, dry and cool space. Select Y if all are recorded as Yes (1).  2.25, 2,28, 2.31, 2.34, 2.37, 2.40, 2.43, 2.46,2.49, 2.52, 2.55, 2.58: *Do you have the medicine, right now?* Select Y if B and/or D = Y for all medicines.  2.25, 2,28, 2.31, 2.34, 2.37, 2.40, 2.43, 2.46,2.49, 2.52, 2.55, 2.58: *Have you experienced a stock out in the last 3 months?* Select Y if No (2) for all medicines.  2.40: *Do you have ORS right now?* Select Y if B = Y (1)  2.42: *Have you experienced a stock out in the last 3 months of ORS?* Select Y if No (2)  2.43: *Do you have zinc right now?* Select Y if B = Y (1)  2.45: *Have you experienced a stock out in the last 3 months of zinc?* Select Y if No (2)  2.22: *Do you have and RDTs, right now?* Select Y if B = Y (1).  2.24: *Have you experienced a stock out in the last 3 months of RDTs?* Select Y if No (2).  2.25, 2,28, 2.31, 2.34, 2.37, 2.40, 2.43, 2.46,2.49, 2.52, 2.55, 2.58: *For how many weeks did the stockout last*? Calculate median days based on estimated weeks*.*  2.62, 2.65, 2.68, 2.71, 2.74, 2.77: *Do you have the FP commodity, right now?* Select Y if B = Y (1) for all FP commodities.  2.62, 2.65, 2.68, 2.71, 2.74, 2.77: Have you experienced a stock out in the last 3 months*?* Select Y if No (2) for all FP commodities.  2.62, 2.65, 2.68, 2.71, 2.74, 2.77: *For how many weeks did the stockout last?* Calculate median days based on estimated weeks. |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Disaggregate indicators to review availability of individual child or FP medicines and supplies |

1. Demand generation

* Percentage of CHW's supervising community volunteers
* Percentage of CHW's conducting supervision of a community volunteer in the past 3 months
* Percentage of CHW's holding at least one educational talk on breastfeeding and Infant and Young Child Feeding education in the past month
* Percentage of CHW's that hosted at least one nutritional demonstration session in the past month
* Percentage of CHW's conducting at least one educational talk on FP in the past month
* Percentage of CHW's conducting at least one counseling session on FP in the past month
* Percentage of CHW's conducting at least one home visit to raise awareness of prenatal care for pregnant women in the past month
* Percentage of CHW's conducting at least one newborn home visit in the past month
* Percentage of CHW's leading at least one educational talk on the advantages of prenatal care, assisted childbirth, and post-natal care in the past month

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| **Numerator** | Number of CHWs supervising community volunteers (in the last 3 months), conducting education, counselling and home visits for nutrition, FP, care around birth and newborn health in the last month; median number of volunteers supervised. |
| **Denominator** | Total number of CHWs providing child health services. |
| **Question Number**  **Numerator** | Use CHW questionnaire –Form 1 and Form 3: child health  1.42: *Do you supervise community volunteers?* Select Yes (1)  1.42: *How many volunteers are you currently supervising?* Find median of all reported numbers of volunteers.  1.44: *How many volunteer supervision visits did you make during the three months?* Select Y if at least 1 visit has been made.  3.13: *Number of educational talks on nutrition (exclusive breastfeeding, complementary feeding, micro-nutrient supplementation) in the past month.* Select Y if at least 1 session held.  3.14: *Number of nutritional demonstration sessions in the last month/* Select Y if at least 1 session held.  3.16: *Number of educational talks on FP in the past month.* Select Y if at least 1 session held.  3.17: *Number of FP consulting sessions in the past month.* Select Y if at least 1 session held.  3.18: *Number of home visits to pregnant women for discussion about pre-natal visits in in the past month.* Select Y if at least 1 session held.  3.19: *Number of home visits to monitor newborns in the past month.* Select Y if at least 1 session held.  3.20: *Number of educational talks on the benefits of pre-natal visits, assisted childbirth, and post-natal consultations in the past month.* Select Y if at least 1 session-held. |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** |  |

* Median number of active community volunteers supervised by the CHW in the last 3 months

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| **Numerator** | Median number of active community volunteers supervised by CHWs in the past 3 months |
| **Denominator** | Total number of CHWs conducting community volunteer supervision |
| **Question Number**  **Numerator** | Use CHW questionnaire –Form 1: child health  1.42: *Do you supervise community volunteers?* Select Yes (1)  1.44: *How many volunteer supervision visits did you make during the three months?* Select median time across all CHWs |
| **Question Number Denominator** | 1.42: *Do you supervise community volunteers?* Select Yes (1) |
| **Notes** |  |

1. Availability

* Percentage of CHW's that have a completed "Consultation Register"
* Percentage of CHW's that have a completed Medication Sale Journal Record
* Percentage of CHW's with completed Medication Stock form

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| **Numerator** | Number of complete CHW registers, completed medication sale record, completed stock record |
| **Denominator** | Total number of CHWs providing child health services. |
| **Question Number**  **Numerator** | 3.26, 3.27,3.29, 3.30: *Is the date recorded for all consultations? Is the age recorded for all consultations? Is the classification recoded for all consultations? Is the treatment recorded for all consultations?* Select Y if all are present “always”  3.44: *What information is usually recorded in the medication sales record in the last 3 months?* Select Y if A (output quantity), B (total output per week),C (unit price), D (total amount) = Always (1)  3.46: *What information is usually included in the ASC stock records in the last 3 months?* Select Y if A-H = Always (1). |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Consider disaggregating by recording tasks |

Supporting measures: implementation strength: child health

* Form 1: 1.13-1.22: demographic characteristics and literacy
* Form 1: 1.36, 1.40: health worker providing supervision
* Form 1: 1.45, 1.46: Method for finding sick children; whether referral is accepted.
* Form1: 1.47 – 1.51: Method for finding FP clients, acceptance of referral, counseling methods
* Form 3: 3.30: Treatment given by type of medication
* Form 3: 3.33: Number of referrals in the last 3 months
* Form 3: 3.37-3.40: availability and completion of FP client follow-up sheets

**Implementation strength indicators–nutrition care**

1. Health worker training coverage

* Percentage of CHWs trained in maternal, infant and young child feeding (MIYCF) counseling in the last 2 years
* Percentage of CHWs trained in feeding counseling by topic at last training: breastfeeding; nutrition education; MUAC

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| **Numerator** | Number of CHWs trained in maternal, infant and young child feeding counseling in the last 2 years; type of nutrition counseling by training area |
| **Denominator** | Total number of CHWs providing child health/FP services. |
| **Question Number**  **Numerator** | Use CHW questionnaire – Nutrition – Form 1  1.21*: How long ago did you receive your first training on Maternal, Infant, and Young Child Feeding (MIYCF) counseling*? Select Y if 2 years or fewer.  1.23: A-D: *Which of the following topics were included in your most recent MIYCF?* Select if Y for each topic received. |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Present nutrition training, by training topic. |

1. Health worker supervision coverage

* Proportion of CHWs receiving at least 1 supervisory visit in nutrition/feeding counseling in the last 6 months
* Proportion of CHWs observed conducting nutrition counseling at last supervision (within the last 6 months)
* Proportion of CHWs with nutrition assessment and counseling supplies reviewed at last supervision (within the last 6 months)

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| **Numerator** | Number of CHWs receiving at least 1 supervisory visit in nutrition/feeding in the last 6 months, and by type of supervision received – observed counseling and supply assessment. |
| **Denominator** | Total number of CHWs providing MIYCF counseling. |
| **Question Number**  **Numerator** | Use CHW questionnaire –nutrition - Form 1  1.24: *How many supervisions / monthly meetings on nutrition have you received in the past 6 months?* Select 2 (0-3 months) or 3 (3-6 months).  1.28: A-F: *What did your supervisor do during your most recent supervision/monthly meeting?* Select Y for B (observed counseling session) and C (look for availability of supplies) |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Present supervision indicators separately. |

1. Availability of materials and supplies

* Percentage of CHWs with a nutrition counseling flip book
* Percentage of CHWs with a MUAC band
* Percentage of CHWs with nutrition home visits recording forms available: referral notes; group activity tracking; pregnant woman tracking; PP women 0-5 months tracking; PP women 6-12 months tracking

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| **Numerator** | Number of CHWs with functional supply of all listed nutrition materials and supplies available at the time of the interview |
| **Denominator** | Total number of CHWs providing nutrition services. |
| **Question Number**  **Numerator** | Use CHW questionnaire – nutrition – Form 1  1.37, 1.38:  *Do you have the following supplies? Can you show me?* Select Y if available (1).  1.39-1.46: *Do you have the following supplies? Can you show me?* Select Y if all required forms and paperwork is available, with pencil for entering information. |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** | * Present indicators of paper forms separately. |

1. Demand generation

* Percentage of CHWs with summary sheets for all group activities on nutrition led in the past 6 months
* Percentage of CHWs that have led at least one group outreach activity in the last 6 months
* Percentage of CHWs conducting group outreach in the last 6 months by topic: pregnancy diet; breastfeeding; WASH; dietary diversity; father’s role; FP; growth monitoring

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| **Numerator** | Number of CHWs with summary sheets of group activities and who have led at least 1 group activity in the last 6, and group activities conducted by type |
| **Denominator** | Total number of CHWs providing nutrition services. |
| **Question Number**  **Numerator** | Use CHW questionnaire – nutrition – Form 1  1.34:  *Do you have summary sheets for the group activities you have led in the past 6 months?* Select Y if all are available (1).  1.35: *How many times in the past 6 months have you led the following community outreach / engagement activities?* Select Y if at least one group activity has been conducted in any area.  1.36: *How many of these activities included the following topics?* Frequency of outreach activity by topic |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** |  |

* Median number of MIYCF group activities led by CHWs in the past 6 months

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| **Numerator** | Median number of MIYCF group activities led by CHWs in the past 6 months |
| **Denominator** | Total number of companions of children receiving a sick child observation |
| **Question Number**  **Numerator** | Use Form 7 -child health companion interview  1.35: *How many times in the past 6 months have you led the following community outreach / engagement activities?* Select median time across A, B and C for all forms of support group |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** |  |

1. Availability

* Percentage of CHWs with tracking sheets for all households visited in the last month
* Median number of household visits made by CHWs in the past month for nutrition counseling: pregnant women; PP women 0-5 months; PP women 6-12 months

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| **Numerator** | Number of CHWs with tracking sheets for households visited in the previous month; median number of nutrition visits made by type of client |
| **Denominator** | Total number of CHWs providing nutrition services. |
| **Question Number**  **Numerator** | Use CHW questionnaire – nutrition – Form 1  1.31:  *Do you have visit tracking sheets for the clients you've visited in the last month?* Select Y if all are available (1).  1.32: A, B, C: *How many household visits did you make in the last month to: pregnant women, PP women 0-5 m, PP women 6-12 m?* Median value for each category |
| **Question Number Denominator** | 1.07: CHW ID is completed. Select Y for total CHWs. |
| **Notes** |  |

Supporting measures: implementation strength: nutrition

* Form 1: 1.12-1.20: demographic characteristics
* Form 1: 1.26 A-F: health worker providing supervision
* Form 1: 1.29, 1.30: number of current clients by category
* Form 2 (CHW nutrition knowledge): 2.12-2.29: knowledge by topic area

**Quality of care indicators -child care and family planning**

1. Child Assessment

* Median time required for companions to find and receive care from a CHW

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| **Numerator** | Median time to find the CHW |
| **Denominator** | Total number of caregivers of children receiving a sick child observation who sought care from the CHW spontaneously and were not referred to the health facility for care |
| **Question Number**  **Numerator** | Use Form 7 -child health caregiver interview  7.26: *For how long were you looking for the CHW?* Median time across all companions interviewed |
| **Question Number Denominator** | 7.10: Total children observed |
| **Notes** |  |

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* Median number of children seen in the last 3 months by condition (pneumonia, cough/cold, malaria, diarrhea, malnutrition)

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| **Numerator** | Number of children seen in the last 3 months by CHWs by classification |
| **Denominator** | Total number of CHWs providing child health services who have at some or all classifications recorded for child consultations in the past 3 months |
| **Question Number**  **Numerator** | Use CHW questionnaire –Form 1 and Form 3: child health  3.29: A, B, C, D, E, F. *How many cases of children (2 to 59 months) are recorded in the register for the last three months?* Record median for each classification across all CHWs. |
| **Question Number Denominator** | 3.22. *Do you have a « Curative Consultation Register for sick children?* Select if Y.  3.25K – Is the classification recorded for classifications? Select 1 (Y) – always. |
| **Notes** |  |

* Percentage of children having their Mid-Upper Arm Circumference (MUAC) checked
* Percentage of children whose MUAC measurement is the same as the gold standard
* Percentage of children evaluated for all danger signs
* Percentage of children with vaccination status checked
* Percentage of children seen with a cough or cold who had RR counted
* Percentage of children with RR count within 5 breaths of the gold standard
* Percentage of children with fever who received a rapid malaria test as indicated
* Percentage of children with fever receiving a rapid malaria test with a positive result
* Percentage of children with diarrhea correctly assessed

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| **Numerator** | Number of children assessed who had MUAC completed with MUAC the same as the gold standard, checked for all danger signs, checked for vaccination status; number of children with cough or with RR checked and consistent with the fold standard; number of children with fever receiving RDT for malaria and test positive; number of children with diarrhea assessed correctly. |
| **Denominator** | Total number of children receiving care (checked for danger signs, vaccination status checked)  Children eligible for MUAC (>6 months of age)  Children receiving MUAC (MUAC consistent with gold standard)  Children with RR checked (RR count consistent with gold standard)  Children with fever (receiving RDT for malaria)  Children receiving RDT for malaria (proportion of RDT positive)  Children with diarrhea |
| **Question Number**  **Numerator** | Use CHW questionnaire – child health – Form 6: CHW observation (CO) and Form 8: clinician re-examination (CRE)  (CO) 6.23: *Does the CHW measure the MUAC using the MUAC band?* Select Y if yes (1)  (CO) 6.23 and (CRE) 8.18: *What is the child’s MUAC classification?* Select Y if the CHW assessment = clinician assessment for MUAC.  (CO) 6.26: A, B, D, F, H, J, L, N, P, R, T *Does the CHW check or is the information available?* Select Y if CHW checks or has information available for all evaluation tasks.  (CO) 6.34. *What does the CHW check off for the vaccination schedule?* Select Y if something is written (1, 2, or 3) for all relevant vaccinations for the age of the child.  (CO): 6.20: D. *Does the child suffer from a cough or cold? And Does the CHW count the child's breathing?* Select Y if child has cough and cold and the CHW checks RR.  (CO):6.20 E and (CRE) 8.15 C. *How many breaths per minute does the CHW count?* Select Y if the CHW assessment is within 5 breaths of the clinician assessment for RR.    (CO): 6.21: D, E: *Does the child suffer from a fever?* *Has the child had a positive RDT in the past 15 days? Does the CHW perform a RDT today?* Select Y if child has fever and D and/or E = Y.  (CO): 6.21 F: *What are the results?* Select Y if test results are positive.  (CO) 6.22: A and 6.30: A, C, E, F,G: *Does the CHW ask/check for: how many days the child has had diarrhea, blood in the stool, watery stool, sunken eyes, thirsty or drinking avidly, skin fold test.* Select Y if all are Y (1). |
| **Question Number Denominator** | All children (danger signs, vaccination schedule): 6.10: Child’s name: sum total  Children eligible for MUAC (< 6m): 6.23 *Does the CHW measure the MUAC using the MUAC band?* Select Y and N.  Cough or cold (RR): 6.20. Select Y (1 or 2)  RR measured: 6.20 D. Select Y (1)  Fever (RDT): 6.21. Select Y (1 or 2)  RDT conducted: 6.21 D or E. Select Y (1 or 2)  Diarrhea: 6.22. Select Y (1 or 2) |
| **Notes** | * Disaggregate assessment steps |

1. Newborn home care assessment

* Percentage of newborns with temperature properly taken
* Percentage of newborns weighed
* Percentage of newborns with respiratory rate counted
* Percentage of newborns correctly evaluated for icterus (jaundice)
* Percentage of newborns with umbilical cord examined

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| **Numerator** | Number of newborns with temperature, weight, RR, icterus and umbilicus correctly assessed |
| **Denominator** | Total number of newborns assessed |
| **Question Number**  **Numerator** | Use CHW questionnaire – child health – Form 9: CHW observation for newborn home visit  9.44- 9.47: *Does the CHW take the temperature, remove clothing, place in armpit and hold arm down?* Select Y if all actions are reported yes (1)  9.50: *Does the CHW count the number of breaths per minute?* Select Y if Y (1).  9.53: *Does the CHW weigh the baby?* Select Y if Y (1).  9.55: *Does the CHW look at the palms of the hands and feet to observe the complexion of the skin?* Select Y if Y (1)  9.56: *Does the CHW look at the condition of the umbilical cord for bleeding or infection?* Select Y if Y (1) |
| **Question Number Denominator** | 9.09: *Sex of the child.* Count total number of newborns seen. |
| **Notes** |  |

1. Classification

Percentage of children with malaria classified correctly

Percentage of children with pneumonia classified correctly

Percentage of children with cough/cold correctly classified

Percentage of children with diarrhea correctly classified

Percentage of children with malnutrition correctly classified by CHW

Percentage of children with vaccination status correctly determined

Percentage of children with vitamin A status correctly determined

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| **Numerator** | Number of children with malaria, pneumonia, cough/cold, diarrhea, malnutrition assessed; number of children with vaccination and vitamin A status correctly determined. |
| **Denominator** | Total number of children receiving care with gold standard clinical classifications (malaria, pneumonia, cough/cold, diarrhea, malnutrition, needing referral)  Total children seen (vaccination and vitamin A status). |
| **Question Number**  **Numerator** | Use CHW – child health -questionnaires: Form 8: clinician re-examination (CRE) Form 6: CHW observation (CO)  (CRE) 8.30 1, 2 and (CO) 6.41: A, B: Select Y if clinical re-exam classification = CHW classification,  (CRE) 8.29 1 and (CO)6.40 A: Select Y if clinical re-exam classification = CHW classification,  (CRE) 8.29 2 and (CO) 6.40 B: Select Y if clinical re-exam classification = CHW classification.  (CRE) 8.31 1, 2 and (CO). 6.42 A, B: Select Y if clinical re-exam classification = CHW classification.  (CRE) 8.32 1, 2 ,3 and (CO). 6.43 A-C: Select Y if clinical re-exam classification = CHW classification.  (CRE) 8.26 A-E and (CO) 6.34 A-D. Select Y if clinical re-exam vaccination status = CHW classification.  (CRE) 8.27 A, B, C and (CO 6.36 A, B, C). Select Y if re-exam vitamin A status = CHW classification. |
| **Question Number Denominator** | Total number of children receiving care with gold standard clinical classifications 8.28-8.32: fever (C, D, E), pneumonia (A), cough/cold (B), diarrhea (F, G), malnutrition (H, I). Total number of children needing referral 8.33 (1).  Total children seen (vaccination and vitamin A): 6.10 (child’s name): Sum total |
| **Notes** | * Disaggregate classifications to identify gaps. |

1. Treatment

* Percentage of children with key classifications given correct treatment (pneumonia, cough/cold, malaria, diarrhea, malnutrition)
* Percentage of children who with an upper respiratory tract infection receiving antibiotics (inappropriate use)
* Percentage of children who with watery diarrhea receiving antibiotics (inappropriate use)
* Percentage of children with negative rapid malaria test receiving anti-malarials
* Percentage of children requiring treatment given or prescribed the full treatment dose
* Percentage of children requiring treatment given the first treatment dose in front of the CHW
* Percentage of children needing vitamin A referred for or given vitamin A

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| **Numerator** | Number of children with fever, pneumonia, cough/cold, diarrhea, malnutrition treated correctly; number of children with cough/cold receiving antibiotics; number of children with watery diarrhea receiving antibiotics; number of children with a negative malaria RDT receiving antimalarials; number of children receiving treatment given correct prescriptions in the correct dose; number of children given the first treatment dose in front of the CHW; number of children needing vitamin A referred for or given vitamin A |
| **Denominator** | Total number of children receiving care with gold standard clinical classifications (fever, pneumonia, cough/cold, diarrhea, malnutrition) receiving correct treatment  Total children needing treatment  Total children needing vitamin A |
| **Question Number**  **Numerator** | Use CHW – child health -questionnaires: Form 8: clinician re-examination (CRE) Form 6: CHW observation (CO)  (CRE) 8.29 1 and (CO) 6.46 A: and (CRE) 8.29 2 and (CO) 6.47 A, 6.48 A; and (CRE) 8.30 2 and (CO) 6.49 A; and (CRE) 8.31, 2 and (CO) 6.51 A and 6.52 A; (CRE) 8.32 1-3 and (CO) 6.58 Yes; Select Y if treatment given matches each re-examination category.  (CRE) 8.29 2 and (CO)6.46 A: Select Y if cough/cold re-examination classification is given antibiotics.  (CRE 8.31 2 and (CO) 6.46 A: Select Y if watery diarrhea re-examination classification is given antibiotics  (CRE) 8.30 3 and (CO)6.49 A: Select Y if negative RDT receives antimalarial.  (CO) 6.46 -6.57: A-D: dose prescribed and duration of medicine correct.  (CO) 6.46-6.57: Select 1) first dose given by the CHW; 2) first dose supervised by the CHW  (CRE) 8.27 A, B, C: *Did the child receive the following doses of vitamin A?* Select Y if Y (1) is selected for the child’s age. |
| **Question Number Denominator** | Total number of children receiving care with gold standard clinical classifications 8.28-8.32: fever (C, D, E), pneumonia (A), cough/cold (B), diarrhea (F, G), malnutrition (H, I). Total number of children needing referral 8.33 (1).  Total children seen (vitamin A): 6.10 (child’s name): Sum total |
| **Notes** | * Disaggregate treatment by classification. |

1. Counselling and home care

* Percentage of companions asked to repeat treatment advice
* Percentage of companions who were given correct advice about danger signs
* Percentage of companions counselled to give more fluids and continue feeding
* Percentage of companions given any follow-up appointment; and a follow-up appointment that follows practice guidelines

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| **Numerator** | Number of companions asked to repeat treatment advice, given correct advice/counseling about home care, danger signs, the need for more fluids and continued feeding and a follow-up appointment. |
| **Denominator** | Total children seen |
| **Question Number**  **Numerator** | Use CHW – child health -questionnaires: Form 6: CHW observation (CO)  6.45: *Does the CHW administer or prescribe treatment?* Select 1 (Yes)  6.46-6.57: *Does the CHW give the medicine to the companion?* Select all = 1 (Yes); And *Does the CHW ask the companion to repeat the treatment guidelines?* Select all – 1 (Yes)  6.67: *Does the CHW provide advice on home care?*  Select 1 (Yes) and  6.68: *What advice does the CHW give?* Select Yes if C or D (danger signs) = 1 (Yes).  6.67: *Does the CHW provide advice on home care?*  Select 1 (Yes) and  *6.68: What advice does the CHW give?* Select Yes if E (fluids and food) = 1 (Yes).  *6.69: Does the CHW schedule a follow-up visit for the child?* Select 1 (Yes) and  6.70: *The appointment is scheduled for how many days from today?* Select 1 (Yes) if the # days = recommended follow-up guidelines. |
| **Question Number Denominator** | 6.10 (child’s name): Sum total (total children seen) |
| **Notes** |  |

* Percentage of companions able to correctly recall treatment advice
* Percentage of companions satisfied with services provided

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| **Numerator** | Number of companions able to correctly recall treatment advice and satisfied with the service provided |
| **Denominator** | Total children seen |
| **Question Number**  **Numerator** | Use CHW – child health -questionnaires: Form 7: Companion interview  7.33: *Did the CHW give you a medication for the child today?* Select 1 (Yes) and  7.35-7.45: *Did the CHW give you any treatment instructions for this drug? Select 1 (Yes);*And 7.35-7.45: B-F *= correct dosing instructions for all?* Select 1 (Yes).  7.22: *The next time the child gets sick, will you go see the CHW?* Select 1 (Yes) and 7.23: *Would you advise a friend or family member with a sick child to visit this CHW?* Select 1 (Yes). |
| **Question Number Denominator** |  |
| **Notes** |  |

1. Newborn home counselling

* Percentage of caregivers counseled on the importance of temperature control for newborns
* Percentage of caregivers counseled on maternal Kangaroo care (skin-to-skin)
* Percentage of caregivers counseled on advantages of breastfeeding in at least 4 key areas
* Percentage of caregivers counseled on advantages of exclusive breastfeeding
* Percentage of caregivers counseled on baby's first bath
* Percentage of caregivers counseled on at least 4 key safety precautions: sleeping under bed nets; not sleeping on stomach; not sleeping on edge of bed; not sleeping near fire; not throwing and catching; not holding by the feet; following the vaccination schedule
* Percentage of caregivers visited more than 2 days after birth counselled on family planning (FP)
* Percentage of caregivers correctly recalling at least 4 advantages of breastfeeding: easy to digest; healthy; free; growth; cognition; disease prevention; growth; temp control; birth control < 6m
* Percentage of caregivers correctly describing exclusive breastfeeding
* Percentage of caregivers who know at least 3 ways to maintain baby’s body temperature
* Percentage of caregivers knowing at least 4 newborn danger signs
* Percentage of caregivers given advice to go to the health center for post-natal visits

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| **Numerator** | Number of mothers counseling in key newborn health topics; correctly recalling key messages; receiving follow-up guidance; and satisfied with home care |
| **Denominator** | Total number of newborns seen/exit interviews conducted |
| **Question Number**  **Numerator** | Use CHW – child health (newborn) questionnaires: Form 9: observation of home visit (HVO) or Form 10: mothers interview (MI).  (HVO) 9.21,9.22, 9.25, 9.37 *Does the CHW discuss the importance of each area?* Select Y if answered Y (temperature control)  (HVO): 9.26 A-I: *Does the CHW discuss the benefits of the following breastfeeding* Select Y if at least 4 messages are mentioned.  (HVO): 9.22, 9.22a: *Does the CHW advise on KMC?* Select Y if all = Y.  (HVO): 9.27, 9.28, 9.29: *Does the CHW discuss the benefits of exclusive BF?* Select Y if all = Y.  (HVO): 9.36, 9.37: *If does the CHW specify when the baby's first bath should be? Is Yes (1)) AND How many days after birth does the CHW say that the baby should take his first bath? is >24 hours, Select Y (1)*.  (HVO): 9.40 A-H: *Does the CHW discuss the following safety precautions?* Select Y if at least 4 = Yes.  (HVO): 9.41: *Does the CHW advise on family planning?* Select Y if = Yes.  (MI):10.19 A-K: *What are the benefits of breastfeeding?* Select Y if at least 4 = Yes.  (MI):10.20 A-E: *What does exclusive breastfeeding mean?* Select Y if A.  (MI):10.22 A-E: *What should one do to ensure that a newborn baby maintains its temperature?* Select Y if at least 3 correctly described.  (MI):10.28: A-L: *What are danger signs in a newborn that mean that they may be sick?* Select Y if at least 4 danger signs are correctly given.  (MI):10.30: *Did the ASC advise you to bring the baby to the health center for a post natal visit?* Select Y if appointment given (yes). |
| **Question Number Denominator** | 9.09: Sex of the child. Total number of newborns receiving a home visit |
| **Notes** |  |

1. Referral care - children

* Percentage of children needing referral given a correct pre-transfer treatment
* Percentage of children needing referral given correct advice prior to transfer
* Percentage of children needing referral receiving help organizing transport
* Percentage of children needing referral receiving a referral card or note

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| **Numerator** | Number of children needing referral given: correct pre-transfer treatment, correct advice, help with transportation, a referral note. |
| **Denominator** | Total number of children needing referral |
| **Question Number**  **Numerator** | Use CHW – child health questionnaires: Form 6: CHW observation (CO)  *6.58: Does the CHW refer the child to a health facility? Select if Y (1) AND* 6.65 *Does the CHW provide pre-transfer treatment? Is Y (1) AND* 6.66 A-Ftreatment given is appropriate for classification.  *6.58: Does the CHW refer the child to a health facility? Select if Y (1) AND* 6.63 *Does the CHW provide pre-referral advice? Is Y (1) AND* 6.64 at least A, B and C is checked Yes.  *6.58: Does the CHW refer the child to a health facility? Select if Y (1) AND* 6.62: *Does the ASC help organize transportation?* is Yes (1).  *6.58: Does the CHW refer the child to a health facility? Select if Y (1) AND* 6.61 *Does the CHW provide a referral sheet?* Select Y if a referral sheet (1) or a referral Note (2) are given. |
| **Question Number Denominator** | 6.58: *Does the CHW refer the child to a health facility?* Select Y if answered Yes (1). |
| **Notes** |  |

**Additional statistical information**

Stratified samples: weighting results to calculate survey totals

If stratified sampling has been conducted (see Step 1: section 1.6.4) then separate samples of CHWs have been taken from each stratum and data from each stratum will be analyzed separately. This is done to look for differences between the different strata. For the purposes of reporting survey results, it is sometimes useful to combine stratified data into single summary indicators that can be reported as the ‘survey total’. In this case, the data from each stratum may need to be weighted in order to allow them to be combined.

All CHWs are observed managing the same number of sick children and newborns clients sampled for the survey, although case-loads may differ between CHWS. If it is possible to determine the average case-load for CHWs, then weighting by case-load is possible. Finally, data can also be weighted for non-response rates which require weighting if non-response differs between survey areas.

**CHWs**

Calculate the CHW probably of selection by dividing the number of CHWs selected (Schw) by the number of CHWs sampling area (Tchw). Be sure that the denominator is only providers offering newborn, child and nutrition services since providers that do not offer these services care are not selected for the assessment. Take the inverse of the CHW probability of selection to calculate the sampling weight for stratum. To adjust the sampling weight for non-response then multiple by the inverse of the response rate for caregivers () in the stratum (or for the entire sample if strata are not used).

**Clients**

To calculate the client sampling weights, first calculate the probability of client selection for each CHW. Divide the number of clients observed/interviewed on the day of the assessment (Sc) by the estimated number of clients seen the CHW per day (Tc). Take the inverse of the product of probabilities of selection for the CHW and client to calculate the client sampling weights. To adjust the sampling weight for non-response then multiply by the inverse of the response rate for clients () in the stratum (or for the entire sample if strata are not used).

**Table 10: Calculating sampling weights for CHWs and clients**

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| --- | --- | --- | --- |
|  | **Probability of selection** | **Sampling weight** | **Sampling weight adjusting for non-response** |
| **CHW** |  |  |  |
| **Client** |  |  |  |

**Worksheet 9: Priority indicators summary table - example**

For each measure enter the target and weighted summary. Enter notes from the analysis including variations by sub-population. See Worksheet 9 (Worksheet 9: priority indicators summary table).

**Example implementation strength indicators– child care and family planning**

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| --- | --- | --- | --- |
|  | **Indicator** | **Numerator** | **Denominator** |
|  | **Training** | | |
|  | Percentage of CHW’s trained in community IMCI in the previous 2 years | # of CHWs trained in community IMCI in the previous 2 years | Surveyed CHWs providing sick child care |
| 1. 2 | Percentage of CHW's trained in community IMCI who also have retrained in care for sick children age 2-59 months in the previous 2 years | # of CHWs retrained in community IMCI 2-59m in the previous 2 years | Surveyed CHWs providing sick child care |
| 1. 3 | Percentage of CHW's that have had practice sessions with children aged 2-59 months during first training | # of CHWs trained in IMCI using practice sessions | Surveyed CHWs providing sick child care |
| 1. 4 | Percentage of CHW's trained to treat children with individual clinical conditions in the previous 2 years | # of CHWs trained by topic area (pneumonia, cough/cold, diarrhea, malaria, malnutrition) in the previous 2 years | Surveyed CHWs providing sick child care |
| 1. 5 | Percentage of CHW's trained in FP in the previous 2 years | # of CHWs trained in FP in the previous 2 years | Surveyed CHWs providing sick child care |
| 1. 6 | Percentage of CHW's trained in individual FP topics in the previous 2 years | # of CHWs trained by FP topic area (counseling, lactational amenorrhea, condoms, oral contraceptive pills (OCPs), injectables) in the previous 2 years | Surveyed CHWs providing sick child care |
|  | **Supervision** | | |
| 1. 9 | Percentage of CHW's receiving sick child supervision in the previous 3 months | # of CHWs receiving sick child supervision within previous 3 months | Surveyed CHWs providing sick child care |
| 1. 10 | Percentage of CHW's supervised in the last year with observation of a sick child consultation | # of CHWs supervised in the last year while caring for a child age 2-59 months | Surveyed CHWs providing sick child care |
| 1. 11 | Percentage of CHW's supervised in the last year with review of the child register | # of CHWs supervised in the last year with observation of child register | Surveyed CHWs providing sick child care |
|  | Percentage of CHW's receiving newborn screening and counseling supervision in the previous 3 months | # of CHWs receiving newborn screening and counseling supervision within previous 3 months | Surveyed CHWs providing newborn screening and counseling |
|  | Percentage of CHW's supervised in the last year with observation of a newborn screening and counseling consultation | # of CHWs supervised in the last year with observation of a newborn screening and counseling consultation | Surveyed CHWs providing newborn screening and counseling |

# Step 5: Using the information collected

***Using the information collected***

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| 1 | Plan the survey | * Select the coordinator and manager * Establish objectives * Decide on geographic area and timing * Select the sample * Determine staffing needs * Estimate and secure the budget * Begin ethical approval | Worksheet 1: Sample size calculator  Worksheet 2: CHW listing form  Worksheet 3: Supply calculator  Worksheet 4: Budget template |
| 2 | Prepare to conduct the survey | * Adapt survey instruments * Translate, pre-test and pilot instruments * Select supervisors and interviewers * Prepare for electronic data entry * Plan analysis and dissemination * Prepare for survey staff training | Annex A: Survey instruments  Annex B: Survey question summaries  Worksheet 5: Survey indicators  Worksheet 6: Supervisor spreadsheet  Worksheet 7: HW listing sheet |
| 3 | Conduct and supervise the survey | Phone survey   * Make interviewer assignments * Call CHWs and facility providers * Finalize and check questionnaires * Complete end of day procedures | Worksheet 6: Supervisor spreadsheet  Worksheet 8: Interviewer performance checklist |
| Field survey   * Make arrangements for field work * Make CHW/facility field visits * Finalize and check questionnaires * Complete end of day procedures | Worksheet 7: HW listing sheet |
| * Recruitment and consent * Conduct survey interviews | Annex A: Survey instruments  Annex B: Survey question summaries  Annex C: Consent forms |
| 4 | Analyze and interpret data | * Retrieve/export data for analysis * Clean data * Finalize logistics * Conduct data review and analysis | Annex A: Survey instruments  Annex B: Question by question summaries  Worksheet 9: Priority indicators summary table |
| 5 | Use data for planning | * Establish a team to review findings * Review descriptive data * Review priority indicators * Explain observed gaps * Describe actions for improvement * Make conclusions/ recommendations * Summary report and feedback * Finalize and disseminate findings | Worksheet 10: Review of newborn, child and nutrition implementation strength and quality indicators  Worksheet 11: Factors contributing to observed indicators  Worksheet 12: Actions for improving observed indicators |

## Establish a team to review findings

Discussion and interpretation of results should be conducted as soon as the data analysis is completed. Two to three days is suggested for the initial data analysis, and one to two days for discussion, interpretation of results and development of a dissemination plan.

The data discussion team should include staff from different levels who have field experience. These might be health workers, district program managers and other program staff, and staff from local NGOs. The team has responsibility for discussing and interpreting the data, and then using it to make program decisions. Supervisors and interviewers who conducted the field work may also be able to conduct data analysis and interpret the results, as they are already familiar with the survey instruments, and work at the district level. Program staff are important to provide insight and context into why indicators may be low or high. Supervisors or other field staff can also provide context into how surveys were conducted to explain certain indicators.

Additional data needs may be identified during the discussion and interpretation of results. These data can be calculated by the data manager or survey coordinator at the same time, or at a later date.

The participation of the group is important to ensure that conclusions and recommendations are practical and based on field realities. In addition, involvement of staff from all levels will strengthen their understanding of the survey data, and their commitment to take action based on the recommendations.

See Reference Weblink 7: Interpreting data from community and facility surveys – country examples for information on how data have been summarized and presented in countries.

## Review descriptive data

Characteristics of the sample are reviewed, including

* Total number of CHWs interviewed by geographic area. Significant differences between areas on these variables may affect the generalizability of results.
* Total number of sick children and newborns seen by CHWs and geographic area. Low numbers may reflect underlying problems with survey teams and interviews; or population differences that may influence findings. High variation in numbers may reflect differences in access and availability of CHWs or methods -which need to be explained. If case numbers for some data collection teams are significantly lower than planned, problems with selection and inclusion of clients for the survey may have occurred.
* Frequency of child presenting complaints. Differences in the complaints between CHWs and different geographic areas may reflect differences in care-seeking practices, disease prevalence or accessibility to care.

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| **Review each descriptive data table in turn.**  For each ask:   * + What the data show   + Implications for the validity or reliability of indicators   + Implications for representativeness of the data   + Are more data needed |

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| **Identify the limitations of the survey**  It is important to consider how the limitations of the survey might affect the degree of confidence in generalizing the conclusions to the entire population of the surveyed district, or to other districts.  For example, limitations might be due to:   * The CHWs sampled. For logistical reasons some CHWs – for example, more remote or inaccessible - might not have been included. This might mean that the   final sample was not a truly random sample and therefore not representative of the  entire population in the district.   * Clients sampled. If client numbers are low or concentrated in a few areas,   then findings may not be representative of the entire population. |

## Review implementation strength and quality of care indicators

Improving newborn, child and nutrition care requires changes in access to, availability of and demand for high quality services. Implementation strength improvements are required for changes in quality to occur. Without improvements in quality of care, it is unlikely that there will be a long-term impact on newborn and child health.

Summarized indicators and targets (Worksheet 9) are reviewed using six criteria (Worksheet 10, shown at the end of this section and in worksheet 10: review of implementation strength and quality indicators). Divide the larger group into smaller teams. Each team reviews a few indicators, by writing worksheet 11 flipchart paper and completing in the team. Following completion, review group findings in plenary and reach consensus on findings.

***Criterion 1:*** Is the measure high or low? What is high or low is determined by comparing the results to something else, for example:

* + Previous assessments;
  + What the program manager or others in the program expected to find;
  + What has been found through routine monitoring or supervision;
  + National/local program targets.

***Criterion 2***: Has the target been met? (if a target has previously been set)

***Criterion 3:*** What are the trends over time? Using previous survey data.

***Criterion 4:*** Are there differences between sub-groups? Sub-group differences may help determine where and how interventions to improve performance should be directed.

***Criterion 5:*** Are data needed on sub-groups in the population? Consider brain-storming on what sub-groups in the population may be more vulnerable and how data on these groups could be collected.

***Criterion 6:*** Are there any problems with data quality? Are data likely to be valid and reliable? Are findings representative of populations of interest?

Based on this review, indicators can be summarized into two categories:

The program is doing enough now to improve newborn, child and nutrition measures

In order to be placed into this category, indicators should meet one of more of the

following criteria:

* Have met targets;
* Show an upward trend over time, and are on track to meet targets, even if overall coverage is less than 50%;
* Do not show large differences between different population sub-groups.

The program needs to do more to improve newborn, child and nutrition measures

In order to be placed in this category, indicators should meet one or more of the following criteria:

* Have failed to meet targets;
* Do not upward trend, and are not on track to meet targets;
* Show large differences between different population sub-groups;
* No data are available to make an informed decision.

## Explain observed indicator values

For each indicator, factors which may contribute to observed values are reviewed using other survey data, supervision reports and field reports from program managers and staff. It is important to review explanatory data for indicators that have shown positive changes, to identify areas where there have been improvements as well as those where there are gaps or problems. For example, an increase in the proportion of sick children receiving quality care may reflect improved quality of health worker screening and counseling practices; but may also reflect improved availability of medicines and essential equipment. Explaining indicators therefore requires staff with knowledge of local conditions. (Worksheet 11, shown at the end of this section and in worksheet 11: factors contributing to observed coverage and quality of CHW services). Continue working in small teams. Ask teams to write worksheet 12 on flipchart paper and complete for the indicators they previously reviewed. Review and reach consensus in plenary session with the whole group.

The delivery of CHW services may be influenced by:

* Access to CHWs. Use survey findings and field experience to consider reasons given for not seeking services or care. Factors could include high costs, geographic distance, transportation costs, or language or cultural barriers.
* Availability of medicines, equipment, supplies or commodities. Consider whether CHWs have these available and reasons given for stock-outs. Review other providers who are sought for care, including private providers. Review providers of information, counselling or advice.
* Quality of services, health education or commodities. Review elements of quality practice reviewed, such as case-management and counseling provided.
* Demand for services, health education and commodities. Review reasons for not

seeking care, or for seeking care from non-traditional providers. Review sources of information and advice. Review care-seeking practices. Review costs and areas

where high costs may contribute to lack of demand.

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| **Describe factors contributing to observed child health and nutrition indicators**  *Example 1: Sick children receiving care according to standards*  A low proportion of children are receiving fever and diarrhea care according to standards. Antibiotics are overused for both conditions, when not indicated. Explanatory measures show that a high proportion of providers do not receive supervisory visits with practice observation. Sick child screening often does not check nutritional status or perform sick child screening tasks correctly. Counselling tasks are often neglected and messages on home care are rarely given. CHWs lack counselling cards and materials. CHWs feel they have too many households, cannot reach them all and do not have time to practice according to standards.  Summary: Sick child care for fever and diarrhea is often not given according to standards. This may be related to a lack of sick child screening skills and limited supervision. Counselling is rarely conducted due to a lack of counselling materials.  *Example 2: Stock-outs of child health medicines*  A high proportion of CHWs report stock-outs of antibiotics and ORS. Explanatory analysis shows that most facilities have stock available, but that community providers do not receive supplies. Supervisors do not re-supply CHWs during supervision. CHWs report that facility managers often do not supply enough medicines at routine contacts because they are concerned about running out of stock.  Summary: Stock-ours of antibiotics and ORS are reported frequently by community-based providers. Routine re-supply mechanisms for CHWs are not working effectively.  *Example 3: Breastfeeding counselling given by CHWs at home visits is often limited*  During nutrition home visits, only about half of women receive counselling on breastfeeding benefits, latching and position. CHW knowledge of the benefits of breastfeeding is low, with 60% not knowing key breastfeeding benefits. Most CHWs do not have a nutrition counselling flip book; and 2/3rds do not do community outreach activities regularly. Shops in local villages are aggressively promoting infant formula. CHWs report that they are allocated too many households, cannot reach them all and do not have time to conduct counselling properly.  Summary: Limited CHW knowledge about breastfeeding, has led to limited home counselling. This is driven by a lack of counselling flip books and promotion of formula in local villages. CHWs do not engage in community group education regularly, which also limits their effectiveness in transmitting the importance of breastfeeding. |

## Describe actions for improving indicators

Proposed actions should be realistic, practical and specific and address observed gaps or problems. Approaches that that have resulted in improvements should be considered for use in other areas. Actions are considered in key systems areas (Worksheet 12, shown at the end of this section and in worksheet 12: actions for improving coverage and quality of newborn, child and nutrition services). Continue working in small teams. Ask teams to write worksheet 13 on flipchart paper and complete indicators they previously reviewed. Review and reach consensus in plenary session with the whole group.

For country examples of how data have been interpreted and used see Reference Weblink 7: Interpreting data from community and facility surveys – country examples.

Consider actions for improving indicators in the following categories:

Short term options (1-6 months)

These are actions that require minimal additional financial resources and which can be implemented with existing staff.

*Example*: At scheduled district meetings sensitize CHWs about the importance of proper assessment and classification of children with fever and diarrhea. Emphasize that for most of these cases antibiotics are not appropriate. Review case-management protocols.

*Example*: At scheduled district meetings sensitize facility in-charges about the need to ensure that CHWs receive antibiotics and ORS when they make monthly facility visits. Ask them to ensure that CHWs bring their records at each visit and review the number of clients seen in the previous month. Recognize that antibiotics may be given unnecessarily for simple fevers and watery diarrhea – and ask them to discuss these cases with CHWs. Tell them to ensure that the amount of medicines given at least matches the expected of cases seen each month – and that they have all approved methods.

*Example:* Distribute simple breastfeeding information messages, including information about the benefits of early and exclusive breastfeeding to CHWs and village councils. Ask them to give appropriate messages at all opportunities.

Medium term options (6-12 months)

These are actions that require additional financial resources and more input from existing staff to implement.

*Example:* CHWs are given refresher training on IMNCI. Supervision including observation of practice is improved, with routine observations of clinical practice.

*Example:* Supervisors contact CHWs in each facility catchment area and review whether stockouts of medicines have occurred the previous month. Reasons for stockouts are determined and discussed with facility ICs. Strategies for reducing stockouts are further developed based on field findings.

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*Example 3*: CHWs are given refresher training in breastfeeding counseling. Pharmacists and drug sellers are given refresher training in breastfeeding benefits and key messages. Counseling flip books including key breastfeeding messages are made available to CHWs.

Longer term options (over 12 months)

These include actions that require considerable additional financial resources and staff to implement. Longer term options are more likely to involve strategies that address system and policy problems, or improvements in care-seeking at the home and community levels. They may require high-level decisions to be made; these decisions could, for example, include increasing the number of community health workers.

*Example:* Extra CHWs are made available in the district to reduce the number of households each is responsible for and provide more time for CHWs to visit households and conduct screening and examination. Outreach clinics are expanded to provide sick child and nutrition care to communities to take the burden off CHWs and give them more time for counselling. New counselling cards and information pamphlets are developed to assist with counselling.

*Example 2*: Ordering and distribution systems are updated to allow distribution of CHW supplies to match demand so that facilities do not run low on supplies each month. Distribution of CHW supplies by facility staff to CHWs is formalized using a stock register system that matches previous monthly use with the amount supplied, with a 10% increase each month.

*Example 3*: The number of supervision visits to CHWs to review case-management and counselling practices is increased. A mass media campaign, including a radio play, emphasizes key issues in child health and nutrition, including home care of fever and diarrhea and breastfeeding practices. Breastfeeding messages are included in all community materials for use by health workers, community leaders and community groups; and into broader behaviour change and communication strategy involving village drama, use of religious leaders and school teachers to give messages.

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| **Facilitating the interpretation of survey results**  See Reference Weblink 7: Interpreting data from community and facility surveys – country examples for information on how data have been summarized and presented in countries.  The steps used to interpret the results described above may be difficult for persons with no experience of reading and interpreting tables. To help participants get started, lead the group in a discussion on the results of a few indicators and how to interpret them. It is useful to write worksheets on flipcharts.   1. Distribute a summary of coverage indicators (Worksheet 9). 2. Present Task 1, review of descriptive data. Summarize the data and highlight how these will influence the results. 3. Present Task 2, describe newborn, child and nutrition indicators. Write Worksheet 10 on a flip chart. Break into small groups and get each to select an indicator or group of indicators. For each describe whether the indicator is high or low (using criteria), the trend over time, and whether there are differences between sub-groups. Write findings on the flip chart and summarize with a short presentation to the large group. Reach consensus on findings. 4. Present Task 3, describe the factors that have contributed to observed indicator performance. Write Worksheet 11 on flip chart. Break into groups and get each to review factors contributing to indicators they reviewed in Step 2. Review strengths and gaps contributing to access, availability, quality and demand for a program area. Discuss underlying reasons for gaps. Encourage participants to use their own field experience when thinking about how to improve coverage. Record the group’s ideas on Worksheet 11. Present findings briefly in plenary and reach consensus on findings. 5. Present Task 4, describe actions for improving indicators. Each group completes Worksheet 12 on a flipchart and identified actions for indicator areas reviewed previously. Findings can be discussed in a large group to reach consensus on the overall interpretation of results. |

## Make preliminary conclusions and recommendations

Once all the summarized data have been discussed and interpreted by the data analysis team, conclusions and recommendations for each indicator or group of indicators can be developed.

The conclusions include summary statements about:

* The strengths and weaknesses of the indicator or group of indicators and the implications they have for how effectively interventions are reaching communities.
* The contributing factors to the observed results, including access, availability, quality and demand.

The recommendations are based on the conclusions of the data analysis and are stated in terms of:

* Actions to be taken;
* Who will be carrying them out; and
* When, where and how they will be done.

The recommendations guide local program staff in making a more detailed action plan, including a schedule of activities. The data analysis team, in collaboration with the survey coordinator can draft the survey recommendations. Preliminary conclusions and recommendations can be discussed during feedback sessions organized with the local staff and managers from the areas surveyed. It is important to reach consensus on the recommendations. They should be guided by the actions identified for improving program indicators (short-, medium-, and longer-term).

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| **Example: conclusions and recommendations for quality of community-based management of sick children**  Conclusions: community-based management of sick children  *Program strengths*: A high proportion of CHWs have essential supplies and good knowledge of child health and nutrition topics.  *Program weaknesses*: A high proportion of sick children with fever and diarrhea do not receive correct care, with overuse of antibiotics. CHWs often do not practice appropriate assessment and classification steps. Counseling on home care including breastfeeding is often not given.  *Overall conclusion*: The quality of sick child management and counseling needs improvement.  *Contributing factors*: Supervision is limited for many CHWs. CHWs operate in large areas and feel they cannot visit or be responsible for all households. Many CHWs do not have standard flip books for child health and nutrition counseling. Facility outreach services only provide vaccination services and do not regularly visit many communities.  Recommendations: management of sick children.   1. Short term (one to six months). All CHWs will be informed by supervisors about the need to improve case-management counselling. Supervisors will observe case-management practice and reinforce standards. They will ensure that CHWs child health and nutrition counselling materials and that they receive a summary of survey results.   2. Medium term (six to twelve months). Supervisory practices at the district level will be improved to include both more field visits with an observation of practice and immediate feedback to the health worker; and supervision during routine clinic contacts. CHWs will receive refresher training in case-management and counselling content and practices. CHW child health and nutrition messages and materials will be reviewed and messages updated if necessary.   1. Long term (12 months and longer). More CHWs will be allocated to local areas to reduce the burden on current CHWs and to give more time for case-management tasks, home visits and counseling. Key child health and nutrition messages included into a broader behavior change and communication strategy through community leaders, school teachers, and mass media campaign. |

## Write a summary report and provide feedback to local staff

**Timing**: Immediately after completion of the data analysis and interpretation phase

**Participants**: Survey coordinator, one or two member of the data analysis team, and local health authorities

The summary report should be brief and present a background to the survey (objectives, sampling and methods used), as well as descriptive information, indicators, and the major draft conclusions and recommendations. The summary report is designed to provide immediate information to local health staff and get their views on the results. The report is designed to show district managers, supervisors, facility and community health workers, and community leaders where there has been improvement in intervention coverage, and to recognize those that have been slow to change. They should be encouraged to think about major problems and possible solutions to be implemented in the health system or by the communities.

Key stakeholders, such as NGOs active in the area and other potential sources of support should also review findings as they may be asked to contribute resources to follow-up actions. It is important to involve many field staff to ensure that recommendations are concrete and feasible.

*Note*: Feedback meetings should be arranged in advance to ensure that all relevant staff are available. Meetings with local health facility and district staff are often very useful as they provide opportunities to better understand the survey findings and to generate practical ideas for solving problems. These meetings should occur as soon as possible after the completion of the survey; and the outcomes of these meetings can be incorporated in the final survey report.

## Finalize and disseminate findings

**Timing**: one to three months following the completion of the survey

**Participants**: Ministry of Health, National and District managers, facility and community level staff, stakeholders

As discussed in Step 2, the survey coordinator needs to plan for dissemination and use of results in advance, in collaboration with local counterparts. The focus of dissemination activities is on the use of the survey data to develop local action plans to improve the delivery of child health interventions. Wherever possible, local staff are encouraged to use the data to solve local problems. Dissemination activities should be included in the overall survey budget. The survey coordinator should allocate staff to disseminate findings at each level, and should meet with these staff periodically in order to get ideas and suggestions from field discussions.

Options for disseminating survey findings include:

* Dissemination and planning meetings with sub-district health staff and community

leaders. These could include meetings with staff in their own areas, or presentation of results by supervisors during routine visits. Staff could be facility or community based. Ideally community leaders will be included in these meetings to ensure that they understand any gaps or problems, and to suggest possible solutions. At these meetings intervention coverage for key indicators and program strengths and weaknesses can be reviewed. Possible strategies for identifying problems identified. Actions that can be taken in the next workplan at all levels should be reviewed.

Local action plans should be realistic and specific. Responsibilities for staff at each level should be outlined.

* Dissemination and planning meetings with regional and district health staff, supervisors, and local NGO and donor partners. Achievements are highlighted and problems discussed. Actions for addressing problems are reviewed and an action plan is developed. Responsibilities for staff at each level should be articulated. Possible budget sources for activities should be discussed.
* Dissemination and planning meetings with national health staff and donor organizations. Ideally the ministry of health and donor groups will meet together in order to discuss areas where donors may be able to provide assistance.
* Information dissemination through other media. This might include: short editorials in local newspapers or other media highlighting selected survey findings or recommendations; seminars for local media associations or groups; or local meetings with community leaders. These meetings can help raise awareness in the community of the importance of the child health, and strengthen support from the community.

## Complete a final survey report

**Timing**: One to two months after the end of the survey, following planning meetings

**Participants:** Survey coordinator, family planning program manager

The final survey report should present survey objectives, methods, final results, conclusions and recommendations. It should also incorporate as many of the suggestions and strategies that were discussed and developed by local staff. Sections that were not included in the summary report, such as an executive summary, are incorporated. The coordinator is usually responsible for submitting the report to officials who must approve it before it is distributed. A distribution list for the final report is needed. An outline for the final report is shown below.

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| **Example survey report**  **Executive summary** (one to two pages)  a. Brief description of the survey  b. Summary of the conclusions and recommendations  1. **Introduction**  a. Objectives of the survey  b. Dates and location  2**. Methods**  a. Design and survey population  b. Sampling method  c. Data collected  d. Interviewers and their qualifications  e. Training of interviewers  f. Conduct of the survey  3. **Results**  a. Descriptive information  b. Newborn, child and nutrition implementation strength and quality indicators  c. Analysis and interpretation of results (using explanatory measures)  d. Summary of conclusions from feedback meetings in the district (s)  e. Conclusions and recommendations  f. Limitations of the survey  g. Plans for dissemination and use of findings  g. Plans for monitoring implementation of survey recommendations  **Annexes**  Survey participants  Survey schedule  Survey forms  Tables of survey results (the annex may include tables of data not included in the Results section)  Dissemination plan and feedback meeting schedule |

**Worksheet 10: Review of newborn, child and nutrition implementation strength and quality indicators**

For each indicator review whether it is high or low, the target has been met, sub-group differences, data needs and data quality. (Worksheet 10:Review of newborn, child and nutrition implementation strength and quality indicators).

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| **Indicator** | **High or low** | **Target met** | **Trends over time** | **Variations by sub-group (specify)** | **More data needed**  **(specify)** | **Problems with data quality (specify)** |
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**Worksheet 11: Describe factors contributing to observed indicator performance**

For each program area, using indicator findings to review reasons for strengths or weaknesses (Worksheet 12: factors contributing to observed implementation strength and quality of services).

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| **Indicator (s)** | **Strengths** | **Priority areas for improvement** | **Underlying reasons for gaps** |
| **Implementation strength** | | | |
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| **Quality of care** | | |  |
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**Worksheet 12: Describe actions for improving indicator performance**

For each program area, using factors contributing to observed performance to develop actions for improving indicators (Worksheet 12: actions for improving implementation strength and quality of services).

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| **Priority actions** | **Responsible** | **Time** | **Budget/funding** |
| **Policies, guidelines, coordination, resources** | | | |
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| **Human resources (pre- and in-service training, staffing, limiting turnover)** | | | |
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| **Health communication/IEC (to improve access to health education, counseling and CHWs)** | | | |
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| **Developing community supports (such as health volunteers, groups, essential infrastructure, supervision or oversight of activities)** | | | |
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| **Essential medicines, supplies, vaccines and equipment** | | | |
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| **Quality of facility-based care** | | | |
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| **Monitoring and evaluation** | | | |
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1. Must be described as sick by the caregiver, with one of the following complaints: danger signs (lethargy/loss of consciousness, recent or current convulsions, vomiting everything, unable to drink or breastfeed), fever, cough, fast/difficult breathing, diarrhea, or nutritional problems; [↑](#footnote-ref-2)
2. Note: An interviewer is not permitted to interview any person he or she knows. If an interviewer knows a respondent and are assigned to interview him/her, they should inform the supervisor and request that a different interviewer conduct the interview. [↑](#footnote-ref-3)