Immpact
Toolkit
A guide and tools for
maternal mortality programme assessment

## MODULE 5

# Technical annexes on the use of evaluation tools

Version 2.0

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# Annex A: Guidelines for use of quantitative methods in Immpact evaluations

## Introduction

Quantitative methods aim to collect data that can be counted, categorized and analysed using statistical methods in order to explore variables numerically. In the context of safe motherhood, this may include surveys of maternal deaths, assessments of available health facility resources (number of health professionals, availability of drugs, number of beds etc.) and any other quantifiable aspect relating to social, economic and health factors of pregnancy and childbirth. Good-quality quantitative data are essential for health planning, monitoring and evaluation and are therefore relevant to a wide range of users who may have differing yet often overlapping uses for the data. Regardless of the ultimate use of the data, however, any assessment of health status and the value of health interventions requires rigorous methodologies in the gathering of appropriate information. Without sound approaches to sampling and data capture, the findings from health research and evaluation studies are easily challenged and can increase scepticism about the value of investment and efforts in particular areas (Graham, 2002).

Much has been written about data capture methodologies for investigating maternal health, and a variety of quantitative measures exist (Berhane et al, 2000; WHO, 2004; Maine et al, 1997; WHO et al, 2004; WHO et al, 1998). These measures can be categorized into two groups:

- impact or health indicators, such as maternal mortality ratio,
- process indicators, which describe the mechanisms through which interventions have impact.

Since experience is limited in the conceptualization and utilization of maternal health status indicators other than mortality, measurements of maternal health commonly focus on mortality rather than morbidity, disability or wellbeing. However, maternal mortality is not always the most appropriate measure for assessing maternal health and safe motherhood initiatives. Furthermore, a combination of health outcome measures and process measures can give a more complete picture of the performance and activities of initiatives.

This toolkit provides data collection tools that can be used to measure a variety of health and other related outcomes. Individual tool guides elaborate on the specific sampling and data capture requirements.

## 1. Indicators

There are several alternative indicators of maternal health that can be used to achieve the objectives of single point assessments and comparisons of maternal health status over time.

### Outcome indicators

Number of maternal deaths[1] is the most frequently used health outcome in measuring maternal health status. The most commonly used outcome measures that directly provide estimates of maternal mortality are the maternal mortality ratio, the maternal mortality rate and cause-specific mortality rates. The maternal mortality ratio (MMRatio) is the proportion of maternal deaths to live births, usually expressed as deaths per 100,000 live births and is thus a measure of the danger that women face once pregnant.

$$\text{MMRatio} = \frac{\text{number of maternal deaths}}{\text{population of women (aged 15–49)}}$$

The maternal mortality rate (MMR) is the number of maternal deaths in women aged between 15-49 years (i.e. of reproductive age). In contrast with the ratio, the rate expresses the problem of maternal mortality within the

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[1] In countries with low levels of medical certification of cause of death, and/or where many deaths occur outside medical facilities, the use of *pregnancy-related death* allows maternal deaths to be identified and counted even if a cause cannot be determined. Reference to maternal death in this outline of sampling and data capture approaches includes pregnancy-related deaths, in accordance with Immpact's time-related definition of maternal mortality.

population of women as a whole. Cause specific mortality measures death due to a specific cause, such as haemorrhage or infection.

Alternative indicators, such as perinatal mortality, can also be used as proxy measures of maternal mortality, but are clearly also important in their own right.

**Process indicators**
Also known as intermediate or output indicators (see Module 3), process indicators can be used to gather information on the availability and level of utilization of safe motherhood initiatives, including obstetric care, within a population. Examples of some of the most commonly used process indicators include the:

- proportion of women attended at least once during pregnancy by trained personnel,
- proportion of births attended by a trained health professional,
- number of health facilities providing essential obstetric care per 500,000 population,
- percentage of the population within one hour's travelling time to a health facility delivering essential obstetric care.

Such indicators have a strong causal association with maternal health and therefore can be used as proxies for assessing the effectiveness of safe motherhood interventions and can inform programme management. However, if such indicators are to be useful to programme assessment and comparisons over time, the definitions of terms such as 'trained personnel' and 'essential obstetric care' must be clear and precise (WHO 1999).

The denominator of process indicators is often the number of live births, which acts as a proxy measure of the number of pregnant women. However, since this does not include events such as still-births, spontaneous or induced abortions, or ectopic pregnancies, it has been suggested that applying a raising factor of 15% to the total number of live births is necessary to achieve an approximate number of pregnant women.

It is important to appreciate the differences between various indicators, their interaction with each other and the ways in which each can be used for measuring levels and changes in maternal health status. The choice of primary indicators will vary between specific studies and may be influenced by logistical and resource factors. It should be noted, however, that an ideal methodology should be capable of producing multiple indicators of maternal health, since the interplay between changing rates of maternal mortality and fertility often generates unexpected results and reliance on only one indicator is insufficient and may produce misleading information for programme and policy purposes.

Both process and health outcome measures are important in Immpact evaluations and a mix of methods is likely to provide a balance of different types of information. The development of suitable measures and careful thought about the variables for which data need to be gathered to achieve the overall objectives of the study are important initial stages of health research and evaluation methodologies.

Annex F includes additional resources on the selection and use of indicators.

## 2. Design

There are many different methods and study designs for health research and evaluation. Often more than one method could be used to answer a particular question successfully, although one method will usually achieve the desired aim more efficiently than others. The broad types of study design used in health services and epidemiological research are outlined briefly below. In selecting a study design it is important to consider the strengths and weaknesses of each approach in relation to the question that needs to be answered, the nature of the strategy being evaluated, and the outcomes of interest, as well as logistical and resource factors. Further reading on study design is also available in the World Health Organization's (WHO) publication *'Health research methodology: a guide for training in research methods'* (WHO, 2001).

**Experimental studies** involve comparisons of interventions under controlled conditions with assessments of the effects or outcomes, and are the most thorough method of identifying causal relationships between intervention and outcome. Cluster randomization is the most relevant design for evaluations of the effectiveness of interventions, since the unit of evaluation is the population rather than the individual. This type of design does, however, raise practical issues, including the feasibility of randomizing populations and the need to be involved in the implementation of a strategy from the outset.

**Quasi-experimental methodologies**, or analytical observational designs, which include case-control, cohort and analytical cross-sectional studies, use experimental principles and, where possible, experimental conditions, but without randomization and other controls due to practical or ethical barriers. Examples of quasi-experimental design include non-randomized trials, concurrent comparison studies, before-and-after studies, and time-series analysis. Quasi-experimental designs are likely to be a more realistic approach to assessing maternal health status and the effectiveness of interventions in the developing country context. Time-series analysis, for example, may be used to detect whether a strategy has had an effect significantly greater than the underlying trend.

**Descriptive studies** include descriptive cross-sectional studies or population surveys. They cannot be used to evaluate effectiveness, but instead they are useful for measuring process indicators and for producing an account of the implementation of the intervention. This design may also be used in health systems research to describe ‘prevalence’ by certain characteristics. A common procedure in family planning and other services is the Knowledge, Attitudes and Practice (KAP) survey. As such, the descriptive approach may be integrated with, or may supplement, methods that address issues of effectiveness.

The fact that health programmes are usually complex interventions consisting of multiple components, aimed at the community rather than at the individual level, raises particular challenges for evaluation, not least in establishing how multiple components interact to produce an effect. Complex interventions are also dependent on specific contextual factors. Experimental and quasi-experimental approaches may not be particularly useful for answering these questions because they are designed to control for contextual differences between intervention and control groups. Therefore, **pluralistic approaches**, in which various perspectives and qualitative and quantitative techniques are combined, can provide greater insight into the working of an intervention and can help to define causal pathways that might exist (Milne et al, 2004).

## 3. Sampling overview

Critical factors in designing maternal health status investigations include:

- Problems of ascertainment owing to the sensitivity of events,
- In resource-poor settings, the weaknesses of routine information systems,
- Comparative rarity of maternal mortality outcomes on a short-term basis.

The number of events that are to be studied, be it maternal deaths or professional assistance at delivery, is a function of the prevailing level of those events and the number of births in the setting of interest. Where the prevailing level of events and the number of births is high, and thus a relatively large number of events is expected, it is necessary to limit investigations to representative samples of the population as a whole. This ‘sampling’ of the wider population is a crucial factor in designing maternal health data capture approaches, and care must be taken to ensure that the sample selected is truly representative (WHO, 2001).

**Size is perhaps the most important parameter of the sample**, because it affects the precision, cost and duration of the survey more than any other factor. Sample size must be considered both in terms of the available budget for the survey and its precision requirements. The latter may differ for national versus sub-national studies. Furthermore, the overall sample size cannot be considered independently of the number and size of separate sample areas where numerous sampling units are used. While mathematical formulae are available to calculate the sample sizes necessary to achieve acceptable degrees of precision, the available resources and the specific data collection approaches that will be utilized must also be taken into consideration when making a final decision (UNICEF, 1995).

**To make comparisons over time and between groups or areas**, it is necessary to determine the sample sizes needed to test for a difference with a specified confidence interval. The key factors in deriving the sample size calculations for evaluations are the size of the expected change in the parameter of interest (e.g. maternal mortality) and the expected baseline levels. Regression sample size calculations can be used if more than two groups or time-periods are to be compared, and it is advisable that expert advice on sample size is sought at the planning stage of any maternal health investigation (WHO, 2001; UNICEF, 1995).

**The sampling frame, unit and method of selecting a sample are also important considerations in designing maternal health investigations**. For a truly representative sample, every variable of interest should have the same distribution in the sample as in the population from which the sample is drawn. Before a sample is drawn, the population has to be clearly defined and a sampling frame identified. The sampling frame consists of a list of units of the population, which may, for example, be health facilities, individuals, household or villages, from which the sample will be drawn. A major flaw in many research projects is a biased selection of the sampling frame. There is some evidence to suggest that sampling a larger number of smaller units gives results that are more representative of the wider population, although from a logistical point of view there may be additional complications and costs involved in implementing these more widely distributed investigations. In practice, such sampling is more likely to be feasible through the existing structures of, for example, a national health service, rather than as a separate vertical programme (Byass, 2003).

The simplest method is to make a random selection of sampling units, each with equal probability of selection, until the target sample population is reached. A more complex procedure of sampling with probability proportional to size (PPS) increases the probability of sampling more populous units, in an attempt to make any individual's chance of being included in the sample similar, irrespective of the population of the unit in which they live. The validity of this approach, however, has been questioned since it may be subject to systematic errors if more densely-populated areas have markedly different characteristics from less densely-populated areas (WHO, 2001; UNICEF, 1995; Byass, 2003).

Additionally, stratified sampling may be undertaken to ensure the fair representation of major groupings within an overall population, for example urban and rural areas. When confounding is an important issue, stratified sampling will reduce potential confounding by selecting homogonous sub-groups. The benefits of stratified sampling, however, depend on the nature of the overall population and the delineation of obvious strata (Byass, 2003). Although it would be useful to produce estimates of maternal health status indicators disaggregated at a sub-national level, for example into rural or urban regions, maternal age or parity, this should not be encouraged unless the data are of sufficient quality and scope to yield a reliable picture.

Multi-stage sampling is also a commonly utilized method, especially where a sample must be drawn on a local rather than a national basis. This approach is common in demographic surveillance sites and is similar to cluster sampling for randomized trials used for evaluating interventions. Multi-stage sampling requires the random selection of the secondary sampling unit and then either random or PPS sampling of the primary sampling units. For example, the random selection of districts followed by the random or PPS sampling of villages or households within that district (Byass, 2003).

Cluster sampling refers to situations where studies are carried out on populations that may be geographically dispersed. In such cases, clusters may be identified and random samples of clusters will be included in the study (UNICEF, 1995; Rose et al, 2006).

More sophisticated variations of sampling approaches exist but have not been widely applied in resource poor settings.

## 4. Data capture approaches

Planning for the collection of data should begin with a review of existing data resources, with the intention of summarizing what information is already available and what primary data capture is required. Secondary data sources, such as civil registration systems, health services data, existing censuses and previous survey information, may provide valuable information. However, the quality and completeness of secondary data depends greatly on local procedures, and the limitations of secondary data sources within the study area must be kept in mind, not least the tendency for under- or mis-reporting maternal deaths.

### *Facility-based data capture*

The complexity of health facility data collection depends largely on the setting, the number and size of health facilities, and how well these facilities are staffed and equipped. Whilst facility-based data may provide an incomplete picture of population-wide maternal health outcomes, most of the data needed for measuring process indicators are collected from facilities. Methods (both quantitative or qualitative) of gathering data within facilities include:

- **Structured interviews with district and facility health management teams** to collect information about issues such as the availability of maternal health services and the number, categories and training of available health personnel, the availability of emergency transport and health education and communication activities.
- **Reviews of facility records** to gather information on antenatal attendance and delivery care, as well as the type, number and management of obstetric complications, the number of maternal and neonatal deaths and still-births, and the provision of family planning services.
- **Personal interviews with knowledgeable staff** who attend obstetric patients.
- **Exit interviews with antenatal and postpartum patients** are a further, albeit potentially more biased, source of facility-based information.

More information on facility-based data collection can be found in WHO 2004 and FCI 2005.

### *Censuses*

Censuses that include questions on pregnancy-related events in the household in a defined reference period can generate data on maternal health status. By definition, the fact that censuses cover an entire population means that sampling and other random errors are eliminated or greatly reduced. However, this complete census approach is very expensive and resource-demanding. Consequently, it may be reasonable to restrict census questions relating to maternal health to a sufficiently large sub-sample, thus introducing the sampling considerations associated with sample surveys.

The census approach has the notable advantage of being able to generate national and sub-national estimates. In addition, a census facilitates analysis of certain maternal health indicators according to household characteristics. However mortality data obtained from household census enquiries require careful evaluation, and often adjustment (WHO, 2004; Ronsmans et al, 1998; Soleman et al, 2006). Another limitation is that a census is not very frequently performed.

More information on censuses is available in WHO et al 2004 and Stanton et al 2001

### *Population-based surveys*

The most direct way to measure many maternal health indicators involves population-based surveys conducted either as single cross-sectional measurements or as continuous prospective surveillance, as in demographic surveillance sites. In this approach, the most senior member of sampled households is asked about pregnancy-related events in the household in a fixed reference period (which in the case of routine surveillance is since the last interview), and the number of births in the household. Maternal deaths may be identified through this method by recording any adult female deaths that occur within the household and attempting to distinguish maternal deaths from other female deaths in the reproductive age group using verbal autopsy methods.

Population-based surveys are expensive and complex to implement. They also can produce wide confidence intervals for certain parameters, not least maternal mortality measurements. which illustrate the imprecise nature of such estimates and may lead to inappropriate interpretation of findings. For example, using point estimates for maternal mortality may give the impression that the maternal mortality ratio varies significantly in different settings or at different times, whereas the confidence intervals may overlap and therefore the maternal mortality measurements are similar.

More information on population-based surveys is available in Berhane et al, 2000; WHO et al, 2004; WHO et al, 1998; Stanton et al, 2001; Ronsmans et al, 1998; Soleman et al, 2006; and Stecklov, 1995.

### *Sibling history approaches*

Sibling history or 'sisterhood' methods can reduce the sample size requirements of population-based survey approaches by asking adults about their adult sisters' pregnancy experiences in a reference period. While there are different adaptations of sibling history methods, each with its own advantages and disadvantages, all versions assume that sisters are broadly representative of all women and information can be accumulated rapidly. Estimates of various parameters can be determined for defined periods of time, although generally the time periods need to be at least seven to twenty years to avoid very wide confidence intervals around the estimates. Such wide confidence intervals remain a problem with sibling history approaches and they are therefore not appropriate for measuring progress towards safe motherhood in the short term, evaluating programme impact, comparing geographic areas (i.e. comparing sub-national estimates) or studying trends, or for allocating resources. Sibling history methods are also not appropriate for settings where fertility levels are low (total fertility rate < 4) or where there has been substantial migration, civil unrest, war, or other causes of social dislocation.

More information on sibling history approaches can be found in Berhane et al, 2000; WHO et al, 1998; Stecklov, 1995; WHO and UNICEF 1997; and Hanley et al, 1996.

### *Reproductive Age Mortality Studies (RAMOS)*

With their focus on maternal mortality, RAMOS studies aim to identify all female deaths in the reproductive period (usually 15–49 years old), using a wide variety of information sources to find deaths, e.g. cross-sectional household surveys, continuous population surveillance, hospital and health centre records and key informants. The reason for using such a variety of information sources is that no single source adequately identifies all deaths. Once deaths of reproductive-age women are identified, a combination of methods including verbal autopsy and review of health facility records is used. This approach is considered to provide the most complete estimation and can provide up-to-date estimates of maternal mortality. However, this approach can be complex and time-consuming to undertake, particularly on a large scale and especially in the absence of a reasonably complete initial list of deaths (Hill et al, 2006). Furthermore, large sample sizes are required to obtain single-point estimates with sufficiently narrow confidence intervals to enable time trends to be monitored.

More information on RAMOS is available in WHO et al, 2004 and WHO 1991.

## 5. Data collection and management

An important consideration for maternal health studies is deciding who will be responsible for data collection. Under ideal circumstances, this should be a group who are separate to those responsible for implementation of maternal health programmes, since the burden of data collection on small, community-based programmes seriously detracts from their primary mandate of providing health care (Stanton et al, 2001). If more than two time periods are to be compared, the periodicity for gathering maternal mortality data needs careful consideration. Where surveys are needed because routine systems are weak or non-existent, sample sizes and field costs are likely to be too great to justify producing precise estimates of maternal mortality more frequently than every five to ten years.

Survey data are traditionally gathered using paper forms or questionnaires, but there is growing interest in the use of handheld computers for data collection. For more information on the use of handheld computers see 'Handhelds for health: SATELLIFE's experiences in Africa and Asia':[2] Each method has its own pros and cons; for instance, personal digital assistants (PDAs) can simplify the data collection process and eliminate the need for further data entry yet require the implementation of routines for recharging the devices and backing up of data in the field. However, no matter what method of data collection is used, certain basic principles of data collection are vital for effective and efficient data capture.

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[2] Click on 'ICT in Health' on the navigation menu of the homepage.

Questionnaires and other survey tools must be carefully designed to collect only the information that is of relevance and will be used. Evidence suggests that the rate of errors in data collection and entry increases in relation to the length and complexity of the form (Stephens et al,1989). The purpose of the survey must therefore be kept in mind at all times and data collection forms should be designed to make entries by the field worker as simple as possible, so as to minimize writing and data entry.

Who will be administering the data collection tools, and to whom, are also very important factors, as the language and content of data collection tools must reflect this, as well as being sensitive to different cultural needs (see Technical Annex C). For example, more sensitive questions should generally be placed towards the end of the data collection tool to provide the opportunity for the interviewer and the respondent to develop a rapport. All data collection tools should be field-tested prior to beginning the actual study. More specific guidance is included in each tool guide.

The efficient and effective collection of data relies largely on the quality of field workers, supervisors and data managers and the training that they receive prior to data collection. Each must understand every aspect of the data collection tools in detail, and should have a general understanding of the overall purpose of the whole investigation and the importance of gathering and recording data without bias. The level of education of data collectors depends on the complexity of the survey, but the sex and social class of the interviewer are crucial factors to consider in relation to local customs and taboos when recruiting field staff.

If data entry templates and databases are designed at the same time as the data collection tools, the smooth flow of data from field workers to databases, in a format that can be used to address the objectives of the investigation, can be greatly enhanced.

The incorporation of well-defined and unambiguous rules into the database and the entire data process, including regimes for data transfer from the field, is necessary in order for the database system and the data within it to maintain logical integrity.

Data access rules should be clearly defined to ensure data security and integrity. The following rules illustrate some of the considerations of data access and archiving.

- The data manager should have full access to the database
- Assistant data managers and senior researchers should be able to edit data but should not be able to change the database structure
- Data entry clerks should be able to key in only new data
- Other users should only be able to read the data.

The data should be backed up very frequently (every one or two days) and should be backed up in separate media e.g. CD-ROM and hard disk. Copies of the data should be made regularly and kept at a site other than the main data storage building as a precaution against fire or theft (offsite backup).

More information on data collection and management is available in .

## 6. Quality control principles

Principles of data quality need to be applied at all stages of the data management process (capture, storage, analysis, presentation and use). There are two keys to the improvement of data quality – **prevention and correction**.

Error prevention is closely related to both the collection of the data and the entry of the data into a database. Accuracy can be enhanced by ensuring that field operations are linked to computer operations so that errors and problems are routinely noted, fed back to interviewers and corrected.

The best way to ensure data quality is to set a number of well-defined and unambiguous guidelines for data collection and data processing, such as:

- appropriate methods of recording responses in the field;
- the sequence of questions;
- rules regarding appropriate respondents;
- clear definitions of key concepts relevant to the study.

One of the most successful approaches is to describe to the field workers the importance of their work and emphasize that it is their primary responsibility to ensure data is accurate and complete.

Further methods of assessing data quality include supervision of field activities, whereby field supervisors should:

- check each data form for completeness and consistency;
- perform unannounced, random monitoring during data collection to assess the field worker's performance and the structure of the interview (Groseclose et al, 2000);
- conduct duplicate visits, whereby supervisors re-administer portions of questionnaires to randomly selected individuals or households,

Double entry of data into the database reduces the likelihood of data being entered incorrectly, and can act as a further quality control measure.

Although considerable effort can and should be given to the prevention of error, errors in large data sets will continue to occur and data validation and correction cannot be ignored. Data validation and cleaning may be achieved through continuous analysis of the data to test for illogical results, and it is possible to design the database so that when data are entered into a record the computer programme checks for inconsistencies or unlikely data.

## 7. Analysis and interpretation

The strengths of quantitative data lie in the fact that they can be used to classify features and construct complex statistical models in an attempt to explain what is observed. For consistency, quantitative studies necessitate the standardization of questionnaires and data collection techniques. Because of this, quantitative research can easily be applied across time and between regions, enabling the study of wider target populations.

However, some of the factors that make quantitative research reliable and easily replicated are also drawbacks:

- The standardization of data collection tools tends to limit testing to predetermined hypotheses, and the picture of the data that emerges from quantitative analysis is less rich than that obtained from qualitative analysis;

- For statistical purposes, classifications have to be precisely and clearly defined, thus quantitative analysis is an idealization of the data in some cases and may sideline potentially interesting spontaneous or out-lying responses;

- In ensuring that certain statistical tests (such as chi-squared) provide reliable results, minimum frequencies must be obtained, meaning that categories may have to be collapsed into one another, resulting in a loss of data richness;

- The somewhat abstract nature of quantitative data means that they can be difficult for some decision-makers to relate to.

These strengths and limitations of quantitative approaches should be kept in mind during all stages of a research or evaluation study, and especially during analysis and interpretation of the data.

The purpose of quantitative analysis is to identify and compare any patterns or trends on the basis of a variety of characteristics.

An analysis plan should be prepared at the outset of any evaluation or programme of research activities, even before data have been collected. Typically, the analysis process should begin with:

### *Data Cleaning*

- Checks of data entry and coding: any obvious errors should be verified and, if possible, corrected;
- Perform consistency and plausibility checks;
- Clearly Identify missing data, for example survey questions for which no answer was given.

### *Initial exploration of data*

Following this 'data cleaning' stage, explorations of the data should be performed using simple descriptive statistics, such as means, standard deviations, and minimum and maximum values for each variable.

Producing graphics, such as histograms or box plots that show the distribution of the data, can further one's familiarity with the data set and enhance the analysis process.

Further analysis builds on these preliminary explorations of the data and seeks to identify patterns and relationships between variables by comparing means, exploring correlations, performing regressions or analyses of variance, and such investigations will often be theory or hypothesis driven.

### *Advanced exploration of data*

Advanced statistical methods may eventually be used to build upon sophisticated explanations of the associations between variables and how these relationships address the objectives of the study.

Variables that may typically form the starting point of quantitative analysis in relation to maternal health are person (age, race/ethnicity, socio-economic status, education), place (urban, rural, where the woman received pregnancy-related care, where she delivered, where she died), time (date, time and season of receiving pregnancy-related care, delivery or death), parity and gravidity, pregnancy outcome and gestation.

### *Interpretation of findings*

The last step of data analysis consists of interpreting the findings to see whether they support initial hypotheses, theories or research and evaluation questions. Interpreting the data involves looking for overall patterns that can be drawn from the dataset whilst bearing in mind the context of the study, and current knowledge on the topic of interest. The study design and its potential limitations are important factors to consider whilst interpreting the findings and drawing conclusions from the data.

Further detailed support with respect to analysis and interpretation of findings can be found in Module 3.

## 8. Ethics, confidentiality and consent

Ethical issues form an essential component of the research process and anyone who has access to the data at any stage of the data process must ensure that ethical integrity is maintained. In most circumstances, discussion of ethical issues should be made explicit in order to maintain peace of mind and willingness to participate among the study population.

Privacy, confidentiality, consent, security and transparency are some of the key issues associated with processing personal data from health studies and evaluations. Autonomy is also a key ethical consideration for any research involving human subjects: it means that the participants are fully informed about the purpose of the investigation, that their participation is voluntary and that they can choose to end their participation at any time. To ensure that the privacy of individuals is not violated, data collection forms, case studies, review meetings, and any reports or dissemination of results should not contain personal identification. In some cases complete anonymity is appropriate.

Further advice on ethical issues may be sought from academic institutions, research societies and community leaders.

## 9. Combined approaches

Whereas qualitative and quantitative methods have grown out of, and still represent, different paradigms, research and evaluation strategies do not have to be characterized by the somewhat false dichotomy of being either quantitative or qualitative. There is growing recognition of the value and necessity of combining quantitative and qualitative methods in health research, and it is necessary to consider both methods when designing a study or evaluation. By using both methods it is possible to obtain more information than by using only one method, and to substantiate qualitative research with quantitative data.

For more discussion of how qualitative and quantitative methods can complement each other in complex mixed-method evaluation, see Technical Annex B, section 8

# Annex B: Guidelines for use of qualitative methods in Immpact evaluations

## Introduction

Qualitative methods aim to collect data which are not quantified according to categories, analysed statistically, or generalized to a population but which represent as closely as possible the language used in responses and which are analysed according to each individual's experiences and particular context. Hence, qualitative methods are characterized by open and less structured approaches to gathering information, in which the tool is more loosely designed, and specific avenues of investigation are spontaneously formulated during the process of data collection. The precise nature of the data gathered will vary and will depend upon the responses given, enabling an in-depth understanding of complex situations, processes and experiences.

## 1. Closing the gap between research participant and researcher

The emphasis in qualitative research is upon identifying, investigating and conceptualizing people's perceptions, attitudes and understandings and on showing how these affect their behaviour. The increased involvement of those being 'researched' in the final design of the tool on the ground and thus in determining the nature of the data collected means that s/he is often termed the 'participant' (or 'informant') rather than the 'respondent' (see figure 5.1 below).

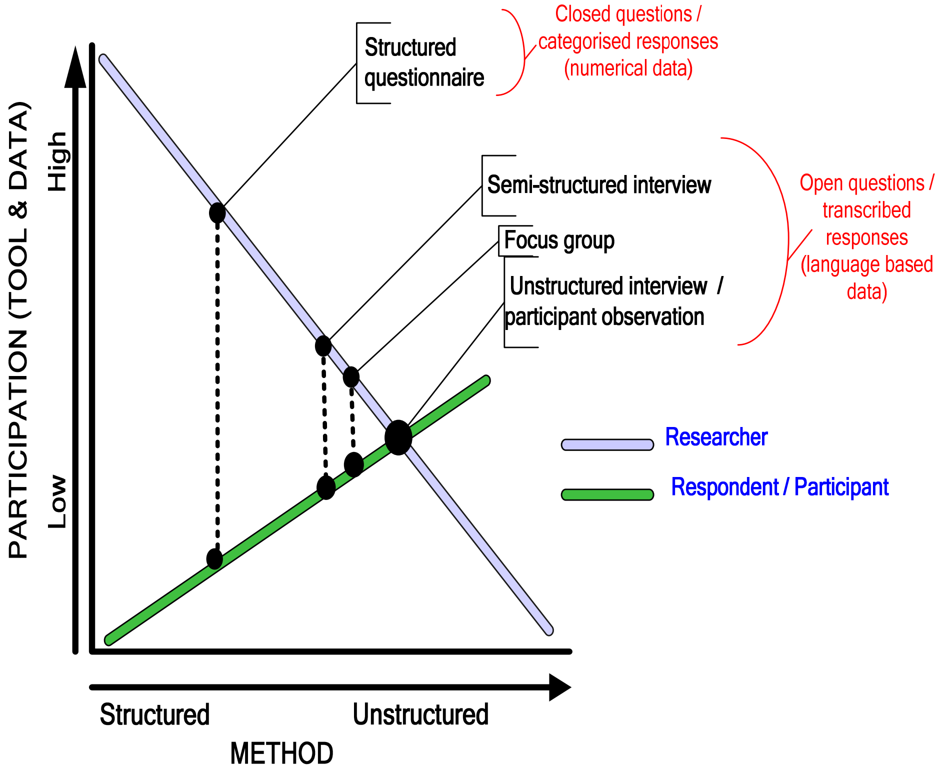

Figure 5.1: Perceptions of 'reality'

Much qualitative research attempts to ' "get inside the head" of those who are most involved, since 'there is an increasing gap between the concepts and models professionals use to understand reality and the concepts and perspectives of different groups in the community' (Grandstaff et al, 1987).

In other words, people are likely to understand the same events and phenomena differently according to their own experiences, which in turn are shaped by the context of their lives. Therefore, the factors which individuals from different contexts perceive to be significant in different circumstances will not always be the same. This is important, as it is often people's perceptions that affect their behaviour, as well as their reporting of experience, whether or not these perceptions coincide with objectively verifiable facts or 'reality'.

This potential gap between different perceptions of 'reality' is illustrated in figure 5.1 by the dotted line between the participation levels of the researcher and the respondent/participant. In order to close this gap, qualitative methods employ open-ended questions. In contrast to closed questions, which seek definitive answers that can be categorized, open-ended questions are ones which probe for detail, explanation and attitudes. For example, a closed question might ask how many children a respondent/participant has or what type of contraception s/he uses, while an open-ended question may ask for an explanation of why s/he has a certain number of children and her/his attitude to family size. Thus, open-ended questions are characterized by 'Why?' and 'How?' formulations which allow people to answer in their own words and which attempt to understand the complexities of experiences and people's own interpretations of them.

## 2. Qualitative methods

A variety of different methods is employed to achieve the above, most commonly including the following:

- **Participant observation:** The researcher involves him/herself in daily activities in order to identify and explore key issues and themes which arise related to a specified subject of enquiry. Traditionally, participant observation methods involve extended periods of residence or involvement with a group and are commonly used in anthropology to understand local customs, beliefs, and world-views in different cultural contexts. More structured observation can also be conducted when shorter periods of time are spent in a particular location, observing processes and events according to specified foci of interest outlined in an observation guide.

- **Unstructured (in-depth) interviews:** These are interviews which are related to a specified subject of enquiry but for which there is no interview guide (commonly viewed as most similar to a natural conversation). They are often used in exploratory research or in expert interviews.

- **Semi-structured (in-depth) interviews:** An interview guide is formulated prior to the interview (which may be adapted for individual interviewees according to their circumstances). However, questions are open-ended and themes are pursued as relevant according to the responses to these questions. This method is often used in key informant interviews (interviews with specific individuals who are well placed to provide particular insights into a phenomenon, community, or context), to gain life histories, or case studies of specific experiences, and may involve repeat interviews with each participant over a period of time.

- **Focus groups:** Group discussions based upon particular themes of enquiry, most often used to understand communally constructed discourses and group perceptions or priorities. Different tools can be used to facilitate discussions, including topic guides (themes around which to facilitate discussion), visual aids (e.g. picture prompts or illustrated stories), oral vignettes (short stories or case studies to which participants are asked to give their reactions).

As figure 5.1 illustrates, the least pre-designed of these methods are unstructured interviews and participant observation. These methods allow the participant the greatest autonomy to direct the thread of enquiry and determine the nature of the data generated. Such methods are particularly useful in exploratory studies (see Technical Annex C). However, they may be too time-consuming and lacking in a sufficient degree of focus to answer specific evaluation questions, in which instance methods such as semi-structured interviews and focus groups may be more practical and appropriate.

## 3. Data collection and management

### *Choice of methods*

Guidance about study design in qualitative research is generally less strict than for quantitative studies, since achieving observable accuracy is less of a consideration. And as subjectivity is accepted as an integral part of studies, this statement seems to suggest there is no rigour in qualitative studies: careful study design should add more rigour. However, attention should be given to choosing the most practical and appropriate methods for investigating the specified research questions. For example, consideration needs to be given to the sensitivity of the topic under investigation, the types of participant, and whether in-depth exploration of individual experiences or knowledge about group discourses and perceptions is more relevant.

### *Access to and selection of participants*

The intention of qualitative research is to understand the individuality of participants' lives and experiences, while also identifying common conceptual themes and relationships within these experiences. Therefore, the selection of participants has a different meaning and objective than it does within the sampling methods used in quantitative research.

Qualitative research requires well-thought-out and systematic sampling, but it does not aim to establish a random or representative sample drawn from a population. Here the purpose is to identify specific groups of people who either possess characteristics or live in circumstances relevant to the social phenomenon being studied (May and Pope, 1995). Interviewees are chosen because they will enable exploration of a particular aspect of knowledge or behaviour relevant to the evaluation. Decisions on who to sample next, and on the final sample size required, may be made as the work progresses and the key questions and concepts develop further. For example, depending on your question you may be interested in identifying confirmatory and disconfirming cases, information-rich cases, or extreme/deviant cases (Patton, 2000). In the case of recruitment to focus groups, you may be interested in achieving a degree of homogeneity within each group so that participants feel free to talk and to exchange views, and to differentiate between groups on key features such as age, gender or socio-economic status. Often, gaining access to key figures in a community can be an important lead into accessing other relevant individuals. However, the potential exclusivity of networks and power relationships in communities should also be taken into consideration when choosing participants, so that a variety of perspectives is represented.

Different means of choosing participants are determined by these considerations as well as by ethical and practical considerations. Gaining access to participants who are willing and able to give the necessary time for in-depth investigation needs to be handled with sensitivity. The importance of building reciprocal respect and relationships of trust should not be underestimated, and appropriate time needs to be allowed for this.

### *Ethics and data management*

Given the issues in qualitative research into maternal health noted above, and the personal detail that participants may share about their lives during data collection, it will be clear that ethical issues are especially important. Sensitive issues (e.g. domestic violence, reproductive health, sexuality) need to be addressed with respect and with consideration for the support which may it be necessary to give to the participant.

It is particularly important to ensure that participants give genuine informed consent (including permission to record) and that confidentiality is guaranteed. Assurances of anonymity should not be given unless it is entirely possible to remove all identifying information from the data which will ultimately be used (this may not always be possible given the personal and individual nature of information).

To this end, data should be managed carefully. For example, attempts should be made to transcribe faithfully in order that quoted material used in the analysis and write-up is not taken out of context, and so that it represents participants' views and interpretations with integrity. Similarly, original tapes and transcripts should be stored in ways which ensure confidentiality. Where teams of researchers are involved in data collection or analysis, clear guidelines should be agreed as to appropriate ways in which the data will ultimately be shared, used, and analysed.

### *Inductive data collection and analysis*

Qualitative research uses analytical categories to describe and explain social events and behaviours. These categories may be derived inductively, that is, obtained gradually from the data, or they can be used deductively, either at the beginning or part way through the analysis as a way of approaching the data (Pope et al, 2000). Deductive analysis can be particularly useful for applied or policy-relevant qualitative studies that require a short timescale. In Immpact evaluations, for example, the objectives of the investigation will typically be set in advance and will probably be informed by existing knowledge from other sources and by the assumptions about the intervention that have been selected for testing. Here, quite structured deductive analysis (for example using a ‘framework’ of questions to interrogate the data) can be appropriate. However, even using such techniques, the aim should still be to reflect the original accounts and observations of the people studied, and researchers should be prepared to explore apparently contradictory or unexpected findings.

It is the responsibility of the researcher(s) to be reactive and continually analyse and respond to the information being gathered. Conceptual frameworks which will inform the final analysis may be altered at any point in the process according to fresh understandings gained by the researcher(s). New threads of enquiry relevant to the research question may be pursued, leading to research questions becoming more tightly defined and focused throughout the process. Hence, effectively, data collection and analysis are iterative (see Module 3). Where teams of researchers are involved, regular communication and communal reflection are essential throughout to ensure that a common conceptual framework and threads of enquiry are being pursued by each member of the team.

For other relevant considerations on matters related to data collection and management, see the Qualitative Standards and Principles Checklist in Technical Annex E and the additional resources in Technical Annex F .

## 4. Capacity and training

The resources listed in Technical Annex F provide good starting points for anyone considering the use of qualitative methods. Nevertheless, it is important to remember that there is an increased reliance upon the capacity and experience of the researcher in qualitative research, given the openness of the approach and the necessity of spontaneity and responsiveness during data collection. Thorough knowledge of the subject area and research objectives, an enquiring and open mind, and listening skills are centrally important. Therefore, it is important to draw upon available expertise and include training and capacity strengthening activities when planning and conducting qualitative research activities.

## 5. Quality assurance

Quality assurance in qualitative research is more complex than for quantitative research since it deals with subjectivity, perception, and interpretation in relation to context, rather than verifiable ‘fact’. Where tools exist at all, they are often loosely structured and individualized. Hence there is no ‘gold standard’ to judge them against and findings are not meant to be subjected to tests of reliability and external validity. The reliance upon the skills of the researcher, direction taken from the participant, and spontaneity during the process of data collection means that, in a sense, it is the researcher who needs to justify his or her procedures, rather than the tool or findings themselves being open to quality assurance. To this end, comprehensive field-notes and an audit trail of how and why decisions were taken and themes pursued in a particular way during fieldwork and analysis will provide a documentary record of the process. This will not necessarily mean that another researcher would have taken exactly the same decisions but such documentation will allow justifications to be fully given and a thorough methodological discussion to be provided to help account for the interpretation of data and the conclusions drawn.

The complexities of quality assurance mean that it is particularly important to think about the processes of data collection and the potential issues which may arise throughout. The following checklist has been adapted for general use from one devised by Immpact’s qualitative researchers:

## 6. Qualitative methods in safe motherhood programme evaluations

Most programme evaluations involve the use of both qualitative and quantitative methods. When deciding which methods to use at different points in an evaluation, it is important to think about the different dimensions of the evaluation questions that you are seeking to answer, what information you hope to collect, and how and by whom this information will be used. Therefore, it is worth asking yourself a few key questions to help you decide whether qualitative methods can provide you with the information that you need:

- What do you **want** to know?
- **Why** do you want to know it?
- What do you **need** to know?
- **Who** is the information for?

These questions can be helpful in practice when deciding between methods and relating method choices to research questions. For example, on the community side in the Ghana evaluation, qualitative work is relevant to ascertaining the relative importance of fee exemption to users alongside other factors related to whether women deliver in a health facility. It is important to answer this question since it is an important dimension to the central research question. This information is needed to ask **what** is the comparative value of fee exemption and to find out **why** the policy might or might not function as well as it could do, and/or whether it needs to be supplemented by other activities to make it more workable for users. It is important to use exploratory qualitative techniques to investigate this, since the relevant information may not be directly obvious to the researcher and there may be factors not directly related to the policy itself that have an influence. This information is vital for policy-makers who wish to assess the relative effectiveness of programmes.

## 7. The complementarity of qualitative and quantitative methods in evaluation

In an ideal world, an iterative approach is best adapted to the use of qualitative and quantitative methods in which the qualitative and quantitative methods and findings inform one another at different points throughout the evaluation. In practice, this is often not entirely possible to achieve, given the difficulties in bringing together researchers, and coordinating time schedules especially in large-scale evaluations. However, even if the process is not wholly iterative, qualitative and quantitative methods can work well together and lead to a relevant, balanced, and in-depth evaluation in the following ways:

a) Qualitative exploratory studies contribute to evaluation design and tool adaptation (see Technical Annex C);

b) Significant themes arising from qualitative data analysis inform the identification of key variables in quantitative data analysis – and vice versa;

c) Qualitative findings help interpret, explain, and qualify the causal relationships and generalizable findings of the quantitative analysis.

## 8. The purpose of qualitative methods in evaluations

As noted above, the objective of qualitative research is to gain an in-depth understanding of people and their behaviour. In evaluations, qualitative research is particularly useful in investigating processes and contextual factors related to specific outcomes in which people's behaviour has an important influence. As De Koning and Martin (1996) note, '…many factors, cultural, historical, socio-economic and political, which are difficult to measure have a crucial influence on the outcomes of interventions and efforts to improve the health of people'.

Qualitative methods can pinpoint and investigate key factors which are unlikely to be identified by 'outsiders' (i.e. researchers developing structured data collection tools) and/or which are difficult to measure quantitatively. They can also expand upon quantitative findings by providing in-depth, contextualized explanations of both generalized findings and contradictions to generalizations. In this way, they can help attribute outcomes by distinguishing between the effect of the programme and of contextual factors, and can thus enable evaluations of the effectiveness of programmes in different contexts.

# Annex C: Linguistic and cultural translation and adaptation of Immpact evaluation tools

### Introduction: The need for linguistic and cultural translation and adaptation of evaluation tools

The tools provided in this guide are useful in many different contexts for the evaluation of safe motherhood programmes. As there is often a lack of culturally and linguistically valid tools to measure health for people of different cultures, tools developed in one culture are sometimes used across cultures with only linguistic translation, i.e. the literal translation of words from one language to another. Survey tools are often developed in English or other major European languages and are translated for use in other languages. There is clearly a need to undertake a literal translation of the words used in questions. However, such a literal translation may not be sufficient to ensure validity. In their generic form, survey questions may reflect concepts or understandings which are meaningful to respondents in one particular culture but not in another.

Appropriate methods for adapting survey tools cross-culturally are not widely known, although qualitative research methods are often used to tailor health-related programmes to be more culturally appropriate before implementation (Scrimshaw, 1992). It is logical to conclude that the tools used to evaluate these programmes also need to be adapted to context. This is particularly relevant to survey tools, as qualitative tools are less structured and therefore adapt more naturally to context through the interaction of the researcher and informant/participant.

Culturally appropriate, translated survey tools are defined as tools which are conceptually and technically equivalent to the source language, culturally competent, and linguistically appropriate for the target population (see CHAPS in Annex F. The process of cultural adaptation is one which aims to ensure that equivalent or corresponding concepts are used with different cultural groups in order that relevant questions are asked of, and understood by, informants. This increases the appropriateness of responses and the likelihood of internal validity (i.e. that the concepts are commonly understood between researcher and informant). Quantitative instruments in cross-cultural research (i.e. data collection involving different cultural groups) in particular, need to be selected carefully and to be methodologically rigorous, so as to ensure valid and reliable data (Willgerodt, 2003).

In sum, translated survey instruments should be conceptually and functionally equivalent for the comparison of data across different cultural groups, in order to:

- avoid discrepancies (Bowden and Fox-Rushby, 2003);
- be sure of full cross-cultural equivalence and validity (Bhopal et al, 2004);
- be confident that invalid conclusions are not being drawn.

Without intending to be a comprehensive guide, this section describes some of the lessons that Immpact has learned and gives some general hints about how to go about adapting tools.

### 9. Linguistic translation of evaluation tools

Literal translation enables tools to be technically equivalent to the source language and linguistically appropriate for the target population. Translation should be followed by rigorous field testing to ensure that they perform equally well in both languages (see Technical Annex A). Davison (2005) found a great diversity of translation methods used in research. However, three common methods are widely used, including:

1. ‘Standard’ back-translation (Brislin et al, 1973; Tamanin et al, 2002), which translates the translated version back into the source language;

2. The Mapi Research Institute method which begins with the definition of concepts followed by forward translation and reconciliation sessions with translators for back-translation. Interview sessions with target groups for validating the interpretation of the questions are also held (MAPI Research Institute, 2002);
3. Translation protocol, used in larger studies for international quality of life assessment. This is a comprehensive standardized translation procedure involving six professional translators and numerous reconciliation sessions. The quality and difficulty of translation are rated and separation of items and responses is unique to this method (Bullinger et al, 1998).

A number of procedures for translation of survey instruments have evolved since the 1960s, and well-established guidelines in the literature of linguistics and patient-assessed outcomes in cross-cultural research are also available (Bhopal et al, 2004). An ideal translation should be a multistage, multi-person endeavour involving professional translators, monolingual respondents who are representative of the target population, bilingual individuals whose first language is the source language and bilingual individuals whose first language is the target language (Willgerodt, 2003).

**State-of-the-art translation procedures** (Hunt and Bhopal, 2004)

- Translation of items by a team of bilinguals
- Comparison of translations
- Negotiation of ‘best’ items
- Consultations with people who are monolingual in the target language(s)
- Item refinement
- Field testing with monolinguals
- Refinement as needed
- Testing for face, content, construct, and criterion validity in each language
- Testing for reliability and responsiveness
- Statistical analysis of ratings of quality of translation across different countries

In practice it may not always be feasible to follow all of these recommended steps. Nevertheless, realistic costs and time for ensuring accurate translation (Calderon, 2000) should be included in research plans, time schedules and budgets.

Most of the procedures that have been developed to translate survey tools linguistically also explore the study concepts with the target groups to some extent and refer to the use of qualitative explorations of the concept with the target populations. Reference is made to the use of multiple translators, who are trained to a locally relevant standard and have in-depth understanding of the target population. Such cultural adaptation and knowledge are important to a greater or lesser degree depending upon the subject in question and the cultural variation of the population, and dedicated methods may be required for such adaptation and knowledge creation.

## 10. Using qualitative and participatory methods for the cultural adaptation of evaluation tools

Qualitative methods can be used as a first step in adapting research tools (Hunt and Bhopal, 2004). Focus groups, for example, can be used to conceive and develop surveys to validate their cultural appropriateness and the translation that was undertaken (Calderon et al, 2000; Willgerodt, 2003). Pilot studies can then help test changes that have been made.

Alternatively, participatory techniques may be used to gather information on local cultures and contexts, and common understandings of particular phenomena (Hunt and Bhopal, 2004). Techniques derived from participatory development methodologies (such as Rapid Rural Appraisal (RRA) or Participatory Learning and Action (PLA)) can help gather data to inform the translation and adaptation of survey tools.

***Some relevant PRA techniques***

- Secondary data sources and reports
- Direct observation and systematically asking, listening and learning about relevant issues
- Case studies and incident histories; group discussions of different kinds (casual, focussed, community)
- Mapping and modelling to show local world views; well-being grouping to establish local criteria for ill-health, deprivation and disadvantage
- Seasonal calendars and daily time-use analysis to show work patterns and activities

*Source*: Adapted from WHO,
Hhttp://www.who.int/docstore/water_sanitation_health/wss/O_M/tools9.htmH

Relevant anthropological or sociological studies from the study region which provide relevant, usable, information for the adaptation of tools, may already exist, and a search for such studies is probably the most practical first step in any adaptation process. However, it is likely that some or all of the methods noted above will need to be used to gain the specific information relevant to the particular tool to be adapted. For example:

- A researcher may wish to spend time in a health centre asking health providers and users about common cultural practices and beliefs related to relevant observed practices.

- A limited number of case histories could be gathered to gain insight into the ways in which community members understand and describe phenomena, and/or group discussions could be used to ascertain similar information, map world-views and assess local criteria (see 1.3.2 and 1.5 for more information).

- Seasonal calendars and time-use analysis are also useful exercises to be conducted either by observation or by interview and/or group discussion. These will not only help appropriately formulate tools which ask questions regarding such issues but also may help with planning the collection of data.

## 11. Adapting quantitative evaluation tools for maternal health research in different socio-cultural contexts

Immpact's experience of studies related to the reporting of maternal deaths at community level illustrates why the cultural translation of survey tools for the investigation of maternal health is particularly helpful. Qualitative studies were conducted in Ghana, Indonesia and Burkina Faso in order to understand the barriers and facilitators in reporting maternal deaths in the community. The rationale for the studies was that unreported maternal death at community level might be rooted in the community's perception, knowledge and behaviour as influenced by particular cultural and traditional values.

As well as documenting some of the related structural issues, the identification of different cultural concepts (as reflected in the language used to understand and describe maternal death) aimed to help develop appropriate verbal autopsy tools. Case studies of selected communities in the region were conducted and exploratory qualitative research methods, including in-depth interviews with key informants and focus group discussions in the selected communities, were employed to retrieve information on community's knowledge, perception and behaviour towards maternal health. Vignettes (illustrative case examples) presenting a variety of scenarios depicting situations of maternal health problems were used to guide and stimulate discussion.

### *Different perceptions of maternal death and its causes*

Amongst other comparative findings, the studies showed that, while there is a general understanding in all the communities that the causes of women's death during pregnancy are medical, many people still believe that the deaths are caused by, or somehow related to, supernatural forces. The terminology used to describe the circumstances of maternal death, and the nature of descriptions given in general, were thus based upon a combination of these beliefs and a generally somewhat limited knowledge and awareness of biomedical pregnancy complications. In addition, community members in many contexts often did not disassociate biomedical and supernatural causes from other contextual factors related to access to care, such as poverty. Sensitive issues in asking about maternal death were also identified: they included barriers in revealing pregnancy status related to fear of miscarriages, cultural taboos in the discussion of unwanted pregnancies, fear of blame or revenge, and avoidance of grief or the reminder of it.

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The use of vignettes in the focus group discussions was particularly revealing of the communities' knowledge and attitudes towards maternal death and the ways in which local terminologies related to maternal death are linked to such knowledge and attitudes. The findings illustrate that terminology may be very distinct and localized and also that local terminology may simply not exist for conditions which are unfamiliar or unrecognized at community level. For example, in many contexts, there was not a local term for eclampsia. Table 5.2, gives an example of why this information is important and how it might be used to adapt tools:

**Table 5.2: Example of Immpact cultural adaptation**

| ***Qualitative Study*** | ***Relevant information*** | ***Adapted tool*** | ***Means of adaptation*** |
|---|---|---|---|
| Community Barriers to Reporting of Maternal Death (Indonesia) | Local terms used to describe symptoms and circumstances of death;<br>Biomedical terms that will not be understood;<br>Common supernatural / spiritual / other reasons given for death;<br>Sensitive issues (e.g. induced abortion) | Appropriate formulation of the MADE-IN tool questions for different communities (see MADE-IN tool)<br>Training of MADE-IN data collectors | Key information taken from study reports as relevant to **tool development**, including:<br>▪ biomedical terms that require more description or translation into local terminology<br>▪ understanding of local beliefs which can be directly linked to particular symptoms and used to further explain questions.<br>Key information used (as above), and involvement in **training of data collectors,** by qualitative researchers in relation to:<br>▪ respect for local beliefs;<br>▪ need to enquire as to descriptions of physical symptoms (whether or not biomedical cause of death given);<br>▪ understanding of responses which may also include reference to non-biomedical causes and circumstances of death;<br>▪ the need to approach sensitive issues with caution and respect. |

As Table 5.2 illustrates, findings from qualitative studies can provide valuable insights into why tools to investigate maternal death need to be appropriately adapted, in particular in terms of the types of question which it is appropriate to ask and the most culturally sensitive way of asking questions in order to generate valid responses. Integration of knowledge regarding local practices, beliefs and terminology related to maternal deaths is also useful when training data collectors, so that they are able to employ culturally sensitive approaches to respondents and understand the responses. Inappropriate content, insensitivity of items and failure of researchers to make themselves familiar with cultural norms and beliefs can lead to measurement error. Ensuring that these issues are addressed can avoid such problems.

**Tips:**

- Set a realistic budget and timeframe for undertaking translation and adaptation procedures.
- Ensure accurate linguistic translation of survey questions (e.g. using translation and back-translation and other procedures noted earlier in this section).
- Employ qualitative and / or participatory methods to:
    - identify significant cultural beliefs and terminology related to maternal health and death;
    - identify sensitive issues.
- Use the findings from above to:
    - translate and adapt survey tools appropriately, by including questions and concepts which are linguistically and culturally appropriate for each community (and undertake thorough pre-testing when complete);
    - consider excluding potentially sensitive issues and/or develop means of approaching such issues with the necessary sensitivity;
    - incorporate knowledge regarding beliefs, terminology and sensitive issues into the training of data collectors.

# Annex D: Gender and the socio-cultural context in safe motherhood programme evaluations

### Introduction: Why focus on gender?

As a result of efforts by international agencies and non-governmental organizations to pay mainstream attention to gender inequalities, and the focus upon gender equity in the MDGs, increasing attention has been given to women's empowerment and gender.

Gender inequities can affect the success of programmes in most spheres. For programmes focussing upon women's health, it is particularly important to understand how traditional gender roles, power relationships, and women's autonomy affect the ways in which safe motherhood programmes function in different contexts. Even if a programme focuses upon women's health issues and if women are the end-users, this does not mean that issues related to gender are always taken into account. In order for safe motherhood evaluations to acknowledge all issues which influence the supply, demand and outcomes of maternal health programmes, it is necessary to examine relevant factors related to gender relations and roles, as well as developing an understanding of the socio-cultural context which affects these factors.

'Gender' refers to the **relative positions of women and men in society as reflected in their different roles and the power relations between them**. Hence, focusing on gender issues implies examining such roles and their implications for different aspects of women's lives. This includes the influence of gender roles on any intervention designed to affect women's lives, particularly in terms of factors related to the effective implementation of such interventions. It is important to remember, however, that gender relations will be differently articulated in each context and the implications of gender differences and gender relations for the effective implementation of interventions will vary accordingly.

The key question related to gender, therefore, is:

- **how is the effective implementation of an intervention affected by gender issues within each context?**

This question emphasizes the importance of investigating and measuring gender factors (including in any baseline research), since they contribute to:

- better understand of processes of provision and uptake of care;

- determining ways in which contextual factors influence the outcomes of programmes, thus enabling evaluations of the effectiveness of programmes in different contexts.

Since many countries have development targets related to gender and equity which may not necessarily be directly connected to safe motherhood programmes, focusing upon gender-related factors also means paying attention to the long-term effects of interventions on these targets. Thus, it is also important to:

- assess the long-term impact of programmes on gender equity targets.

Such an assessment implies that outcome evaluations should incorporate a **gender analysis of outcomes**. This is particularly important in relation to understanding how safe motherhood programmes may, or may not, contribute to the achievement of long-term equity targets. An analysis of this kind also increases understanding of the potential sustainability of programmes, because of the cyclical nature of gender issues and ways in which they may affect the successful implementation of safe motherhood interventions in the future (see figure 5.2)

## 1. How to integrate a gender perspective into safe motherhood evaluations

There are several means by which gender-related factors may be incorporated into safe motherhood programme evaluations. These include:

- Integrating gender status indicators, i.e. questions which aim to assess the relative status of men and women, into relevant tools;

- Highlighting gender issues where relevant in all data analysis, e.g. ascertaining whether the perceived value of women's input to the household is related to willingness to pay for maternal health services, or whether gender-based violence is related to certain maternal outcomes;

- Developing tools and methods specifically for the exploration of particular gender issues, e.g. the effect of gender hierarchies, power relationships and stereotypes in the health system on team dynamics and quality of care; whether beliefs about women's bodies and/or women's autonomy to travel affect the likely uptake of care.

## 2. Gender research methodologies

When thinking about integrating gender issues into an evaluation, and especially when developing dedicated tools, certain methodological approaches are considered particularly useful. Capturing the particular experiences of women and the issues which are important to them in their everyday lives is not always easy using standard approaches. In many societies, women's perspectives and experiences have not been considered to be either distinct from, or central to, those of men. Research methodologies are not necessarily immune to masculine bias of this kind. Hence, it is important to include in evaluations:

- Data disaggregated by sex
- Gender analysis (i.e. an analysis of the relationship between gender status and many different factors – see above and below)
- Inclusion of gender-related factors relevant to processes of provision and uptake of care in study design and tools
- Qualitative methods

**Qualitative methods** are considered especially important in the investigation of gender issues because they enable the researcher to identify and investigate issues which might not appear immediately obvious (see Technical Annex B).

In particular, qualitative methods which are used to investigate gender often focus upon the capture of **'genealogies'** (experiences and life histories of those who may be more marginalized or silenced – experiences often lost behind more powerful discourses in society) (Foucault, 1980; Wieringa, 1995) and the use of **participatory methods** in which priority is given to the voices and interpretations of informants (see Technical Annex B for more detail on potential conceptual gaps between researcher and participant). Qualitative methods also offer a particular means of investigating issues in more depth by the exploration of the complexity of experiences and relationships. This is useful for investigating the dynamics of gender relations in different socio-cultural contexts. Qualitative approaches used in gender research often emphasize the need to account for the interaction between the researcher and the 'researched' both in data collection and in the interpretation of findings. The power relationships between the researcher and the respondent and the different positions they may adopt can affect their understanding and the representation of important factors and influences.

## 3. Gender status indicators

As noted above, gender status indicators assess the relative status of men and women, as well as perceptions of self-worth, particularly in relation to control and ownership over one's own body ('bodily integrity'). The particular aim of such indicators is to capture intra-household, as well as societal, inequalities. These are important to enable a **gender analysis of processes of provision and uptake of care and outcomes** (as well as of the baseline situation prior to intervention). In other words, an analysis can be conducted of the relationship between relevant factors and different aspects of gender status.

There are several gender status indicators which it may be helpful to consider integrating into a variety of tools. These include:

*Relative status:*

- age at first marriage and at first pregnancy/birth (relative to national averages)
- age/education/occupation/income of women relative to men (wife to husband)

*Attitudes:*

- bodily integrity / perceptions of self-worth
- acceptability of gender-based violence (societal and intra-household)
- acceptability of female genital cutting (where relevant)

There are many other indicators which could be included. Immpact's ongoing innovative work in this area (which aims to create a composite measure of gender status), however, uses indicators such as those noted above since they are available from existing Demographic and Health Survey (DHS) data. This means that the questions are fully validated, and comparative data are available from different countries. Indicators which are related, in one way or another, to health-seeking behaviour, health status, or reproductive behaviour and attitudes are not included since this may confuse cause and effect and make it difficult to analyse such factors themselves in relation to non-health-related gender status.

There are, however, various sources of relevant gender indicators. As mentioned above, **DHS** often includes gender modules. Similarly, the Gender-related Development Index and the Gender Empowerment Measure also include relevant indicators. It should be borne in mind, however, that some of these are relevant only at national, rather than individual, levels (e.g. levels of male and female political participation). Therefore, they are not necessarily appropriate for use in safe motherhood evaluations: these require an analysis of individual level gender status indicators in relation to a variety of factors.

## 4. Gender as related to processes of provision and uptake of care

Many gender issues are cross-cutting and can be influential at different points in an evaluation, both in relation to processes and to outcomes. Figure 5.2, indicates this nexus of gendered relations, causes and effects:

### *Exploration of processes: demand side (community)*

The particular gender issues which are most relevant to investigating the demand side of processes are:

- Decision-making autonomy
- Access to / control over household resources
- Gendered division of labour
- Ability to travel independently
- Cultural norms, beliefs, and taboos concerning women's roles, pregnancy and birth

Some examples of questions which relate to the demand side and which can be considered in the design of an evaluation include:

- Can all factors in relation to access be identified and 'mapped'? (see figure 5.2) to avoid the assumption that uptake of services is related solely to either acceptability (often reduced to perceptions of quality of care and cost) and/or geographical/transport issues?

- How can factors which determine utilization be systematically identified?

- Is the programme appropriately shaped in a way which either changes these factors or negotiates around them?

- How can the success of programmes in meeting local needs and being culturally sensitive in ways which genuinely encourage utilization of services be measured?

- In order to target and focus programmes appropriately, how can it be established which women with complications (for example according to poverty or gender status) are more likely to have access to skilled attendance / emergency obstetric care? (Different issues affect access for different sectors of the population.)

***Exploration of processes: supply side (health service provision of care)****:*

The particular gender issues which are most relevant to investigating the supply side of processes of delivery of care relate to the health system and may include quality of care issues as well as informal costs. These include:

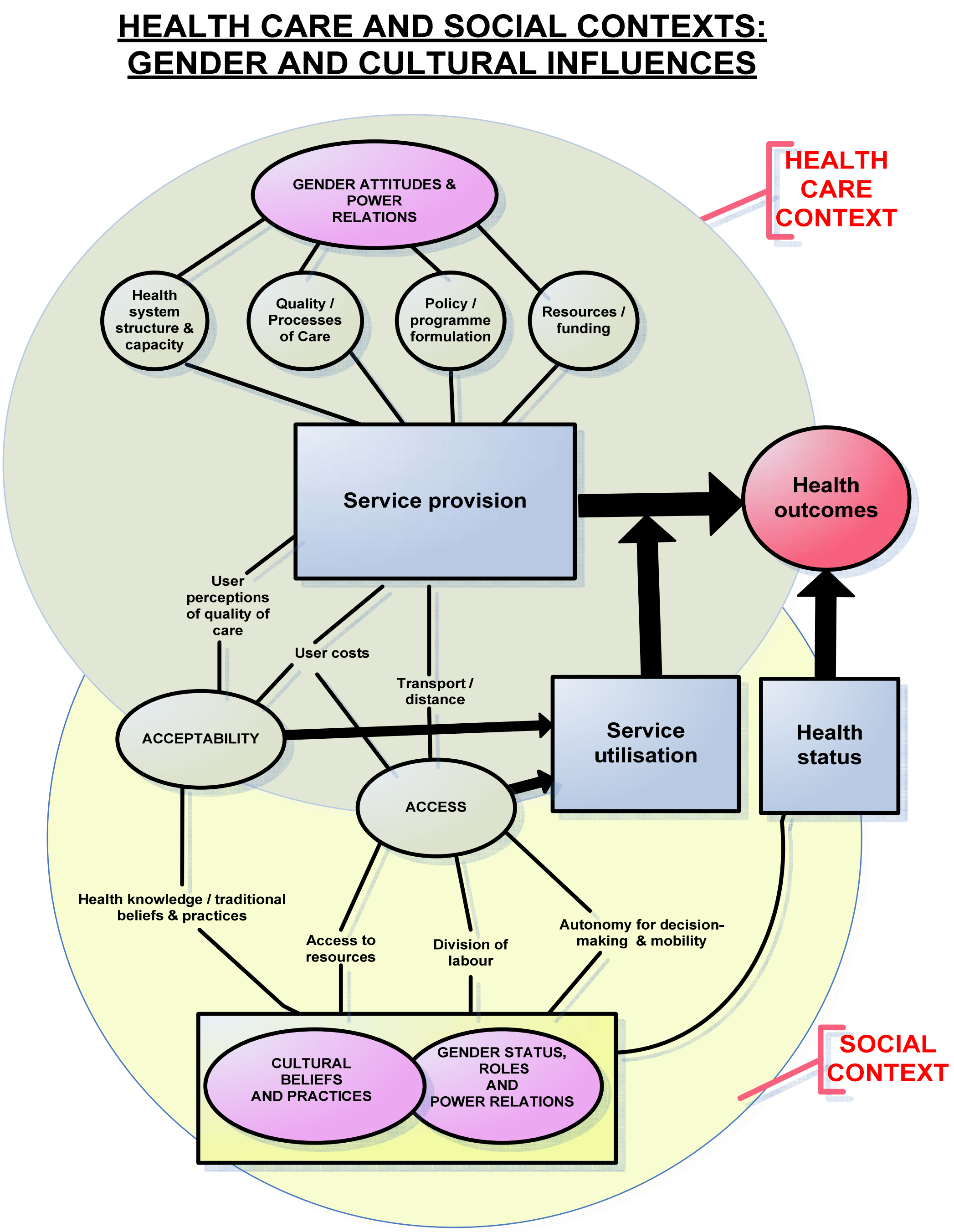
- Provider perceptions of women users and their families
- Status and motivation of providers, and team dynamics (e.g. relative status, salary, and/or conditions of female and male staff)
- Effect on motivation to seek care (re: supply/demand side link)

Some examples of questions which relate to the above issues and which can be considered in the design of an evaluation include:

- How can quality of care be assessed in terms of meeting cultural needs (e.g. gendered taboos and customs, non-harmful cultural practices related to birth and pregnancy) as well as clinical needs? How is this linked to motivation for utilization?

- What are the gendered hierarchies and power relations within the obstetric services (and the health system in general) which affect quality of care (e.g. status and relative salary/conditions of female/male staff as affecting motivation / informal payments etc)? How can these be measured and improved?

- What are the gender attitudes of staff towards women patients that affect the quality of care they offer? How can these be measured and improved?



HEALTH CARE AND SOCIAL CONTEXTS: GENDER AND CULTURAL INFLUENCES

**Figure 5.2: Health care and social contexts: gender and cultural influences**

### 5. Non-health outcomes: gender issues, impact on equity targets and sustainability

As noted above, focusing on gender issues may also imply looking at how programmes affect gender equity targets and sustainability in the long run. These may be assessed by appropriate gender and equity analysis of outcomes, such as maternal deaths e.g. the Familial Technique (Graham et al, 2004) and/or near misses by specific cause. Figure 5.3 indicates how and why the long-term impact of these outcomes should be considered in this way:

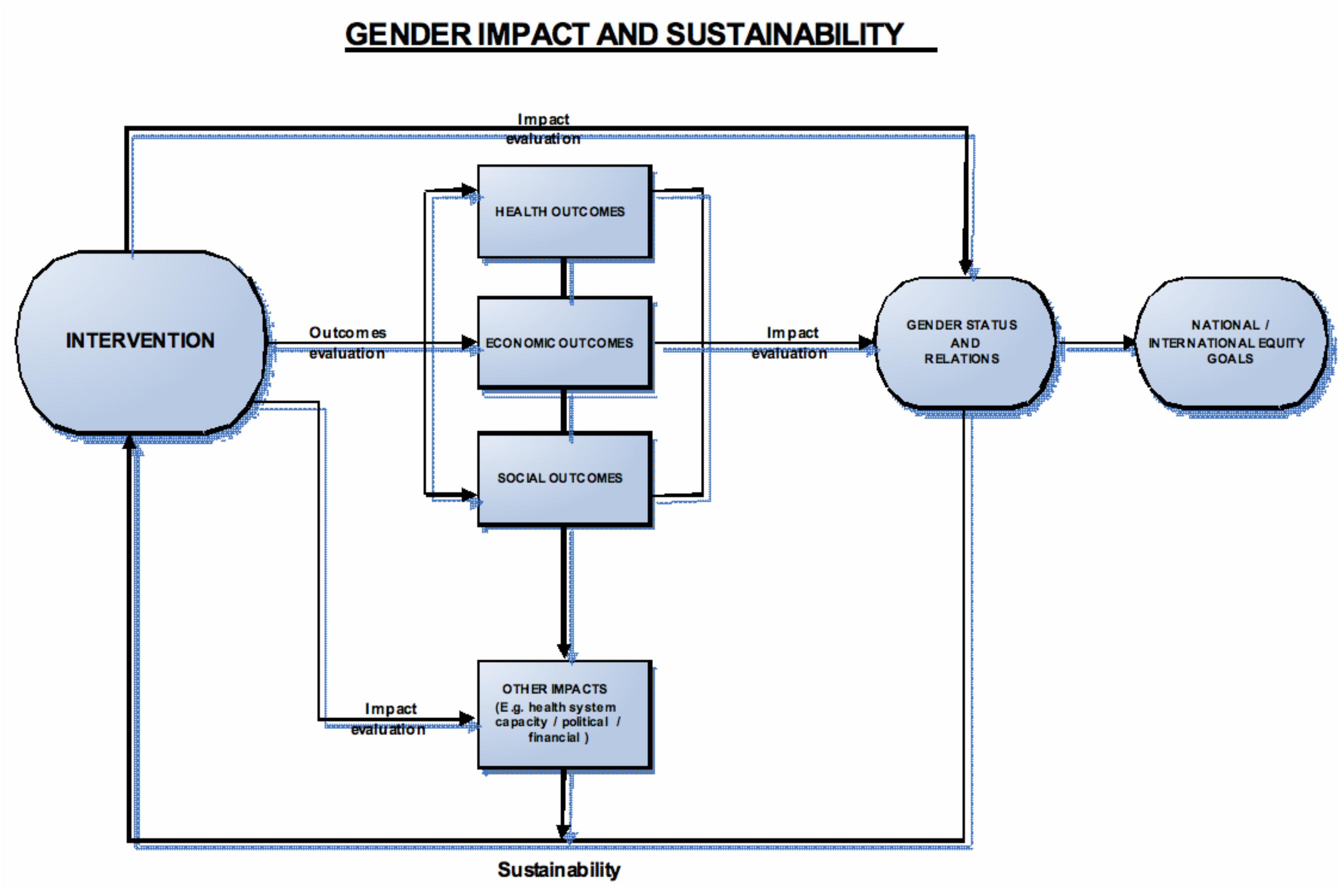


**Figure 5.3: Gender impact and sustainability**

Figure 5.3 illustrates that an intervention can have a variety of **outcomes** which may be broadly grouped into three categories: health, economic, and social outcomes. In other words, as well as the obvious health outcomes of an intervention, there can be other outcomes such as, for example, the effect of a woman's stay in hospital on the social and economic well-being of a household. These outcomes will themselves have other, longer-term and/or more indirect **impacts**, including impacts on gender status and relations. In the above example, the inability of a woman to carry out her usual household tasks or look after her children, and the cost of her care, may have a negative impact on the perception of her value to the household. On the other hand, interventions which include a component aimed at increasing priority for maternal health care by highlighting the value of the woman to the household may positively impact upon gender status and relations more generally. Both negative and positive impacts of this kind can affect more wide-ranging gender equity targets. They will also play a role in the sustainability of interventions because (as shown in Figure 5.3) ongoing gender roles and relations can affect future utilization of care.

# Annex E: Primary data collection: standards and principles checklists

This section includes two checklists of standards and principles for primary data collection:

1. **Quantitative** standards and principles checklist
2. **Qualitative** standards and principles checklist

These checklists are field-based management tools which facilitate planning for evaluations, and assure some standardization of procedures across data collection activities.

## 1. Quantitative standards and principles checklist

**NAME OF CAPTURE: _________________________LOCATION:___________________ SUB STUDY:________________**

**EXPECTED TIMING:_________________________ LEAD INVESTIGATOR(S):_____________________DATE:__________________**

| Topic No. | Major theme/stage | Issue | Good practice | Status | Comment |
|---|---|---|---|---|---|
| 1 | Background | Secondary research | Has a literature search (national and international) been undertaken, including identification of existing tools? | | |
| | | Objectives | What are the primary and secondary objectives? | | |
| | | Justification for primary capture | Have you identification of any secondary sources? | | |
| | | Skills mix | Specialist expertise; core team; stakeholders | | |
| | | Immpact resource | Are you aware of existing tools/programs/analysis plan available and adaptable from previous Immpact activities? | | For quantitative surveys, any new data collection activity should utilize data programs and approaches used in previous Immpact surveys (i.e. the first survey to go to the field will reflect Immpact standards and principles). We accept that there will be an adaptation process necessary as we move from one survey to the next. |
| 2 | Study design | Options appraisal | Have you explored alternative designs and can justify your recommended choice? | | |
| 3 | Sampling | Design | Do you have a written sampling plan? A written sampling plan is required for quantitative or qualitative data collection. For quantitative surveys, have you considered whether the sample is weighted or unweighted? (this is a country-specific decision which should be taken in consultation with a sampling statistician). | | Referring to the DHS sampling manual may be helpful. |
| | | Size | Can you justify/specify the sample size requirements (statistically), | | |

| Topic No. | Major theme/stage | Issue | Good practice | Status | Comment |
|---|---|---|---|---|---|
| | | determination | including assumptions made? Have you consulted a sampling expert? | | |
| | | Feasibility assessment | Has there been a discussion and conclusion regarding the feasibility of the required sample size? | | |
| | | Field preparation | For quantitative surveys, do you have an updated sampling frame? The steps required to select a sample of households will depend on whether you begin with a sampling frame of villages or of households.<br>Immpact acknowledges that the ideal is to have an advance selection of households based on a listing of individual households that is no more than 2-3 years old. However, where this does not exist and/or it is not feasible to undertake a house to house listing in advance, then the preferred option should be: the selection of clusters; and then an advance listing team is sent to the enumeration area to identify households. Exactly how that advance team works can be decided locally, in consultation with a sampling statistician. | | |
| 4 | Analysis plan | Variable/theme inventory | Do you have a listing of the variables (for quantitative studies) or themes (for qualitative studies) needed for the analysis? Can you prioritize them? | | |
| | | Dummy tables | For quantitative studies, do you have a fairly detailed analysis plan? | | |
| 5 | Instrument development | Number of instruments | Will you have just one instrument or multiple? Will a modularized instrument be used? | | |
| | | Survey considerations | Surveys are of women of reproductive age, which is defined as 15-49 in Immpact studies. If there are special reasons to include lower age levels (induced abortion), go ahead and justify it accordingly.<br>There should be a core set of asset questions in the HH schedule. This will enable a degree of international comparison for the use of | | |

| Topic No. | Major theme/stage | Issue | Good practice | Status | Comment |
|---|---|---|---|---|---|
| | | | wealth quintiles – i.e. follow the DHS. However, in specific contexts, it may be a good idea to complement the assets with country-specific assets (particularly to pick up urban/rural differences).<br>The Immpact principle is that everything that can be done should be done (i.e. train interviewers to probe, etc.) to have complete date of birth information (this is true for the woman's age/date of birth, as well as all of the information in the pregnancy/birth history). For example, every completed questionnaire should be checked in the field to guarantee that at least year of birth is recorded.<br>The general Immpact approach will be the use of a truncated pregnancy history. The length of the window of interest (1,3,5 years) can be decided in-country and may well be determined by the evaluation question. Please note: a pregnancy history involves collecting data on all pregnancy outcomes (not just pregnancy losses after seven months) and outcomes from live births.<br>Within a country, there should be consistency across data collection efforts (facility and population-based efforts) to record similar variables in the same manner (age, education, etc.). This will facilitate data analysis and interpretation. This is an in-country responsibility. | | |
| | | Back-translation | Has this been undertaken? | | |
| 6 | Protocol development | Ethical approval | Do you have approval at all the requisite levels/institutions? | | |
| | | Outsourcing | Will this be conducted by the Immpact partner or sub-contracted? | | |
| | | Budget | Are you aware of the likely funds available from Immpact? Are envisaging co-funding from other sources? | | |
| | | Data processing | How, where and who will manage the data processing? | | |

| Topic No. | Major theme/stage | Issue | Good practice | Status | Comment |
|---|---|---|---|---|---|
| | | plan | | | |
| 7 | Pre-test/pilot | Quality control | Will the pretest/pilot help you devize a quality control system for the main data collection? This system should be in place at the beginning of data collection and should include not only the procedures to check quality but also a plan for correcting mistakes that are discovered. | | |
| | | Length of interview | Will you be able to measure the duration of interviews? In principle, Immpact would not expect to endorse interviews longer than, on average, 45 minutes? | | |
| | | Incentives | We recognize that incentives for respondents, key informants, or possibly even facility staff may be necessary according to local, national norms of practice. | | |
| 8 | Training of team | Interviewer training | Do you have a specific training plan for data collection? That is manuals for various fieldworkers (interviewers, team supervisors, data entry staff, etc.) | | |
| | | Call-backs | There should be a minimum of two visits. If the team is in the enumeration area for three days, then three visits should be made to complete the interview. | | |
| 9 | Conduct of capture | Operations manual | For quantitative studies, a number of manuals will be needed prior to beginning fieldwork. For example: how to select households (whether they are selected in the office OR in the field); interviewer trainers; interviewers, team supervisors, data entry staff. For qualitative studies, interviewer manuals should be developed | | Note: some of these 'manuals' will be large and very detailed documents. Others may simply be 2- 3 pages of instructions. The important thing is that we have documented the way we want to have data collection happen. This is for both educational purposes (ie, for interviewers) and also for the purposes of developing the Immpact toolkit. |
| 10 | Data management/analysis | Double entry | For quantitative studies, double data entry, specifics regarding field editing of the questionnaires and specifics regarding data cleaning will be determined by Immpact staff for the first survey to go to the field. Surveys which follow should use/adapt existing | | |

| **Topic No.** | **Major theme/stage** | **Issue** | **Good practice** | **Status** | **Comment** |
|---|---|---|---|---|---|
| | | | programs and approaches. | | |
| | | Data storage/back-up | Do you have a written plan for regular backing up of data and for data storage? This includes: hard copy questionnaires, electronic data files and possibly taped interviews? | | |
| | | Imputing | For quantitative studies requiring the collection of dates and ages, the program that is developed for the first survey to go to the field should be used and adapted for surveys that follow. | | |
| 11 | Data analysis | Sample Weighting | Have you identified the statistician who will calculate the sampling weights for analysis? | | |
| 12 | Dissemination | | Do you have a plan for dissemination? | | |

## 2. Qualitative standards and principles checklist

| ***Issue*** | ***Questions posed to ensure good practice*** |
|---|---|
| **1. BACKGROUND** | |
| Research question/ Objective(s) | Have you specified the objectives of the research?<br>Have you ensured that the objective(s) relate to the research question(s)? |
| Secondary research | Has a literature search (national and international) been undertaken to identify material generated by other studies addressing similar areas, conceptual frameworks, and suitable theoretical and methodological approaches, and to determine how this study might contribute to the field?<br>Have you documented how this literature search has informed your study design and objectives? |
| Resources | Are you aware of relevant comparable studies that may be of use in your work?<br>Do you have staff with relevant expertise and experience for advice?<br>If staff with relevant expertise are not available, have you contacted other external experts? |
| **2. STUDY DESIGN AND METHODS** | |
| Options appraisal | What is the justification for your choice of methods, such as focus groups versus individual in-depth interviews? |
| Complementarity with other evaluation studies | Have you considered the degree to which you can combine different components of the evaluation, such as whether<br>• data gathered during qualitative work can help to inform adaptation of the quantitative instrument and/or the analysis of quantitative data?<br>• your approach, perspective or findings can inform the development of other studies?<br>• you can combine resources and efforts regarding recruitment, interview/topic guides and analysis of results? |
| **3. ETHICS** | |
| Usefulness of study | Have you outlined clearly the value of the study in terms of its general public health benefit (as well as to the evaluation as a whole)? |
| Participants/ Informants | Can you justify your interactions with, and any demands placed upon, participants/informants? Are they selected appropriately and sensitively? Are they afforded an easy and dignified way to refuse? |
| Methods | Have you considered how to conduct your research with sensitivity in terms of approach to sensitive subjects, timing, place, etc.? |
| Confidentiality and anonymity | Have you ensured that the identity of your respondents will not be revealed e.g. are you using respondent codes in field-notes, tapes and transcripts?<br>Will you be able to ensure that personal information does not identify interviewees? (See 'Informed consent' below) |
| Informed consent | How have you ensured that you receive and record informed consent from all participants/informants?<br>Have you ensured that the information you give is sufficient for the consent given by participants/informants to be truly 'informed'?<br>If there is a possibility, however small, of a participant/informant being identifiable through personal information, is this made clear? |

| ***Issue*** | ***Questions posed to ensure good practice*** |
|---|---|
| | How will you manage a variety of levels of literacy among respondents, e.g. giving participants/informants an appropriate record of essential information, recording informed consent?<br>How will you manage obtaining informed consent in different settings (e.g. telephone interviews, home, health facilities)? |
| Incentives and/or compensation | Can you justify, from an ethical perspective, the rewards and compensation you offer participants for participation the study? |
| Ethics committees | Have you received approval for your study from all the appropriate committees in your own country and in the countries in which you undertake the research? |
| **4. OPERATIONALIZATION** | |
| Human resources | Who will conduct the research (e.g. you, another researcher, specially recruited interviewers/observers, subcontractor)?<br>Are the roles of all personnel clearly defined?<br>Are researchers selected with sensitivity to gender, age, race, tribe, professional status, language, etc? |
| Field researcher training | How have you ensured that<br>• the researchers possess the appropriate skills for the types of interviewing / focus group / observation, recording and analysis required by the study?<br>• experienced researchers are available for advice during the study?<br>• every member of the team understands the research questions, objectives, methodology and design of the study?<br>• everyone using the interview/observation guide has understood the themes and questions? |
| Field preparation | Have you conducted a pilot study to ascertain recruitment procedures, feasibility of travel (e.g. seasonal fluctuations, religious holidays, etc), appropriateness of interview/observation guide (length, acceptability, etc)? |
| Budget | Have you budgeted for all anticipated activities?<br>Are you aware of the likely funds available? |
| Incentives and/or compensation for time and travel | Have you enquired about local norms regarding incentives/compensation given to research participants/informants?<br>Have you identified specific issues and constraints with regard to following such practices? |
| Equipment | Have you planned your equipment requirements? Is the equipment affordable? Is it feasible? Have all relevant parties been consulted? |
| Timelines | Have you documented your timeline? |
| **5. DATA COLLECTION** | |
| Selection of participants/ informants | Have you justified the selection of the study site?<br>Do you have a written plan detailing<br>• number of participants/informants?<br>• criteria for selection of participants/informants?<br>• recruitment method?<br>Have you justified the selection of participants/informants in accordance with |

| ***Issue*** | ***Questions posed to ensure good practice*** |
|---|---|
| | • specific characteristics of the community relevant to the research question?<br>• practical constraints (e.g. time, financial and human resources, sampling needs of other components of the evaluation )?<br>Have you taken into account the feasibility of the estimated number and types of participants/informants?<br>Have you taken into account the additional burden of repeated interviews/contact? |
| Access and recruitment methods | Have you justified your means of gaining access to participants/informants?<br>Have you ensured that your participants are participating on the basis of full understanding of their commitment and other essential information (see 'Informed consent')?<br>Have you considered the nature of the source of your participants/informants (e.g. facility, community)? |
| Interview / topic / observation guides (see Methods, above) | Does your interview or topic guide address your research questions?<br>Did you conduct pilot work to inform the development of your guide and if so, how did it inform formulation of the guide?<br>Have you ensured that your interview/observation guide and related prompts do not lead your respondent (more than is unavoidable)?<br>Have you considered how you will incorporate emerging themes and questions arising from ongoing analysis into revized versions of the guide?<br>For unstructured fieldwork, are all researchers aware of the framework and themes and well-versed in the overall objectives of the research? |
| Language<br>(see Technical Annex C) | Are interviewers familiar with local terms and concepts?<br>If using a semi-structured guide, has it been translated and back-translated (semantic and conceptual translation: see linguistic and cultural translation section)?<br>Do you have clear guidelines on<br>• whether it is appropriate to use interpreters (i.e. for specific forms of data collection and with specific groups of participants/informants)<br>• what skills the interpreters should have and other requirement they should meet (e.g. sex, age, inter-personal skills, linguistic proficiency)?<br>• procedures to ensure accurate interpretation? |
| Troubleshooting | Do you have clear guidelines on how the researcher should<br>• manage unexpected events during the fieldwork (e.g. participation by other people, interruptions)?<br>• deal with unanticipated, relevant themes and issues arising during fieldwork?<br>• manage requests for advice, information, help, etc.?<br>• manage suspected or recognized need for help (e.g. bereavement support, domestic violence support)?<br>Have you discussed the issue of continued contact between researcher and participant/informant? How will this be documented or accounted for during the interview/observation (as well as in the analysis of data)?<br>Are interviewers familiar with local terms and concepts? |
| Tape-recording | • Have you asked permission to tape-record? |

| ***Issue*** | ***Questions posed to ensure good practice*** |
|---|---|
| | • Do you have equipment of sufficient quality to ensure that voices are intelligible in recording?<br>• Do you have procedures in place to ensure that recording equipment functions properly (e.g. batteries, charging, tapes, microphones, headphones or speakers for playback)?<br>• Have you considered back-up methods (e.g. using a second tape-recorder or taking notes)? |
| Data management and storage | Who will be responsible for the data?<br>Where will the data be stored (i.e. tape storage and labelling, management and organization of transcripts, etc)?<br>Are tapes stored in a secure location?<br>Do you have a plan for backing up data (e.g. making digital copies, hard copies, making copies of tapes before they are sent for transcription)?<br>Do you have procedures for protecting the identity of respondents in stored data?<br>How will data be distributed/shared between research participants/informants and others in the evaluation team? |

# Annex F: List of resources relevant to safe motherhood programme evaluation

In addition to the Immpact tools described in the previous modules, there is a wide range of methods, instruments and tools available which can be utilized for the monitoring and evaluation of safe motherhood programmes. This section lists a selection of resources used for measuring, monitoring and evaluating indicators related to safe motherhood, as well as training resources that can be used to build the capacity of local research teams to conduct evaluations. The list is not meant to be exhaustive, but rather provides an indication of the range of useful tools that exist in this area. An alternative approach to accessing resources is a newly-created public domain web resource which will serve as a hub for all resources related to maternal mortality measurement (www.maternal-mortality-measurement.org), which will include all relevant tools from Immpact research as well as other sources. Please check the Immpact website for a direct link to this new website which is anticipated to be completed by October 2007.

The Immpact tools listed in the previous modules were developed to overcome limitations of other tools, and to complement the scope and versatility of the methods and instruments already available.

The following sections with relevant resources are included:

1. Survey instruments
2. Measurement of maternal mortality
3. Collections of instruments for safe motherhood evaluations
4. Facility-based evaluations
5. Costing instruments
6. Indicators, outcomes and design
7. Data collection, analysis and data quality
8. Qualitative resources
9. Adaptation of instruments
10. Training resources

## *1. Survey instruments*

- **Demographic and Health Survey (DHS)**

  ***Maternal Mortality Questionnaire (2003-present)***
  Part of the larger DHS. a specific module on maternal mortality which asks questions using sibling history methods to estimate maternal deaths.
  http://www.measuredhs.com/basicdoc/Modules/DHSV/DHS5%20Module%20Maternal%20Mortality%2020%20Oct%2005.pdf

  ***Other DHS modules***
  http://www.measuredhs.com/aboutsurveys/dhs/questionnaire_archive.cfm#2

- **Service Provision Assessment (SPA) Survey (DHS)**
  Introduced by MEASURE DHS in 1999. National health facility surveys that collect data on various characteristics of a country's health services including quality, utilization and availability. SPAs focus on five service areas: maternal health, child health, family planning, STIs and HIV.
  http://www.measuredhs.com/aboutsurveys/spa.cfm

- **Multiple Indicator Cluster Survey (MICS) (UNICEF)**
  Originally created in 1995 to measure progress toward goals set out in the *World Summit for Children*. A population-based survey with three modules measuring household, women's and children's characteristics. The Women's Questionnaire examines knowledge and attitudes about a range of maternal health topics in addition to maternal and neonatal outcomes.
  http://www.childinfo.org/mics/mics3/

- **Reproductive Health Questionnaire: The Arab Family Health Survey (PAPFAM, 2000)**
  A component of the PAPFAM (Pan Arab Project for Family Health) survey developed by the League of Arab States. Gathers information on indicators of maternal health including antenatal, delivery and postnatal care in addition to other reproductive health areas.
  http://www.cpc.unc.edu/measure/publications/pdf/ms-02-09-tool07.pdf

- **Knowledge, Practices and Coverage Survey (KPC 2000+) (ORC Macro / CORE / USAID, 2000)**
  A survey focused on child survival, containing multiple modules on maternal health. Measures maternal knowledge and practices in four areas: prenatal care, delivery and immediate newborn care, postpartum care and child spacing.
  http://www.childsurvival.com/kpc2000/kpc2000.cfm#FieldGuide

- **The Maternal and Neonatal Programme Effort Index (MNPI) (The Futures Group International, 1999)**
  Measures the ‘effort’ made by national programmes to address the reduction of maternal and neonatal mortality and morbidity (i.e. strength of effort put into programme development and input). Designed as a questionnaire to be administered to in-country maternal and neonatal health experts.
  http://www.cpc.unc.edu/measure/publications/html/ms-02-09-tool17.html

## *2. Measurement of maternal mortality*

- **Beyond the Numbers: Reviewing Maternal Deaths and Complications to Make Pregnancy Safer (WHO, 2004)**.
  Presents and evaluates a selection of methodologies for measurement of maternal mortality, including facility-based maternal death reviews, confidential enquiries into maternal deaths, surveys of severe morbidity (near misses), and clinical audits.
  http://www.who.int/reproductive-health/publications/btn/text.pdf

- **Measuring Maternal Mortality from a Census: Guidelines for Potential Users (MEASURE Evaluation Project, 2001),**

  The purpose of this publication is to produce guidelines for countries interested in using the census as a source of data for maternal mortality measures.
  http://www.cpc.unc.edu/measure/publications/pdf/ms-01-04.pdf

- **Measuring maternal mortality via a census: guidelines for potential users (MEASURE Evaluation Project, 2001)**
  This resource aims to document and evaluate experiences of measuring maternal mortality from a recent census in developing countries, to encourage countries to build upon these experiences, and to compile recommendations for Statistical Offices considering using the census methodology for maternal mortality estimates.
  http://www.cpc.unc.edu/measure/publications/pdf/ms-01-04.pdf.

## *3. Collections of instruments for safe motherhood evaluation*

- **Monitoring Birth Preparedness and Complication Readiness: Tools and Indicators for Maternal and Newborn Health (JHPIEGO / Family Care International, 2004)**
  Defines a set of indicators for evaluating safe motherhood programmes at multiple levels: individual women, families, communities, health facilities, providers and policy makers. Presents a collection of tools designed to measure the indicator set.
  http://www.jhpiego.org/resources/pubs/mnh/BPCRtoolkit.pdf

- **Instruments for the Design and Evaluation of Maternal Mortality Programmes (Centre for Population and Family Health, Columbia University / UNDP, 1997)**

A collection of instruments designed to assess a broad range of aspects related to maternal mortality programmes. Tools measure availability, utilization and quality of services in addition to attitudes within the community.
http://www.mailman.hs.columbia.edu/popfam/pubs/docs/append_a.pdf

- **Compendium of Maternal and Newborn Health Tools (MEASURE Evaluation)**
  The compendium includes a variety of population- and facility-based assessment tools that use both qualitative and quantitative approaches and that can be used in at different levels of the health system.
  http://www.cpc.unc.edu/measure/publications/html/ms-02-09.html

- **Research Tools Database (Johns Hopkins University Bloomberg School of Public Health/Center for Communication Programs (JHU/CCP))**
  This online resource contains a selection of different research instruments and tools on sexual and reproductive health including maternal health, used by the JHUCCP's international programmes. Approaches range from large population-based surveys to smaller focused activities that collect in-depth information on a specific topic.
  http://www.jhuccp.org/research/researchDB/

- **SAFE Strategy Development Tool (SAFE International Research Partnership, The Dugald Baird Centre for Research on Women's Health, University of Aberdeen, 2003)**
  A guide for developing strategies to improve skilled attendance at delivery, which enables programme managers in developing countries to systematically gather and interpret information and to plan for strategies to increase the proportion of deliveries with skilled attendance. This takes advantage of a variety of research methods to help programme managers and policy makers assess the skilled attendance situation and develop strategies to improve skilled attendance. The tool consists of five modules which guide users through key informant interviews, focus groups, and a comprehensive review of existing skilled attendance data.
  http://www.abdn.ac.uk/dugaldbairdcentre/safe/resources.hti

### *4. Facility-based evaluations*

- **The Safe Motherhood Needs Assessment (WHO, 1996; 2002)**
  A rapid survey that evaluates availability, quality and utilization of maternal and newborn services at all levels of care and identifies gaps in service provision.
  http://www.who.int/reproductive-health/MNBH/smna_index.en.html

- **Guidelines for monitoring the availability and use of obstetric services. (UNICEF/WHO/UNFPA, 1997)**
  Proposes facility-level process indicators to assess availability, use and quality of essential obstetric care services.
  http://www.unicef.org/health/files/guidelinesformonitoringavailabilityofemoc.pdf

- **COPE® for Maternal Health Services: A Process and Tools for Improving the Quality of Maternal Health Services (EngenderHealth, 2001)**
  The COPE® (client-oriented, provider-efficient) strategy provides an approach for health facilities to monitor the quality of their maternal services and responsiveness to client needs. Services addressed include antenatal, routine labour and delivery, emergency obstetric (including post-abortion) and postpartum care.
  http://www.engenderhealth.org/res/offc/qi/cope/toolbook/maternal.html

- **Quality Improvement (QI) for Emergency Obstetric Care Toolbook: An Adaptation of COPE® (EngenderHealth/AMDD, 2003)**
  A collection of five instruments designed to assess quality of care in emergency obstetric (EmOC) facilities. Each instrument is a stand-alone tool that can be used by itself or in conjunction with others. All are aimed at informing a continuous quality improvement process.
  http://www.engenderhealth.org/res/offc/mac/emoc/index.html#qi-emoc

- **Maternal, perinatal and neonatal mortality case review tool (MotherCare, 1994)**
  A mortality case review is a method of identifying the principle causes contributing to a death through an in-depth review of the events preceding the death. MotherCare developed a standardized case review tool for examining causes of maternal, perinatal and neonatal deaths in communities in Bolivia and Bangladesh.
  http://www.cpc.unc.edu/measure/publications/html/ms-02-09-tool14.html

- **Criterion-Based Audit Manual (AMDD and Columbia University, 2002).**
  This book is intended to be a user-friendly, straightforward resource for the people involved in conducting an audit of maternal health care. It is designed for use by district or facility level physicians, midwives and nurses, administrators, directors, and other health professionals committed to improving the quality of emergency obstetric care by identifying weaknesses and acting on recommendations. http://www.amdd.hs.columbia.edu/docs/AuditEnglishFinal.pdf

- **Criterion-based clinical audit (Dugald Baird Centre for Research on Women's Health and Immpact, University of Aberdeen, 2003).**
  A computer-assisted learning package providing health professionals and managers with a tool to help improve the quality of health care in developing countries through the use of criterion-based audit. The package is based on research conducted in Ghana and Jamaica that focused on improving emergency obstetric care at the district hospital level, but can also be used in other types of health facilities, such as tertiary hospitals or health clinics.
  http://www.abdn.ac.uk/immpact/cbca/

- **The enabling environment: assessing quality and availability of skilled care: Technical Brief (Family Care International, 2005)**
  This technical brief reviews the elements of the enabling environment that are critical for the provision of skilled care, and provides an overview of FCI's methodology for assessing the quality and availability of skilled care.The brief also summarizes baseline findings from FCI's intervention districts.
  http://fci.expressiondev.com/UserFiles/File/pdfs/sci_techbrief_assess.pdf

### *5. Costing instruments*

- **Cost Study of Maternal Health Services (Abt Associates)**
  Contains nine instruments used together for estimating unit costs of maternal health services. Also evaluates quality and effectiveness of services using both health-facility-based and community-based data.
  http://www.cpc.unc.edu/measure/publications/html/ms-02-09-tool29.html

- **Mother-Baby Package Costing Spreadsheet (WHO, 1999)**
  Estimates the cost of implementing a set of maternal and newborn health interventions (WHO's Mother–Baby Package*)* in district health facilities. Compares the cost of existing services to those that would be incurred by upgrading to the Mother–Baby Package.
  http://www.who.int/reproductive-health/economics/download.en.html

- **Cost Study of Maternal Health Services (Abt Associates)**
  Contains nine instruments used together for estimating unit costs of maternal health services. Also evaluates quality and effectiveness of services using both health-facility-based and community-based data.
  http://www.cpc.unc.edu/measure/publications/html/ms-02-09-tool29.html

- **SAFE Costing Manual (SAFE International Research Partnership, The Dugald Baird Centre for Research on Women's Health, University of Aberdeen, 2003)**
  The costing manual provides a method for identifying and measuring the resources costing application of research tools in the context of improving skilled attendance at delivery. It aims to

generate a detailed record of all the resources required and costs incurred when applying the SDT. The manual consists of a set of guidelines and data collection forms that are supplied in Excel spreadsheet format. It provides step-by-step instructions on how to estimate capital and recurrent costs from the provider's perspective and guides the collection of full economic costs of applying a set of research tools.
http://www.abdn.ac.uk/dugaldbairdcentre/safe/resources.hti

## *6. Indicators, outcomes and design*

- **Reproductive Health Indicators - Guidelines for their generation, interpretation and analysis for global monitoring (WHO, 2006)**
  These guidelines briefly review theoretical and practical considerations of indicators, followed by a discussion of the definition, data sources, collection methods, periodicity of collection, disaggregation, use, limitations and common pitfalls for each of the shortlisted indicators.
  http://whqlibdoc.who.int/publications/2006/924156315X_eng.pdf

- **Indicators to monitor maternal health goals (WHO, 1999)**
  The objective of this Technical Working Group was to examine only the indicators directly related to maternal mortality and coverage of prenatal and delivery care and to provide further guidance to countries on the collection and utilization of these indicators. Guidelines on the collection of data for other maternal health goals will be made available at a later stage.
  http://www.who.int/reproductive-health/publications/MSM_94_14/MSM_94_14_table_of_contents.en.html

- **Technical consultation on reproductive health indicators (WHO, 2006)**
  Summarizes discussions of a WHO technical consultation on indicators reporting on achievement of the Millennium Development Goals (MDGs). Includes a monitoring framework that includes measurable targets and indicators for each of the MDGs.
  http://www.who.int/reproductive-health/publications/rhindicators_consultation/excsummary.pdf

- **Lessons learnt: a decade of measuring the impact of safe motherhood programmes (London School of Hygiene and Tropical Medicine, 1997)**
  Presents insights from experience in the development and/or testing of methods for measuring maternal mortality and morbidity (health outcome indicators) and for measuring childbirth in a safe environment (process indicators). It also addresses design issues and data sources.
  http://www.lshtm.ac.uk/ideu/mp/LessonsLearnt.pdf

- **Indicators for design, monitoring and evaluation of maternal mortality programmes (Columbia University and Family Health International, 2001)**
  The document presents a series of indicators.
  http://www.amdd.hs.columbia.edu/docs/monitoring.pdf

- **Evaluating the skilled care initiative: a comprehensive strategy. FCI Technical Brief. (Family Care International, 2005)**
  Presents information on the evaluation of Family Care International's Skilled Care Initiative.
  http://fci.expressiondev.com/UserFiles/File/pdfs/sci_techbrief_eval.pdf?PHPSESSID=d1cb3e3e114c3b8da737f236825f2d35

- **Designing and selecting the sample (UNICEF, 1995) (In: Monitoring progress towards the goals of the world summit for children: a practical handbook for multiple-indicator surveys.)**
  This handbook is intended to assist UNICEF staff in their work with national counterparts to measure progress toward the 'Mid-Decade Goals'. www.childinfo.org/mics/Manuals/English/CHAP01.pdf

## *7. Data collection, analysis and data quality*

- **Beyond the Numbers: Reviewing Maternal Deaths and Complications to Make Pregnancy Safer (WHO, 2004)**.

  Presents and evaluates a selection of methodologies for measurement of maternal mortality, including facility-based maternal death reviews, confidential enquiries into maternal deaths, surveys of severe morbidity (near misses), and clinical audits.
  http://www.who.int/reproductive-health/publications/btn/text.pdf

- **PDA manual for field data collection and sampling (Centers for Disease Control and Prevention, 2005).**

  Practical manual to support use of PDAs for data collection.
  http://www.who.int/malaria/docs/mis/cd2.pdf

- **Handbook on the collection of fertility and mortality data (United Nations, 2004)**

  Data on births, deaths and population are collected by several complementary methods. Different combinations of methods are appropriate in different circumstances. The present handbook provides detailed information on available methods that may be used to decide what combination will best suit national conditions. It describes, in addition, how the data produced by these methods may be used to derive basic fertility and mortality indicators.
  http://millenniumindicators.un.org/unsd/demographic/standmeth/handbooks/Handbook_Fertility_Mortality.pdf

## *8. Qualitative Resources*

*Note: This section contains a list of web-based qualitative resources. A full list of printed text resources on qualitative research is contained in the reference list at the end of this module on page 50*

- **Making Sense of Focus Group Findings: A Systematic Participatory Analysis Approach (AED, 2003)**

  This is a practical handbook on how to analyse focus group findings. It is geared toward people working in developing countries, including researchers, programme managers, and technical officers, who use focus groups to plan, monitor, and/or assess their programmes.
  http://www.aed.org/ToolsandPublications/upload/Making%20Sense_final.pdf

- **Qualitative research for improved health programs: a guide to manuals for qualitative and participatory research on child health, nutrition, and reproductive health (SARA Project, 2002)**

  Published by the SARA Project (Support for Analysis and Research in Africa), this guide is designed for programme managers, researchers, funders of health programs, and others who are considering using qualitative research methods to help them design more effective health programmes and/or evaluate the strengths and weaknesses of existing programs. Available in English and French.
  http://sara.aed.org/sara_pubs_sara_2.htm

- **Qualitative research methods: a data collector's field guide (Family Health International (FHI, 2005)**

  This how-to guide covers the mechanics of data collection for applied qualitative research. It is appropriate for novice and experienced researchers alike. It can be used as both a training tool and a daily reference manual for field team members. Its question and answer format and modular design make it easy for readers to find information on a particular topic quickly.
  http://www.fhi.org/en/RH/Pubs/booksReports/QRM_datacoll.htm

- **Monitoring and evaluation of sexual and reproductive health interventions. A Manual for the EC/UNFPA Initiative for Reproductive Health in Asia (London School of Hygiene and Tropical Medicine, 2002)**

  These guidelines give a detailed description of the methodology and concepts that underpin the monitoring and evaluation system designed for the EC/UNFPA Reproductive Health Initiative. They provide practical information and clear instructions on how to use the data collection tools of the system.
  http://www.asia-initiative.org/pdfs/m_and_e_manual.pdf

- **User-friendly handbook for mixed method evaluations (National Science Foundation (NSF), 1997) (Part II. overview of qualitative methods and analytic techniques. Chapter 3: Common qualitative methods.)**

  This resource describes and compares the most common qualitative methods employed in project evaluations, including observations, in-depth interviews, and focus groups. Other less frequently used qualitative techniques are also covered.
  http://www.ehr.nsf.gov/EHR/REC/pubs/NSF97-153/CHAP_3.HTM

- **Monitoring and evaluation ToolKit (Reproductive Health Response in Conflict Consortium, 2004)**

  The toolkit presents a decision-oriented model for programme monitoring and evaluation. The toolkit is tailored specifically to the information and decision-making needs of managers of reproductive health programs serving refugees and other war-affected persons.
  http://www.rhrc.org/resources/general%5Ffieldtools/toolkit/index.htm

## *9. Adaptation of instruments*

- **CHAPS: Cross-cultural adaptation of survey instruments (RAND Corporation/Leo Morales, 2001)**

  The consumer health assessment plan study (CHAPS) – is a five-year initiative which produced a set of standardized survey tools for collecting reliable data from health plan enrollees about the care they received. The project recognized the need to translate the tools into several languages in order to collect data adequately. The main goal was to develop culturally appropriate instruments for different groups while maintaining the equivalency with the original tool. The authors proposed a framework to adapt survey instruments cross-culturally. The CHAPS study model for cultural adaptation of survey instruments would also be helpful in developing a framework.
  http://www.rand.org/pubs/rgs_dissertations/RGSD157/RGSD157.ch2.pdf .

- **Institute of Development Studies**

  Includes various resources on participatory methodologies which can be used for adaptation of survey instruments.
  http://www.ids.ac.uk/ids.

- **Demographic Health Survey (DHS)**

  Although DHS surveys do not specifically address the use of qualitative methods to translate and adapt survey tools to different socio-cultural contexts, the DHS does provide techniques and methods of relevance. For example, DHS tailors questionnaires to meet host country and donor agency data needs by adding optional modules to core questionnaires. In addition, a qualitative approach is used to examine the social and cultural contexts of daily life, so as to increase the validity and reliability of DHS surveys and to expand the information available for monitoring and evaluation. See http://www.measuredhs.com/aboutsurveys/qr/start.cfm.
  Two published DHS studies also present a process for translation & back translation into appropriate languages and adaptation for cross cultural validity.
  http://www.measuredhs.com/pubs/pub_details.cfm?ID=489
  http://www.measuredhs.com/pubs/pub_details.cfm?ID=354

## *10. Training resources*

- **Quality information in field research: Training manual on practical communication skills for field researchers and project personnel (WHO/TDR, 2005)**

  This manual is the outcome of a training process developed at the Kenyan Medical Research Institute (KEMRI)-Wellcome Trust Collaborative Research Programme in Kilifi, Kenya, where multidisciplinary research with a focus on prevention and treatment of severe childhood malaria has been carried out since 1989. The aim was to build on the communication skills of the field workers collecting the data, and thus improve the quality of the information they gathered.
  http://www.who.int/tdr/publications/publications/quality_information.htm

- **Health research methodology: a guide for training in research methods (WHO/WPRO, 2001)**
  A practical training manual covering the basic concepts and principles of scientific research, from the selection of objectives and study design, through the execution of studies and trials, to the analysis of data and presentation of results.
  http://www.wpro.who.int/publications/pub_929061157X.htm

- **Research Ethics Training Curriculum (Family Health International, 2001)**
  This curriculum is for international scientists who conduct research that includes human participants and who want to incorporate fundamental ethical considerations in the design and implementation of their studies. Available as both a web-based resource and as a paper PDF.
  http://www.fhi.org/en/RH/Training/trainmat/ethicscurr/index.htm

- **Training for qualitative research methods for PVOs & NGOs: a trainer's guide to strengthen program planning and evaluation (Johns Hopkins Bloomberg School of Public Health, 2000)**
  This guide is a resource for giving staff and partners of PVO/NGO programs the knowledge, skills and attitudes necessary for carrying out qualitative research for programme management purposes. The guide provides guidance on preparing the training and lesson plans for training sessions over a 12 Day training period. http://www.jhsph.edu/refugee/research/publications/qualresearchtrain.html

- **Research Ethics Training Curriculum for Community Representatives (Family Health International, 2004)**
  This Research Ethics Training Curriculum for Community Representatives was designed specifically to educate community representatives about their roles and responsibilities so that they have a stronger voice before, during, and after the research process. Available as both a web-based resource and as a paper PDF.
  http://www.fhi.org/en/RH/Training/trainmat/ethicscurr/retccr.htm

- **Assessing Community Health Programs A Trainer’s Guide. Using LQAS for Baseline Surveys and Regular Monitoring. (Teaching-aids At Low Cost (TALC), 2003)**
  This guide is for managers, field supervisors, and others who plan, monitor and evaluate community health programs. The guide will aid them to train others in a simple and rapid method for collecting data to use for planning, monitoring and evaluating community health programs. The method is called Lot Quality Assurance Sampling (LQAS). LQAS is now used all over the world in community health programs for the following purposes: (1) assessing coverage of key health knowledge and practices in maternal and child health, family planning, and HIV/AIDS; (2) assessing the quality of health worker performance; and (3) assessing disease prevalence.
  http://www.coregroup.org/working_groups/lqas_train.html

- **Distance learning courses on population issues, Course 6: Reducing Maternal Deaths: Selecting Priorities, Tracking Progress (UNFPA and AMDD of Columbia University, 2002).**
  This course provides an in-depth analysis of a strategic approach to reducing the continued high rate of maternal mortality in many developing countries. Central to this, as discussed in the first module, is an understanding of the causes of maternal mortality and of the need to make emergency obstetric care accessible to all pregnant women who develop complications. The second module explains how to use process indicators to monitor progress in expanding access to emergency obstetric care. The course also provides guidance on analyzing and developing safe motherhood policy and programmes, assessing needs, prioritizing interventions in terms of cost-effectiveness, and monitoring programmes.
  http://www.unfpa.org/dlpi/docs/course6.pdf

- **Participatory poverty grading tool manual: A trainer’s guide to training fieldworkers and A trainee’s guide to fieldwork (Marie Stopes International,**
  The participatory poverty grading tool is a simple tool that consists of a range of indicators developed with community members which can be used by programme teams, community workers or other team members to assess the poverty levels of households in the community in which they work. The tool was developed to help delivery sexual and reproductive health programmes. The

trainer's guide describes how to train fieldworkers in the data collection techniques required to develop a participatory poverty grading tool and how to undertake a social mapping exercize. The trainee's guide is a resource to be used by fieldworkers who will gather the data.
http://www.mariestopes.org.uk/ww/publications.htm
http://www.mariestopes.org.uk/pdf/guide-2-a-trainers-guide.pdf
http://www.mariestopes.org.uk/pdf/guide-3-a-trainees-guide.pdf

- **Courses on evaluation for measurement for maternal mortality programme assessment (Immpact and the University of Aberdeen 2007)**
  Courses in the use of Immpact tools for monitoring and evaluation in maternal mortality reduction will be provided beginning in 2007.
  http://www.ipact-int.com/
  http://www.abdn.ac.uk/immpact/

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