

Field Organization and Quality Control

A crucial stage of a study its implementation in the field. No matter how well a study has been planned, the field work will not be successful unless it is properly thought of, planned, prepared for and monitored. Proper field organization of a study is not only essential for large multi-centre studies, but it is useful for small studies too. How the fieldwork is undertaken affects the response rate, correct application of study procedures, quality of data and the overall implementation of the study.

Field organization

The field organization of the study is a complex project involving a lot of tasks. The following checklist provides a general guide for planning and organizing the fieldwork of large trials which could be adapted for any study.

Checklist for planning field trials

1-The trial

- Title
- Purpose
- Type
- Population
- Duration
- Investigators

2. Clearances

- Approval from local/central authorities
- Department/ministry of health
- Local populations and study subjects

3. Location

- Geography
- Climate
- Maps
- Roads, rivers
- Air strips

4. Data collection

- Type
- Regularity
- Timing
- Logistics

5. Staff

- Categories
- Numbers
- Job description, recruitment
- Training

6. Accommodation

- Field office
- Housing
- Teams: male/female
- Food, water, electricity

7. Supplies

- Immediate/ replenishment
- Food, water, fuel

8. Transportation

- Vehicles, motorcycles, bikes, boats
 - Maintenance, tools, spare parts
9. Equipment
- Field office and team equipment
 - Lab, chemicals, reagents
 - Survey equipment
 - Questionnaires, other forms, paper, stationary
 - Computer and accessories
 - Generator
10. Specimens: reception, refrigeration, containers, labels, dispatch
11. Other: emergency needs, data entry, backups, communication equipment, photography

Manual of field operations

This is a study manual for field trials which contains a detailed explanation of every step of the trial. All the procedures are explained fully in this manual which will be updated upon need. All investigators, data collectors, and other field workers should have a copy of this manual.

Interviewer manual

The interviewer manual is a handbook for the interviewers which contain everything the interviewers need to know. This includes a brief about the study and its objectives, finding and selecting participants, approaching participants, ethical issues, obtaining consent, administrative issues, interviewing skills and tips, and detailed explanation of the questionnaire and how it should be filled, coded and kept. In addition, it contains detailed explanation of any procedure that the interviewers might have to do. This manual will be basis for interviewer training and each interviewer should have a copy throughout the study.

Study diary

A trial or study diary is notebook kept by fieldworkers in which they record the daily progress of the trial, the problems encountered, the solutions applied and any other comments which could be considered relevant to the field implementation of the study.

Study timetable

It is a very helpful planning tool to put the major activities foreseen in the study into a timetable which indicates when any single activity is undertaken and how long it continues. Activities included in a timetable depend on the type of the study, but could include any or all of the following:

- Preparation of manual of field operations, interviewer manual, study diary
- Obtaining sampling frame and sample selection
- Designing questionnaires and pre-testing
- Recruitment of interviewers
- Training interviewers
- Piloting
- Modification of questionnaires and study procedures
- Data collection
- Re-training of interviewers if needed
- Data entry

- Data cleaning
- Preliminary analysis
- Detailed analysis
- Reporting
- Dissemination of results

Response rate

Response rate is the proportion of individuals eligible to participate in a study who do participate. A low response rate may affect the power of the study leading to failure to detect the true effect if one exists. Therefore it is recommended to have an idea about possible response rate at the planning stage and to adjust the sample size accordingly. The effect of low response rate is not only through reducing the sample size but also through distorting the natural distribution of the sample. Since non-response may not be random, a low response rate may mean that the participants are not as random as they were meant to be and therefore may not represent the study population. Therefore, it is important to have some information about non-participants to compare them with the participants in order to see how similar they are.

In general, research in the west has shown that the following factors are associated with a lower response rate: greater age, male sex, non-white, marriage, urban living, lower education, unemployment, lower income, smoking and poor health. However, this may not entirely apply to our culture. Experience in Kurdistan indicates that response rate in health research is generally very high. Yet, all efforts must be undertaken to ensure a high response rate e.g. over 80%. Key strategies to increase response rate are:

1. Assessment and understanding the study context. This means undertaking some exploratory research to understand the community and its dynamics in order to understand and appreciate the local perceptions relevant to the study.
2. Establishing and maintaining communication with people relevant to the study. This means establishing communication and winning the cooperation of local authorities, health authorities, administrative bodies and community leaders whose cooperation is important for success of the study. Maintaining this cooperation is essential through continued contacts and sharing interim and final results.
3. Providing information to potential study participants about the study and its objectives. This could be through various communication channels accessible to the participants.
4. Proper planning, preparation and undertaking of the interviews.

Response rate in face-to-face interviews can be increased through the following actions:

1. Making publicity about the research
2. Prior mailing about the study
3. Careful selection and training of interviewers
4. Employing experienced interviewers
5. Choosing an appropriate time for the interview
6. Not requesting a signed consent form
7. Good introduction before the interview

8. making multiple contacts before the interview
9. Well-planned callbacks

Response rate in telephone interviews can be increased through the following actions:

1. Making publicity about the research
2. Providing advance letter
3. Careful selection and training of interviewers
4. Employing experienced interviewers
5. Using a personalized approach
6. Good introduction before the interview
7. Callbacks
8. Follow-up home visits

Quality control

Quality control measures in a study help us prevent measurement errors and if such errors occur to identify and correct them. Errors could happen during the interviews while obtaining the information, while recording data on the forms, recoding and entering data into the computer programme. General quality control measures include the following:

1. During design:
 - Proper preparation of all questionnaires and forms (good format, subject identifiers, all items, all possible answers, proper coding etc.)
 - Having good study manuals with detailed and clear instructions
2. During preparation for data collection
 - Pre-test of data collection instruments
 - Training of data collectors
3. During data collection
 - Proper and continued supervision
 - Re-training if needed
 - Proper questionnaire editing
4. During data processing and analysis
 - Contemporaneous data entry with data collection
 - Double entry
 - Using computer checks
 - Consistency checking and feedback

Further reading

- Field trials of health interventions in developing countries, edited by P Smith and R marrow
- Principles of exposure measurement in epidemiology by BK Armstrong et al.