

NATIONAL FAMILY HEALTH SURVEY 2015-16
(NFHS-4)

SUPERVISOR'S MANUAL

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बेहतर भविष्य के लिए क्षमता निर्माण
Capacity Building for a Better Future

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This manual is adapted for field supervisors and supervisors undertaking Computer Assisted Personal Interview (CAPI). CAPI surveys will require that the supervisors and editors have an understanding of computers and have an ability to manage data collection using this technology.

The most responsible and mature field staff should be appointed to the positions of field supervisor and field editor. As mini laptop will be used for data collection, emphasis should be placed on recruiting prospective supervisors with these skills. The first opportunity for the training of supervisors occurs during the interviewer training of questionnaires. If at all possible, staff who will be supervisors during the main survey should participate in the training. They should attend all training sessions, and supervisors should get experience as interviewers. This will allow for an in-depth knowledge of and experience with the questionnaires before the fieldwork begins.

In cases in which supervisors have been designated prior to the interviewer training, it is important that they participate in the interviewer training, which also includes how to use a mini laptop for data collection. Active involvement of supervisors in interviewer training is necessary for an understanding of the role of the interviewer and of the problems teams may encounter during fieldwork. Prior to the start of fieldwork, supervisors should participate with interviewer trainees in "role playing" interviews and supervise the practice field interviews. The latter activity gives supervisors, and interviewers experience in working together as a team.

In other cases, the final selection of supervisors will be made after completion of interviewer training. In either case, after interviewer training and prior to the beginning of fieldwork for the main survey, two to three days of additional training should be provided on the specific duties of supervisors. For CAPI surveys, this will ensure that the mini laptop are cleaned after training and any last minute updates to the program can be installed. This will also ensure that all teams are following a uniform set of procedures and that the field help desk is properly set up. It is at this additional training that this manual will be discussed in detail and troubleshooting strategies discussed together with the central data processing office.

1 INTRODUCTION

1.1 Background of NFHS Surveys

The National Family Health Survey (NFHS) was initiated in India in the early 1990s with the first NFHS conducted in 1992-93. Since then, India has successfully completed NFHS-2 in 1998-99 and NFHS-3 in 2005-06. All the three surveys were conducted under the stewardship of the Ministry of Health and Family Welfare (MoHFW), Government of India, with the International Institute for Population Sciences (IIPS) as the nodal agency, and technical assistance provided by United States Agency for International Development (USAID) through ICF Macro (presently known as ICF International). USAID has been the primary funder of the NFHS surveys, but for the most recent survey (NFHS-3) DFID, the Bill and Melinda Gates Foundation, UNICEF, UNFPA and the Government of India also provided funds. NACO and the National AIDS Research Institute (NARI) provided technical assistance for the HIV component of NFHS-3. The major objective of the NFHS surveys has been to strengthen India's demographic and health database by providing reliable information to strengthen the survey research capabilities of Indian institutions to provide, analyse, and disseminate high quality data, and to anticipate and meet the country's needs for data on emerging health and family welfare issues.

In 2014-2015, India will implement the fourth round of the National Family Health Survey (NFHS-4). Like its predecessors, NFHS-4 will be conducted under the stewardship of the Ministry of Health and Family Welfare (MoHFW), Government of India, coordinated by the International Institute for Population Sciences (IIPS), Mumbai, and implemented by a group of Field Agencies (FAs) and Population Research Centres (PRCs). These Field Agencies will be selected by following a rigorous selection procedure. Technical assistance for NFHS-4 will be provided by ICF International, USA. NFHS-4 will be funded by the United States Agency for International Development (USAID), DFID, the Bill and Melinda Gates Foundation (BMGF), UNICEF, UNFPA, the MacArthur Foundation and the Ministry of Health and Family Welfare (MoHFW), Government of India.

1.2 Specific Objectives and Scope of NFHS-4

Each successive round of the NFHS has had two specific goals: a) to provide essential data on health and family welfare needed by the Ministry of Health and Family Welfare and other agencies for policy and programme purposes, and b) to provide information on important emerging health and family welfare issues. To meet these two objectives, NFHS-4, like NFHS-1, NFHS-2, and NFHS-3, will:

- Provide estimates of the levels of fertility, infant and child mortality, and other family welfare and health indicators by background characteristics at the national and state levels; and
- Measure trends in family welfare and health indicators over time at the national and state levels.

Similarly to the NFHS-3, NFHS-4 will also provide information on several other emerging issues including:

- Perinatal mortality, adolescent reproductive health, high-risk sexual behaviour, safe injections, tuberculosis, and malaria;
- Family welfare and health conditions among slum dwellers;
- Non-communicable diseases;
- Use of emergency contraception; and
- HIV prevalence for adult women and men at the national level and for 11 States/groups of State/UTs including all the high HIV prevalence states. The HIV prevalence estimates from the survey will be used to calibrate the HIV estimates that are based on surveillance data.

Besides these similarities, the scope of NFHS-4 has been greatly expanded over NFHS-3:

- NFHS-4 is a national sample survey designed to provide information on various demographic parameters and other family welfare and health indicators by background characteristics at the national and state level and for the first time at the district level as well. Given the need to report demographic and health indicators at the district level, the NFHS-4 sample size has been increased to approximately 571,660 households, as compared with 109,041 households in NFHS-3. The survey will use four Schedules (Household, Woman's, Man's and Biomarker), and information will be collected from all women aged 15-49 years and, in a sub-sample of households, men aged 15-54 years. This is expected to yield a total sample of 628,826 women and 94,324 men eligible for the interview. In these selected households, information on approximately 267,272 children below age 5 years will be collected.
- In addition to the 29 states, NFHS-4 will also include all six union territories for the first time. Also for the first time, NFHS-4 will provide estimates of most indicators at the district level for all 640 districts in the country as per the 2011 Census. In this round, the sample has been designed to provide information on sexual behaviour; husband's background and woman's work; HIV/AIDS knowledge, attitudes and behaviour; and domestic violence only at the state level and the national level, while the rest of the indicators will also be provided at the district level. Indicators will be made available separately for slum areas in the same eight cities covered in NFHS-3.
- The exact grouping of states for HIV prevalence estimates has been done in consultation with the National AIDS Control Organisation (NACO). As in NFHS-3, blood samples will be collected from women and men in the form of dried blood spots (DBS) on filter paper cards and sent for HIV testing to the designated laboratories.
- Data will be collected using Computer Assisted Personal Interviewing (CAPI) on mini-laptops.
- Anaemia testing and height and weight measurements for women aged 15-49 years and men aged 15-54 years, height and weight measurement for children 0-71 months (under age 6 years) and anaemia testing for children age 6-71 months are also included in NFHS-4. All related estimates will be provided at the district level.

- The domain of Clinical, Anthropometric and Biochemical (CAB) testing is being further expanded in NFHS-4 to include random blood glucose and hypertension measurements with estimates to be reported at the district level for women age 15-49 and men age 15-54. As with anaemia, testing of these new CAB components in the field will be conducted using portable equipment. A recently developed, improved model of the HemoCue instrument will be used for anaemia testing. A battery-operated portable glucometer will be used for blood glucose testing. An automatic, battery operated BP instrument will be used to measure blood pressure. Lancets and all blood-contaminated materials will be disposed of in a biohazard bag according to an established protocol. Only medical or other personnel with specific training on the procedures and on universal precautions regarding blood-borne pathogens will be involved in conducting the anaemia and blood glucose testing and collecting blood samples for HIV testing.
- NFHS-4 will be conducted in two phases, and each phase will cover almost an equal number of States/groups of State/ UTs to be surveyed. The two phases will help in managing the whole operation of implementation more efficiently.

1.3 Geographical Coverage

All the components of the National Family Health Survey (NFHS-4) will be implemented in 29 States and 6 Union Territories (Andaman and Nicobar Islands, Lakshadweep, Puducherry, Daman and Diu, Dadra and Nagar Haveli, and Chandigarh). NFHS-4 will also provide estimates of most indicators at the district level for all 640 districts as per 2011 Census. Appendix A gives the sample size of households (including those selected for HIV testing) by State/group of State/UTs.

1.4 Sampling Design

The survey will be implemented in both urban and rural areas. A uniform sample design will be adopted in all the districts. IIPS will select PSUs for rural (villages) and urban (Census Enumeration Blocks (CEBs)) areas following the NFHS-4 sampling design. The Field Agencies (FAs) will be given a list of selected PSUs for each State/group of State/UTs that have been selected for the fieldwork. In any State/Group of States/UTs, if a linked PSU gets selected, then mapping and household listing needs to be undertaken for all the linked villages/CEBs as a single PSU. Prior to interviewing, all households located in the selected PSUs will be listed as per the procedure by the mapping and household listing teams. The list of households in each PSU will be used in selecting the final sample of households to be included in the NFHS-4 survey.

1.5 Survey Implementation Plan

Data collection will be divided into two phases. Approximately 15 States/Groups of State/UTs will be covered in each phase. The phasing of the States/Group of State/UTs has been planned in accordance to the local climatic conditions and geographic challenges. Because of their large population size, Uttar Pradesh will be divided into three parts and Madhya Pradesh will be divided into two parts, which will be treated as an independent unit for the purpose of survey implementation. Thus, for the purpose of NFHS-4, all the Indian States and UTs have been organised into 32 States/Groups of State/UTs. The details of these groupings along with number of total sample HHs and PSUs to be included in the District and State modules are given in Appendix B.

2 TRAINING AND RESPONSIBILITIES

2.1 CAPI Training

You have been selected to field a team that will be using mini laptops to collect data. This is the first round in which this technology will be used in a broad fashion. There are many issues you will have to learn when fielding a CAPI survey. Please take special note of these and ask questions before the survey begins, so you will be ready for any situation.

CAPI has many advantages over traditional paper. The speed of processing data is greatly enhanced. Interviewers become data entry personnel and you, the Supervisor, effectively become a data entry supervisor. Keep in mind that there are many additional tasks you will have to consider when doing a CAPI survey. These in large part dictate the manner in which you will organize your field work. Issues that are key to helping you manage the survey organization, some of which have CAPI-specific aspects, include:

- Confidentiality
- Logistics and maintenance
- Troubleshooting
- Remote connectivity
- Team conduct

2.2 Confidentiality

Remember that the information you are collecting is confidential. The mini laptops are as sensitive in content as the questionnaires. Just as you need to protect the questionnaire, please keep in mind the sensitivity of the information in CAPI. Do not have any unauthorized persons look through your mini laptop; do not give up your mini laptop or the mini laptops of your team interviewers to any unauthorized person. Treat them as if they were paper questionnaires and make sure they are protected from any intrusion. Finally, under no circumstances should your team discuss the information collected in the questionnaires in public venues such as restaurants or stores, where such information could lead to the identification of those persons interviewed. Questions or conversations about the information collected should be done at the hotel or other secure area.

2.3 Logistics & Environment

While looking for lodging for your team, make sure that there is electricity for charging the mini laptops. If electricity is unreliable, then you will have to find alternative sources of power to assure that you can charge the mini laptops. Keep in mind that as soon as the PSU is ready you will need to pass the data to the central office—make sure there is an internet connection or GSM network available.

You will likely be exposed to the elements. Make sure that the interviewers are taking care of their mini laptops.

2.4 Troubleshooting

Be sure to consult with the data manager prior to departure on how to handle problems in the field. A troubleshooting guide has been prepared; however, depending on the complexity of

the problem and your familiarity with the equipment, you may need to seek technical assistance. Try to resolve problems in the field, but remember that it is better to call for assistance than risk damaging the system.

Your interviewers may appear to have some technical understanding. Be prudent. Sometimes a little knowledge can be damaging. If you think one of your interviewers is more technically competent, discuss with the central office first. Avoid any tinkering with the mini laptop while trying to troubleshoot. In no circumstances should field staff attempt to modify the software.

2.5 Remote Connectivity

There are two methods that you will be transmitting information—wireless or via a remote connectivity. The first is known as Bluetooth, the second is using the GSM network and is called IFSS. This will be through a USB device.

2.6 Team Conduct

Each field supervisor will be responsible for one team consisting of three female investigators, one male investigator and two health investigators and the care of the mini laptops entrusted to him/her. Mini laptops are expensive, and following the care and maintenance recommendations provided will be part of the supervisor's role. Field supervisors may be either male or female. Due consideration will have to be placed on the technical skill of the supervisor to troubleshoot processes related to the use of mini laptops.

2.7 Training

It is important that field supervisors attend the interviewer training for the main survey. Supervisors should not skip any of the main survey training sessions. Active involvement of supervisors in interviewer training is necessary for an in-depth understanding of the interviewer's role and of the problems teams may encounter during fieldwork. This is even more important for CAPI surveys, as the supervisor and interviewer functions are tightly-controlled by their respective computer programs. The CAPI field processes require reinforcement, and the supervisors technical role is even more important. Prior to the start of fieldwork, supervisors should participate in all phases of the classroom training including "role playing" interviews and supervise the practice interviewing in the field. This practice interviewing gives supervisors and interviewers experience in working together as a team.

After interviewer training, two to three days of additional training will be provided on the specific duties of supervisors. Special emphasis on the additional responsibilities and functions that the supervisor has under CAPI surveys will also be provided. This ensures that all teams follow a uniform set of procedures, and teaches supervisors how to check the fieldwork and edit completed questionnaires.

2.8 Responsibilities Of The Field Supervisor

The field supervisor is the senior member of the field team. He/she is responsible for the well-being and safety of team members, as well as the completion of the assigned workload and the maintenance of data quality. The supervisor receives his/her assignments from and reports to the field coordinator. The specific responsibilities of the supervisor are to make the

necessary preparations for the fieldwork, to organize and direct the fieldwork, and to conduct periodic spot-check re-interviews.

To prepare for fieldwork, the supervisor must:

- Obtain sample household lists and/or maps for each PSU in which his/her team will be working.
- Become familiar with the PSU where the team will be working and determine the best arrangements for travel and accommodations.
- Contact local authorities to inform them about the survey and gain their cooperation.
- Obtain all monetary advances, supplies, and equipment necessary for the team to complete its assigned interviews.
- Assure the competence of his team in handling the CAPI technology.

Careful preparation by the supervisor is important for facilitating the work of the team in the field, for maintaining interviewer morale, and for ensuring contact with the central office throughout the fieldwork.

During the fieldwork, the supervisor will:

- Assign work to interviewers, taking into account the linguistic competence and gender of individual interviewers and ensuring that there is an equitable distribution of the workload.
- Assure that CAPI supervisor application is properly used to undertake the field operation. This includes assignment of households and checking in questionnaires. The CAPI application has functionality that will help the supervisor to manage operations in the field.
- Troubleshoot mini laptop-related problems, and to maintain communication with the data manager at the central office, in order to resolve problems arising during fieldwork.
- Regularly transfer data to the central office and received application updates through the GSM data portal.
- Communicate any problems to the field coordinator.
- Take charge of the team vehicle ensuring that it is kept in good repair and used only for project work. If driver's logs are used these should be completed.
- Arrange for lodging and food for the team, assuring that electricity is available to charge mini laptops.
- Make an effort to develop a positive team spirit. A congenial work atmosphere, along with careful planning of field activities, contributes to the overall quality of the survey.

3 PREPARING FOR FIELDWORK

3.1 Collecting Materials for Fieldwork

Before leaving for the field, the supervisor is responsible for collecting adequate supplies of the materials the team will need during their time in the field. The supervisor will have to verify the condition of the mini laptops and connectivity before going to the field. The following supplies should be gathered together:

Fieldwork Documents

- Supervisor's Manual
- Interviewer's Manual
- CAPI Manual
- CAB Manual
- Maps and household listing forms for all PSUs in the assigned area
- Letters of introduction to local authorities

Connectivity

- Ensure any files created during training have been removed from the mini laptops.
- Ensure all control, PSU, or transmittal files have been zeroed out.
- Update the applications one final time.
- Update any changes to the electronic listing data file.
- Check Bluetooth connectivity with the mini laptops assigned to your team.
- Check the connectivity using the modem and the GSM network.
- Ensure team member phone numbers have been exchanged among the team.

Supplies

- Envelopes to store letters and other important documents
- First aid kit
- CAB equipment and supplies
- CAPI mini laptop containing the management system for administering the digital version of household and individual questionnaires
- CAPI mini laptop accessories (original charging cord, proper charging equipment in case of unreliable electrical source for charging, spare batteries, memory card, pouch for carrying mini laptop, GSM connection device)
- Blue pens for entering information (such as biomarker)
- Backpacks

3.2 Arranging Transportation and Accommodation

It is the supervisor's responsibility to make all necessary travel arrangements for his or her team whenever possible, in consultation with the central office. Vehicles will generally transport the team to assigned work areas. The supervisor is responsible for the maintenance and security of the team vehicle. The vehicle should be used exclusively for survey-related travel, and when not in use, it should be kept in a safe place. The driver of the vehicle takes instructions from the supervisor. If it becomes necessary to arrange for other means of

transportation (the vehicle is getting repaired, etc.), then the supervisor is responsible for making these arrangements.

In addition to arranging transportation, the supervisor is in charge of arranging for food and lodging for the team. If they wish, interviewers may make their own arrangements, as long as these do not interfere with fieldwork activities or break the team spirit. Lodging should be reasonably comfortable, located as close as possible to the interview area, and provide secure space to store survey materials. Since travel to rural PSUs is often long and difficult with limited housing options, the supervisor may have to arrange for the team to stay in a central place.

As stated before, accommodation should also take into consideration safety and accessibility to sufficient electrical outlets to charge mini laptops.

3.3 Contacting Local Authorities

It is the supervisor's responsibility to contact the district, and village officials before starting work in an area. Letters of introduction will be provided, but tact and sensitivity in explaining the purpose of the survey will help win the cooperation needed to carry out the interviews.

3.4 Contacting The Central Office

Each supervisor should arrange for a system to maintain regular contact with the central office staff before leaving for the field. Managing the CAPI technology might require you to seek technical assistance from the central office frequently. Troubleshooting might also require central office intervention.

Regular contact is needed for supervision of the team by central office staff and payment of team members.

Keep in mind that data transmission and application updates require a working GSM connection to retrieve updates and send team data, and a working Bluetooth connection to pass on those updates to your team members and retrieve their collected data. Ensure your device's GSM and Bluetooth connections are working, immediately contacting the central office should any failures occur.

3.5 Using Maps to Locate PSUs and Selected Households

A major responsibility of the field supervisor is to assist interviewers in locating households in the sample. The Field Coordinator will provide the supervisor with maps and a copy of the household listing for each of the PSUs in which his/her team will be working. These documents enable the team to identify the PSU boundaries and to locate the households selected for the sample. The representativeness of the whole survey depends on finding and visiting every sampled household.

Each team will be given general PSU maps, household listing forms, and sketch maps and/or written descriptions of the selected areas' boundaries. Regional or provincial maps help the supervisor to determine the location of sample areas and the distance between them, while general

PSU maps and sketch maps of the sampled PSUs will help identify how to reach selected households or dwellings.

A PSU is the smallest working unit in any census or survey operation that can easily be covered by one enumerator (in a census) or one team (in a survey). It has identifiable boundaries and lies wholly within an administrative or statistical area. The mapping and household listing teams prepare a location and sketch map for each sample PSU to aid the interviewing team in identifying the location of the PSU and the households selected for interview in the PSU. Each PSU is identified by a unique number. Symbols are used to indicate certain features on the location and sketch maps such as roads, footpaths, rivers, and railroads. Sketch maps show more details of the selected PSU including the structure numbers listed in the household listing form.

In most PSUs, the boundaries follow easily recognizable land features (such as rivers, roads, railroads, swamps, etc.). However, at times, boundaries are invisible lines. The location and determination of invisible boundaries will require some ingenuity. The following guidelines are suggested to locate the selected PSUs:

- 1) Identify on the map the road used to reach the PSU. When you reach what appears to be the boundary, verify this by checking the location of terrain features and landmarks against their location on the map. Do not depend on one single feature; use as many as possible.
- 2) It is usually possible to locate unnamed roads or imaginary lines by asking local authorities or people living in the area. In most cases, these people will know where the villages or other landmarks are, and by locating these, you can usually determine where the boundary runs.
- 3) Although there are cases in which boundaries shown on the map no longer exist or have changed location (e.g., a road has been washed out, a new road has been constructed, or a river has changed course), do not jump to conclusions. If you cannot locate a PSU, go on to the next one and discuss the matter later with the Field Coordinator.
- 4) In urban areas, street names will often help you locate the general area. Boundaries can be streets, alleys, streams, city limits, power cables, walls, rows of trees, etc.
- 5) Check the general shape of the PSU. This will help you determine whether you are in the right place.
- 6) Read the written description of the PSU.
- 7) Locate all the PSU boundaries before you begin interviewing. For example, if the PSU is a rectangular block, the names of three boundary streets is not enough to unequivocally identify the PSU; check all four boundary streets.
- 8) In most cases, the selected households can be located by referring to the household listing form or to the detailed maps of the selected PSUs. Because people could have moved in or out of the area since the listing operation, or the listing teams could have made a mistake, you may have difficulty locating the residents of dwellings that were selected. See the Interviewer's manual for a discussion of how to find selected households in these circumstances.

3.6 Using Bluetooth and the GSM Modem

Bluetooth

Bluetooth is a technology which is used to transfer data at close ranges. It is a communication network which allows to mini laptops to communicate when they are in close proximity of each other.

Take note:

1. To transfer data from the interviewer's device to the supervisor's device, you need to ensure that both devices are on, and that the battery level is not less than 15%.
2. To transfer data, the devices should be within 10 meters of each another.
3. Your Bluetooth device should always be turned on.

GSM

You will be provided with a USB drive that allows your mini laptop to access the conventional GSM network. This is the same network used by your mobile phone. Take note, if your phone does not show sufficient bars indicating connectivity, it is likely you are out of range and the GSM connection will not work.

GSM connectivity allows you to use the mobile network to transmit data. This connectivity will assure you are in touch with the central office.

4 ORGANIZING AND SUPERVISING FIELDWORK

Knowing the comprehensive automated field control system is a critical component of being an effective supervisor. These tasks help to automate the process and will facilitate many of the functions which were undertaken during a paper interview, but are now integrated parts of an automated system. Reference the separate CAPI manual for instructions on how to use this system.

4.1 Assigning Work to Interviewers

The CAPI manual provides a detailed description of the assignment system.

The following tips may be helpful to the supervisor in assigning work:

- Make daily work assignments. Be sure each interviewer has enough work to do for the day, taking into account the duration of an interview, the distance between households, and any other working conditions in the area. The Field Coordinator will advise you about how many interviews each interviewer should be able to complete in a day.
- Account for the gender balance in a team. Male interviewers will perform household interviews and individual interviews of men. Female interviewers will conduct interviews of women and do some household interviews. In general, it is preferable for the male interviewers to conduct the household interview. If a female interviewer conducts the household interview and there are men to interview, she should organize with the male interviewer in managing the visits. The CAPI application allows data files to be shared between interviewers. Make sure that if there are gender-related assignment issues that the data files are appropriately transferred between the interviewers. Please refer to the CAPI manual on how to transfer data between interviewers.
- Assign more households to interview than an interviewer can actually do in one day. This will be necessary because some households and/or women may not be available for interview at the time of the interviewer's visit. Sometimes there may be as many as three or four of these cases a day for a particular interviewer. Assign fewer households at the beginning of the survey to allow time for discussion of problems and to allow for close supervision.
- Distribute work fairly among the interviewers. Work should be assigned taking into account the capabilities and strengths of each interviewer, but never consistently assigning more difficult workloads to certain interviewers. Drawing numbers out of a hat is a good system to ensure that team and interviewer assignments are distributed on a random basis and that interviewers are aware of this. Bad feelings among the interviewers can be avoided by using this system. If an interviewer is unlucky and consistently draws difficult assignments, the supervisor can purposely provide them a few easier assignments.

- Ensure that each interviewer has all the required information and materials for completing the work assignment.
- Make sure that all selected households and eligible respondents for that cluster have been interviewed before leaving an area. See Section 4.3 for details on how to handle pending interviews.
- Reassign a household or individual interview to a different interviewer if the interviewer knows the respondent. Interviewers are not allowed to interview anyone they know.
- Finally, it is the responsibility of the supervisor to make sure that the interviewers fully understand the instructions given to them and that they adhere to the work schedule. The work schedule is prepared in advance by the central office, and adherence to it is crucial to avoid overruns in the total amount of time and money allocated for the fieldwork. Supervisors should also monitor the work of each interviewer to assess whether he or she is performing according to the standards set by the central office.

4.2 Reducing Nonresponse

One of the most serious problems in a sample survey of this type is nonresponse; that is, failure to obtain information for selected households or failure to successfully interview eligible women or men. A serious bias could result in the data if the level of nonresponse is high. One of the most important duties of the supervisor is to try to minimize this problem and to obtain the most complete information possible. In many cases, interviewers will need to make return visits to households, oftentimes in the evening or on the weekends, to reduce nonresponse. It is a time-consuming task and requires strict monitoring.

Nonresponse may be classified into three basic types:

Type 1: The selected household cannot be located.

Type 2: A respondent eligible for the individual interview cannot be located.

Type 3: A respondent refuses to be interviewed.

Various ways of dealing with these types of nonresponses are discussed below.

Type 1: The interviewer is unable to locate the selected household.

a) *Occupied structure inaccessible.* There may be some occupied structures for which no interviews can be made because of impassable roads, political demonstrations, etc. The interviewer should be instructed to hold the questionnaire until later. He or she should make another attempt to reach the dwelling at a later date when the situation may have changed. The supervisor should immediately inform the director of field operations of any difficulty in gaining access to a whole PSU or a sizable number of structures within the same PSU.

b) *Structure not found.* The supervisor should ensure the interviewer has tried several times to locate the structure using the household listing form, maps, etc. If the interviewer is

still unsuccessful, the supervisor or field editor should attempt to locate the structure with them, and ask neighbors whether they know anything about the structure or the household members. Again, if this problem occurs frequently, it should be reported to the director of field operations. Although no interview has taken place, the cover sheet of a Household Questionnaire should be filled out and code '8' (DWELLING NOT FOUND) filled in for the result code.

c) *Structure nonresidential, vacant, or demolished.* If the interviewer indicates that a structure is not a dwelling unit or that it is vacant or demolished, the supervisor or editor should verify that this is the case. If the interviewer is correct, there is no need for further callbacks (return visits). Although no interview has taken place, the cover sheet of a Household Questionnaire should be filled out and a result code '6' (DWELLING VACANT OR ADDRESS NOT A DWELLING) should be entered.

Type 2: The interviewer is unable to locate the respondent eligible for the individual interview.

a) *No one home at the time of visit.* The interviewer should make every effort to contact neighbors to find out when the household members will be at home, or where they might be contacted. At least three visits should be made to locate the household members. Sometimes it may be necessary to call at mealtime, in the early morning, in the evening, or on the weekend. However, the interviewer should not make "hit or miss" calls just to fill the quota of three visits. UNDER NO CIRCUMSTANCES IS IT ACCEPTABLE TO MAKE ALL THREE VISITS ON THE SAME DAY.

b) *Respondent temporarily absent.* The respondent may not be at home or may be unable to complete the interview at the time of the first call. The interviewer should find out from other household members or neighbors when the respondent can best be contacted, and a return visit should be made then. If the respondent is still not at home at the time of the second visit, another time should be set for a return visit. At least three attempts should be made to locate the respondent. If the interviewer is not able to complete the entire interview during the initial visit, the procedure for callbacks should be followed.

Type 3: The respondent refuses to be interviewed.

The number of refusals reported by each interviewer should be closely monitored. 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. If this appears to be the case, the supervisor or editor should observe the interviewer promptly. Suggestions for handling potential refusals include the following:

- *Approach respondent 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. If there is a linguistic or ethnic barrier between the respondent and the interviewer, the supervisor should, if possible, reassign the household to a different interviewer to complete the questionnaire.

- *Postpone interview to another day.* If interviewers sense that they have arrived at an inconvenient or awkward time, they should try to leave before the respondent gives a final “no”; and return at a later date/time when circumstances are more likely to result in a successful interview.

4.3 Handling Pending Interviews

When information has not been collected from a selected household or from an eligible respondent and the return visits have not been completed, the interview is considered “pending.” If an interviewer has arranged to return to a household for a pending interview, the date and time of the appointment should be recorded as a **Note** in the mini laptop's result code field during the initial household visit. The interviewer can list the notes for the questionnaires using the appropriate option on his/her computer. The supervisor can also view these notes. All materials pertaining to this interview should remain with the interviewer until he or she has completed the pending interview. Supervisors should keep track of all assignments including pending interviews.

Completing callbacks for pending interviews is time consuming and should be carefully planned. If a few interviews remain pending as interviewing in a cluster nears completion, one or two interviewers should be assigned to remain in the area and complete the interviews while the rest of the team proceeds to the next assignment area. In this way, the whole team is not kept waiting for one or two interviewers to finish. Clear instructions should be left with these interviewers left behind as to where and when to rejoin the team, and what method of transportation should be used.

4.4 Maintaining Motivation and Morale

The supervisor plays a vital role in creating and maintaining motivation and morale among the interviewers—two elements essential to good-quality work. To achieve this, it is necessary to make sure that interviewers:

- Understand clearly what is expected of them
- Are properly guided and supervised in their work
- Receive recognition for good work
- Are stimulated to improve their work
- Work in tranquil and secure conditions

In working with the interviewers, it may be useful to adhere to the following principles:

- Rather than giving direct orders, try to gain voluntary compliance before demanding it.
- Without losing a sense of authority, try to involve the interviewers in decision making, and at the same time, see to it that the decision reached remains firm.
- When pointing out an error, do it with tact, in a friendly manner, and in private. Listen to the interviewer's explanation, show him/her that you are trying to help, and examine the causes of the problem together.

- When interviewers voice complaints, listen with patience and try to resolve them.
- Try to foster team spirit and group work.
- Under no circumstances show preference for any of the interviewers be given.
- Try to develop a friendly and informal atmosphere.

Finally, remember that encouraging words, instructions, and constructive criticism are not worth anything unless the supervisor and editor set good examples. It is important to *demonstrate* punctuality, enthusiasm, and dedication in order to demand the same of other team members. Never give the impression that you are working less than other members of the team, or that you are enjoying special privileges, as this may produce lack of faith in the project and cause general discontent. An ill-prepared supervisor will not be able to demand high-quality work from interviewers, and will lose credibility and authority. Interviewer morale and motivation depend upon your morale and motivation.

5 MONITORING INTERVIEWER PERFORMANCE

Controlling the quality of the data collection operation is the most important supervisor function. Throughout the fieldwork, he or she will be responsible for observing interviews and carrying out field editing on their mini laptop. By regularly checking the interviewers' work, the supervisor can ensure that the data collection quality remains high throughout the survey. It may be necessary to observe the interviewers more frequently at the beginning of the survey and again towards the end. In the beginning, the interviewers may make errors due to lack of experience or lack of familiarity with the questionnaire or the interview process, or the mini laptop; these can be corrected with additional training as the survey progresses. Towards the end of the survey, interviewers may become bored or lazy in anticipation of the end of fieldwork, which can result in carelessness with the data; or they may work more slowly, as they realize that with the survey's completion so ends their job. To maintain data quality, the supervisor should check the performance of interviewers thoroughly at these times.

5.1 Observing Interviews

The purpose of the observation is to evaluate and improve interviewer performance and to look for errors and misconceptions that cannot be detected through editing. It is common for a completed questionnaire to be technically free of errors, but for the interviewer to have asked a number of questions inaccurately. Even if the supervisor does not know the language in which the interview is being conducted, he or she can detect a great deal from watching how the interviewers conduct themselves, how they treat the respondents, and how they fill out the questionnaire. The supervisor should observe each interviewer many times throughout the course of fieldwork. The first observation should take place during interviewer training and may also be used as a screening device in the selection of interviewer candidates. Each interviewer should also be observed during the first two days of fieldwork so that any errors made consistently are caught immediately. Additional observations of each interviewer's performance should be made during the rest of the fieldwork. The supervisor should observe at least one interview per day during the course of the fieldwork, with the heaviest observation at the beginning and end.

During the interview, the supervisor should sit close enough to see what responses the interviewer is recording on the mini laptop. This way, he or she can see whether the interviewer interprets the respondent correctly. It is important to note problem areas and points to be discussed later with the interviewer. The supervisor should never intervene during the course of the interview, and should try to conduct him/herself in such a manner as not to make the interviewer or respondent nervous or uneasy. Only in cases where serious mistakes are being made by the interviewer should the supervisor intervene.

After each observation, the supervisor and interviewer should discuss the interviewer's performance by reviewing the questionnaire together, pointing out things the interviewer did correctly, as well as pointing out any areas that need clarification or that contain mistakes.

5.2 Evaluating Interviewer Performance

The supervisor should meet daily with the interviewers as a group to discuss the overall quality of their work. In most cases, mistakes can be corrected and interviewing styles improved by discussing problems at regular meetings. At such team meetings, the supervisor should point out mistakes discovered during observation of interviews or noticed during review on his/her mini laptop. However, the supervisor should be careful **not** to mention the name of the specific interviewer who made the mistake, as embarrassing team members will impact morale and lead interviewers to avoid asking questions. The supervisor should foster an open atmosphere, where the interviewers feel comfortable to talk about any situation they have encountered or that they have questions about. Let other interviewers provide their input first as to whether or not the situation was handled properly and how similar situations could be handled in the future, before providing your input (which by that point is hopefully just acknowledging those interviewers who made the correct choice). In this way confidence can be built and fostered among team members. Team members can learn a lot from one another in these meetings and should feel free to discuss their own mistakes without fear of embarrassment or reprisal. Rereading relevant sections from the Interviewer's Manual together with the team can also help to resolve questions.

The supervisor should expect to spend a considerable amount of time evaluating and instructing interviewers at the start of fieldwork. If they feel that the quality of work is inadequate, the interviewing should stop until errors and problems have been fully resolved. In some cases, an interviewer may fail to improve and will have to be dismissed and replaced. This applies particularly in the case of interviewers who have been dishonest in the recording of ages for women, children, or men, in order to avoid interviewing those eligible women or men, or in order to avoid listing those children in the vaccination chart.

The supervisor should also check the NOTES and how the interviewers are recording open-ended questions. If necessary they can go over each of the items and discuss the relevancy of the response. For example, if a woman obtained her current contraceptive method at a private doctor's office or medical facility, it is sufficient to select those responses—it is **not** necessary (or desired) to provide the name of that doctor or medical facility. The supervisor should review content and the spelling and try to harmonize the responses.

5.3 Reinterviews

5.3.1 Reasons to Conduct Reinterviews

As stated earlier, the most important function of the supervisor is to ensure that the information collected by the interviewers is accurate. A powerful tool in checking data quality is to systematically spot-check the information for particular households. This is done by conducting a reinterview in a subset of households and cross-checking the results with what was collected by the interviewer (see Section 5.3.2). Reinterviews help reduce three types of problems that affect the accuracy of the survey data, as outlined below.

The first problem that reinterviews serve to check is whether the interviewer interviewed the correct household. Sometimes interviewers inadvertently locate the wrong household; other times they may deliberately interview a household that is smaller in size, so as to reduce their

workload; or they may not be able to find anyone home in the selected household, and so they interview a household in which someone is at home, thus making it easier to finish their work without having to make a callback. Occasionally, an interviewer may not interview any household at all, and will make up a fictitious household, filling in the questionnaire on their own. Reinterviews are a means of detecting these problems.

A second problem that arises frequently is that some interviewers may deliberately subtract years from the age of younger women (or men) near the lower bound age cut off, or add years to the age of older women (or men) who are near the upper bound age cut off, in order to place them outside the eligible age range for the Woman's (or Man's) Questionnaire. Sometimes interviewers may simply omit eligible women (or men) from the household listing, especially if they are visitors in the household. In these ways, they reduce their workload. If this happens frequently, it can have a substantial impact on data quality.

Similarly, a third problem occurs when interviewers deliberately subtract a year or two from a child's date of birth in order to make them older than 5 years of age, thereby disqualifying them from all the questions in Section 4 and 5. A shrewd interviewer may also change the age of the child on the Household Questionnaire to avoid suspicion. Or interviewers may omit listing a child altogether. Reinterviews are an important tool to detecting these types of problems.

It is also important to ensure that the interviewer has administered the informed consent properly. Therefore, the person conducting the reinterview should also ask the respondent if he/she was fully informed by the interviewer about the voluntary nature of participation, the confidentiality of the information provided, and other key aspects of informed consent. This is particularly important when HIV testing is part of the survey's collected biomarker data.

To reduce the occurrence of such problems, supervisors will be responsible for conducting one reinterview in each cluster. The supervisor should focus the reinterviews on households that contain women (or men) at the borderline ages, i.e., women age 12-14 and 50-52, men age 12-14 and 55-57, or children age 6. Also, supervisors should ensure that households from all of the team's interviewers are occasionally reinterviewed. The reinterview should, if possible, be made on the same day as the interviewer's visit, so that any visitors who stayed there the night before can still be contacted.

5.3.2 How to Conduct Reinterviews

To conduct the reinterview, the supervisor will use the mini laptop to record the data for the first few questions in the household questionnaire. The supervisor should visit the selected household and interview the household, filling in Questions (2) through (7) of the Household Questionnaire only. After completing the reinterview, the supervisor should view the original household questionnaire on the interviewer's mini laptop and compare the information. The supervisor should write notes about the results of the comparison in the reinterview questionnaire in her/his mini laptop.

The following are typical comments that could be made based on the comparison:

- “Identical listings” (i.e., both household listings agree)
- “Person on Line 02 not in original questionnaire”
- “Person on Line 05 in original questionnaire not there now”
- “Child on Line 06 was age 07 in original questionnaire”
- “Eligible woman on Line 08 not in original questionnaire”

Some differences in information are to be expected, especially if a different household member is interviewed during the reinterview. However, if the supervisor discovers an eligible woman or man who was not identified in the original interview, they should call this to the interviewer’s attention and send them back to interview the eligible respondent. Similarly, if a child who is under six was either omitted from the original questionnaire or listed as being age six or older in the original questionnaire, the interviewer should return to gather the missing information on the original questionnaire.

If such omissions or displacements occur frequently with the same interviewer, the supervisor should observe the interviewer and should check the interviewer’s work very closely. Interviewers will be less tempted to displace or omit women or births if they know that this practice will be exposed during reinterviews.