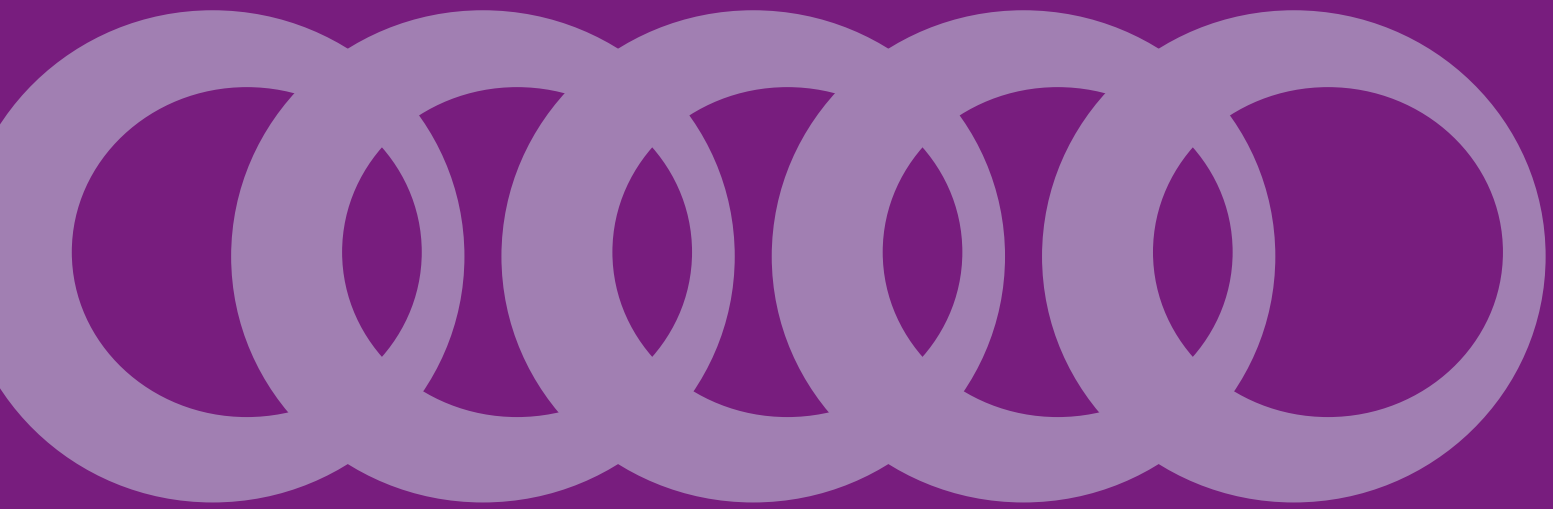
JHPIEGO
An Affiliate of Johns Hopkins University
A GLOBAL LEADER IN IMPROVING HEALTH CARE FOR WOMEN AND FAMILIES

monitoring birth preparedness and complication readiness

tools and indicators for maternal and newborn health



JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH
Center for Communication Programs

FAMILY CARE INTERNATIONAL

Maternal & Neonatal Health

JHPIEGO
An Affiliate of Johns Hopkins University
A GLOBAL LEADER IN IMPROVING HEALTH CARE FOR WOMEN AND FAMILIES

monitoring birth preparedness and complication readiness

tools and indicators for maternal and newborn health

JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

Center for Communication Programs

FAMILY CARE INTERNATIONAL

Maternal & Neonatal Health

The Maternal and Neonatal Health (MNH) Program is committed to saving mothers' and newborns' lives by increasing the timely use of key maternal and neonatal health and nutrition practices. The MNH Program is jointly implemented by JHPIEGO, the Johns Hopkins University/Center for Communication Programs, the Centre for Development and Population Activities, and the Program for Appropriate Technology in Health.
www.mnh.jhpiego.org

JHPIEGO, an affiliate of Johns Hopkins University, builds global and local partnerships to enhance the quality of health care services for women and families around the world. JHPIEGO is a global leader in the creation of innovative and effective approaches to developing human resources for health.
www.jhpiego.org

Published by:

JHPIEGO
Brown's Wharf
1615 Thames Street
Baltimore, Maryland 21231-3492, USA

Editor: Roxana C. Del Barco

Cover Design and Layout: Youngae Kim

This publication was made possible through support provided by the Maternal and Child Health Division, Office of Health, Infectious Diseases and Nutrition, Bureau for Global Health, U.S. Agency for International Development, under the terms of Award No. HRN-00-98-00043-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

TABLE OF CONTENTS

PART TWO: SURVEYING WOMEN, HUSBANDS/PARTNERS, AND COMMUNITIES

INDIVIDUAL-LEVEL INDEX

Guide for the Researcher

Guide for the Interviewer

FAMILY-LEVEL INDEX

COMMUNITY-LEVEL INDEX

PART THREE: SURVEYING PROVIDERS AND FACILITIES

Safe Motherhood Clinical Assessment Tools

LIST OF TABLES AND FIGURES

PREFACE AND ACKNOWLEDGMENTS

This manual is the product of a joint collaboration between the Maternal and Neonatal Health (MNH) Program at JHPIEGO and Family Care International (FCI) through its Skilled Care Initiative. Both programs carry out a wide range of activities aimed at reducing maternal mortality and morbidity, including strengthening the policy environment, generating informed demand, and strengthening the quality of maternal and newborn care services. Both also have a strong research and evaluation component, responsible for conducting population-based surveys in selected countries to inform the design of program interventions and to evaluate their effectiveness. Over the life of the program, MNH Program researchers have conducted population-based surveys on safe motherhood in Burkina Faso, Guatemala, Indonesia, and Nepal; FCI has conducted them in Burkina Faso, Kenya, and Tanzania.

When researchers working with both organizations began the task of designing these surveys and developing instruments, they became aware of the relative dearth of population-based surveys on safe motherhood, especially regarding the specific aspect of birth preparedness and complications readiness (BP/CR). The MNH Program leadership believed that it would be a valuable contribution to the field to develop a prototype instrument, sampling instructions, guides for the researcher and the interviewer for this type of survey. Also, to share the many valuable lessons and insights learned from the experiences in these countries would be useful to others planning to do similar work in the future. When the MNH Program realized that FCI had a similar experience, the two organizations joined forces to develop a prototype questionnaire for BP/CR surveys.

At the same time that the two groups worked on preparing the prototype questionnaire and supporting documentation, MNH Program researchers were designing a set of indicators for monitoring BP/CR at six different levels. Recognizing the multiple areas of overlap between these two complementary efforts, the MNH Program agreed that the most logical approach was to combine them into a single document. Thus, MNH Program staff were responsible for Parts I and III of the manual, whereas MNH Program and FCI staff jointly produced the materials in Part Two.

JHPIEGO, an affiliate of Johns Hopkins University, is the lead agency for the MNH Program. As a partner on the MNH Program, the Johns Hopkins University Bloomberg School of Public Health Center for Communication Programs (known to most as JHU/CCP) has been heavily involved in the monitoring and evaluation component. Specific staff members from the two organizations who prepared this manual include:

JHPIEGO: Joy Fishel, Travea Ghee, Patricia Gomez, Barbara Kinzie, Allisyn Moran, and Harshad Sanghvi
JHU/CCP: Jane Bertrand, Fannie Fonseca-Becker, Suruchi Sood, and Sereen Thaddeus

Staff members who contributed to the development of the manual on behalf of FCI were Johnmark Opondo and Ann Starrs. Ann Blanc and Cynthia Stanton served as consultants during preparation. Sujata Naik, Amy Starke, and Emma Tsui provided invaluable input as research assistants.

Maternal mortality and morbidity are complex problems that require interventions at multiple levels. We hope that this manual will contribute to improving the design and evaluation of programs, as one part of a much larger effort to improve the survival rates and health status of mothers and their newborn babies worldwide.

Judith Robb-McCord
Director, Maternal and Neonatal Health Program
JHPIEGO

Ann M. Starrs
Executive Vice President
Family Care International

LIST OF ABBREVIATIONS

AED	Academy for Educational Development
ANC	Antenatal care
ASFR	Age-specific fertility rates
BP/CR	Birth preparedness and complication readiness
DHS	Demographic and Health Surveys
EA	Enumeration area
EmOC	Emergency obstetric care
EOC	Essential obstetric care
FCI	Family Care International
GRF	General fertility rate
IAG	Safe Motherhood Inter-Agency Group
ICM	International Confederation of Midwives
ICPD	International Conference on Population and Development
IPC/C	Interpersonal communication and counseling
JHU/CCP	Johns Hopkins University Bloomberg School of Public Health Center for Communication Programs
MNH	Maternal and Neonatal Health
MNPI	Maternal and Neonatal Health Program Effort Index
MVA	Manual vacuum aspiration
NGO	Nongovernmental organization
PMTCT	Prevention of Mother to Child Transmission
PPC	Postpartum care
PPH	Postpartum hemorrhage
QIQ	Quick Investigation of Quality
SMI	Safe Motherhood Initiative
STI	Sexually transmitted infection
TBA	Traditional birth attendant
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

PART ONE:

THE BIRTH PREPAREDNESS AND COMPLICATION READINESS INDEX

PART ONE. THE BIRTH PREPAREDNESS AND COMPLICATION READINESS INDEX

OVERVIEW OF THE MANUAL

Over the past 15 years, the international public health community has focused increased attention and resources on reducing maternal mortality and morbidity. The field has evolved considerably, and debate continues over what are the most effective strategies to improve maternal health and survival. Throughout this process, many have called for more investment in the systematic evaluation of programs for two reasons. First, it is important to build the body of evidence showing that specific interventions do result in reduced mortality or morbidity. This task requires appropriate study designs and complex statistical analysis, which go beyond the scope of this document.[1] Second, it is necessary for programs to have tools they can use in monitoring the interventions they carry out. The focus of this manual is to contribute to this second goal: to establish a means to systematically track progress in safe motherhood programs.

This manual provides guidance in assessing and monitoring safe motherhood programs that intervene at multiple levels. It establishes a set of indicators, called a Birth Preparedness and Complication Readiness (BP/CR) Index, for each of six levels: the individual woman, her family (husband/partner), the community, the health facility, the provider, and the policymaker. It also provides a comprehensive set of tools for deriving these indicators and tracking progress. This manual therefore represents an initial attempt to establish a standardized set of indicators that could be used across countries and/or programs for monitoring safe motherhood programs based on a birth preparedness and complication readiness approach. Full use of the approach requires substantial financial and technical resources that are often available only through well-funded programs. However, organizations with more limited resources may adapt some of the instruments to their own purposes and budgets.

The manual is divided into three sections. Part One explains the background and rationale to BP/CR, presents the set of indicators for measuring BP/CR at each of the six levels, suggests sources of data, and provides recommendations for scoring the indicators. The purpose of the BP/CR indices at each level is to allow for comparisons across programs and over time.

Parts Two and Three include the data collection instruments needed to obtain the information for each set of indicators. Part Two focuses on the evaluation of programs designed to create **demand** for skilled attendance at birth by strengthening BP/CR among women, their families (husbands/partners), and the community. This section includes a Prototype Safe Motherhood Questionnaire for a population-based survey, a Guide for the Researcher, a Guide for the Interviewer, and sampling considerations specific to safe motherhood surveys. The questionnaire is intended as a prototype that other researchers may use or adapt to specific settings.

Part Three relates to the evaluation of the **supply** side of BP/CR, that is, the delivery of services. It involves audits of clinical facilities and measurement of the knowledge and skills of providers. A number of organizations have proposed instruments for these purposes, including the World Health Organization, the Population Council, and the Averting Maternal Death and Disability Program. The instruments presented in Part Three draw heavily on existing approaches.

---

[1] Readers interested in progress on this subject should contact the IMMPACT Project based at the University of Aberdeen in Scotland (http://www.abdn.ac.uk/immpact/).

Intended Audience

This manual is intended for researchers and evaluators interested either in conducting a one-time survey or tracking progress of a BP/CR program over time, including:

- The staff researcher or evaluator at an organization undertaking BP/CR;
- A researcher or evaluator contracted from a local university, research firm, or other organization for the purposes of conducting formative research and/or monitoring;
- Donor agency staff interested in strengthening the monitoring and evaluation aspect of safe motherhood programs in their portfolio; and
- University students interested in learning how to conduct this type of research.

BACKGROUND ON THE GLOBAL SAFE MOTHERHOOD INITIATIVE

In 1987, for the first time, the international public health community publicly recognized and agreed to address a long-neglected, little-understood problem: the dramatically high rates of maternal death and disability prevalent in the developing world, especially in sub-Saharan Africa and South Asia. Data generated by analyses by the World Health Organization (WHO) indicated that more than half a million women were dying each year from the complications of pregnancy and childbirth, with the vast majority of these deaths (99%) occurring in the developing world. Across all developing countries for every 100,000 live births, 450 women died during pregnancy, childbirth, or the postpartum period. By comparison, the figure for the developed world was 30. This enormous discrepancy highlights one of the most striking aspects of maternal mortality: its hugely disproportionate burden on poor countries (Starrs 1987).

The global Safe Motherhood Initiative (SMI) was launched to raise awareness about the scope and consequences of poor maternal health, and to mobilize action to address high rates of death and disability from the complications of pregnancy and childbirth. Between 1987 and 2003 the Initiative was co-sponsored by the Safe Motherhood Inter-Agency Group (IAG),[2] a consortium of international and national agencies. The IAG organized international and regional conferences, produced a wide range of informational and advocacy materials, and served as a forum for forging consensus on key technical issues and disseminating messages on maternal health and safe motherhood. In 2004 the IAG completed a transition into a broader group, the Partnership for Safe Motherhood and Newborn Health, which incorporates a larger set of organizations and includes the issue of newborn health.

During the SMI's first 5 to 10 years after the launch of the Initiative in 1987, many safe motherhood programs at the country level focused on the training of traditional birth attendants (TBAs) and on risk screening during antenatal care as the key interventions. However, research and analysis by a number of organizations worldwide began to call into question the effectiveness of these approaches at reducing maternal mortality. By the tenth anniversary of the Initiative's launch in 1997, technical experts concurred that TBA training and risk screening were of limited practical effectiveness at reducing maternal mortality, and ascribed the relative lack of progress in reducing maternal mortality in part to the reliance on these approaches, as well as the inadequate investments in and commitment to safe motherhood more generally.

[2] The members of the Safe Motherhood Inter-Agency Group included UNFPA, UNICEF, World Bank, World Health Organization, International Confederation of Midwives, the International Federation of Gynecology and Obstetrics, International Planned Parenthood Federation, Population Council, Regional Prevention of Maternal Mortality Network (Africa), and Safe Motherhood Network of Nepal. Family Care International served as the secretariat.

The tenth anniversary conference held in Colombo, Sri Lanka, in 1997, concluded that a skilled attendant to assist childbirth is the single most critical intervention to reduce maternal mortality. The term "skilled attendant," according to a joint WHO/UNFPA/UNICEF/World Bank Statement (1999), refers exclusively to "people with midwifery skills (for example, midwives, doctors and nurses) who have been trained to proficiency in the skills necessary to manage normal births and diagnose or refer obstetric complications." The reader will find the term "skilled provider" instead of skilled attendant used throughout this document, but the meaning of the two terms is the same. This significant recommendation reflected the fact that skilled providers, adequately supported by an enabling environment[3], are able to avoid some complications (such as infection) by providing safe, hygienic care during childbirth; and are able to detect, manage, and refer life-threatening complications (as necessary, depending on their level of skill and the environment where they are working).

Partly because of poorly focused interventions and partly because of inadequate resources, maternal and newborn health indicators have shown little improvement in much of the developing world in the past 15 years, and in some countries they have even worsened. In response, the international public health community refocused global efforts in safe motherhood and newborn health.

Current Focus of the Safe Motherhood Initiative: Emergency Obstetric Care and Skilled Care during Childbirth

One of lessons of the Initiative's first decade is that there is no "magic bullet" for preventing maternal mortality. That is, no single technology, drug, or procedure can effectively address the range of medical problems that cause the majority of deaths. Because these problems are almost impossible to predict and difficult to prevent, women must have access to good quality health services, within a health system that functions effectively from the community to the referral level. In addition, families and communities must both understand and value the services available.

Today, therefore, the primary goal of the global safe motherhood community is to improve the quality and accessibility of maternity care. Programs tend to focus on one of two approaches:

- **Emergency obstetric care:** Emergency obstetric care (EmOC) includes a set of medical interventions or functions to manage life-threatening obstetric complications. At the basic level (meant to be provided in health centers), it includes intravenous (IV) administration of antibiotics, uterotonics, and anticonvulsants; manual removal of the placenta; removal of retained products of conception following miscarriage or abortion; and assisted vaginal childbirth with forceps or vacuum extractor. Comprehensive emergency obstetric care, typically delivered in district hospitals, includes basic care, plus availability of cesarean section and safe blood transfusion (UNFPA 2001a and UNFPA 2001b).

- **Skilled care during childbirth:** Skilled care (or attendance) refers to the process by which a pregnant woman and her baby are provided with adequate care during pregnancy, labor, birth, and the postpartum and immediate newborn periods (MacDonald and Starrs 2002). In order for

[3] The IAG's definition of an "enabling environment" includes the following components: a supportive policy and regulatory context; adequate supplies, equipment, and infrastructure; and a functioning system for referral and transport. (See MacDonald M and A Starrs. 2002. *Skilled Care during Childbirth Information Booklet: Saving Women's Lives, Improving Newborn Health*. Family Care International: New York.)

this process to take place, the provider must have the necessary skills and must be supported by an enabling environment (see **footnote on page 1-3**). It includes care for women with life-threatening complications, but also focuses more broadly on providing good quality care for all women, on the assumption that such care can prevent some complications (e.g., prevention of postpartum hemorrhage through active management of the third stage of labor) and increase the likelihood of prompt, appropriate treatment or referral when complications arise.

Both approaches require that women seek out and use professional medical care during childbirth, either on a routine basis or, at minimum, when complications develop. In communities where women traditionally give birth at home with only a relative or TBA in attendance, or where cost, geography, or the lack of transportation mechanisms make it difficult to reach a health facility, increasing the utilization of EmOC or skilled care during childbirth can be a serious challenge.

EVALUATING SAFE MOTHERHOOD INTERVENTIONS

Although the ultimate goal of safe motherhood programs is to reduce maternal mortality, it is not feasible to measure this outcome in most surveys. Because of the vast number of respondents required to accurately measure maternal mortality, most developing countries do not attempt to obtain this measure more than once per decade. For specific programmatic interventions, evaluators cannot use maternal mortality as an outcome measure. Instead, they evaluate interventions in terms of "behavioral outcomes" or "intermediate outcomes" hypothesized to reduce mortality. One of the most widely used outcomes in safe motherhood programs is childbirth with a skilled provider.

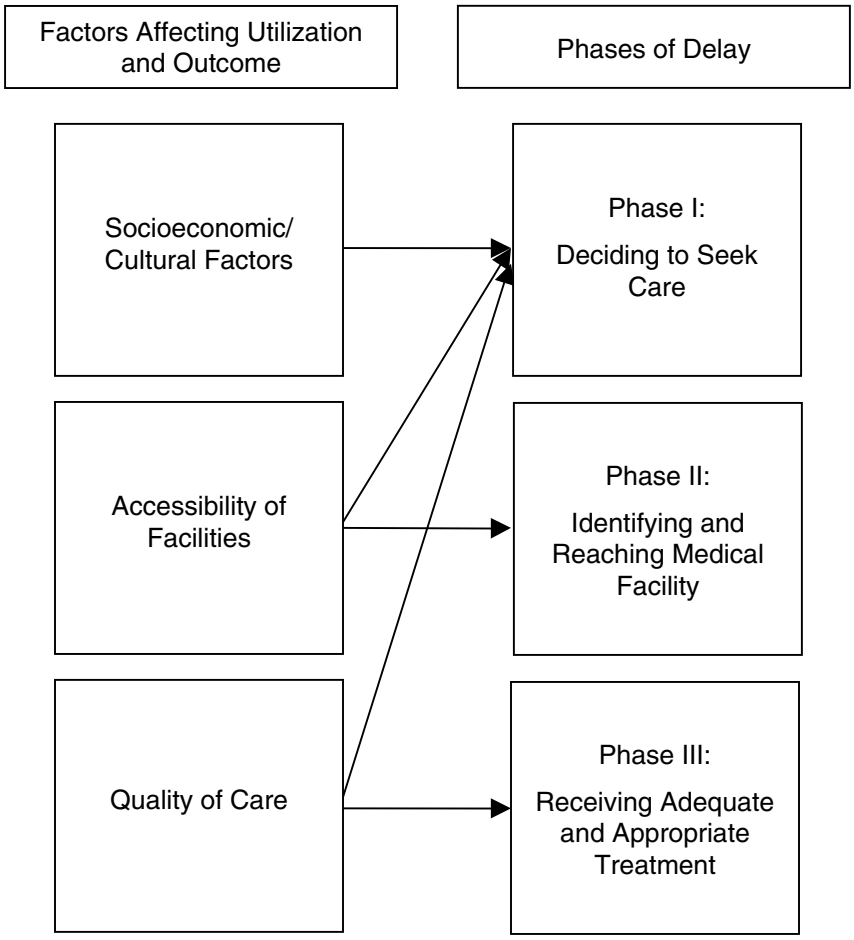
This practice of measuring intermediate behaviors or practices is by no means limited to safe motherhood. It is also used in other areas of reproductive health, including family planning and HIV/AIDS. In the evaluation literature for safe motherhood, these behaviors or practices are labeled "process indicators," because they measure processes along the pathway to maternal death or survival. The use of "process indicators" deviates from the way the term is used in the general literature on program evaluation, therefore, recognizing this difference may prevent unnecessary confusion. In other areas of reproductive health, process indicators are used to measure how a given program was implemented (e.g., number of persons trained, number of posters distributed, number of kits distributed) and how the audience reacted to it (e.g., client satisfaction with the program). In the field of safe motherhood, "process indicators" refers to measures of steps in the process leading to decreased morbidity and mortality. For example, "skilled attendance at birth" is considered a process indicator in the evaluation literature for safe motherhood because researchers hypothesize that increasing skilled attendance at birth is a step in the process of improving maternal survival. In light of the lack of sound evidence of a direct causal relationship between use of skilled attendance and improved maternal and newborn survival (although ecological associations have been identified, Graham et al. 2000), it is more appropriate to refer to this indicator as a process indicator rather than an outcome.

BIRTH PREPAREDNESS AND COMPLICATION READINESS AND SAFE MOTHERHOOD PROGRAM APPROACHES

Thaddeus and Maine (1994) have provided the safe motherhood community with an explanatory model of maternal mortality that identifies delays in seeking, reaching and obtaining care as the key factors leading to maternal death. This explanatory model, known as the Three Delays Model,

categorizes delays into three types: delays in seeking care, delays in reaching care, and delays in receiving adequate care once at the point of service (see **Figure 1-1**).

Figure 1-1. The Three Delays Model



Source: Thaddeus S and D Maine. 1994.Too far to walk: maternal mortality in context. *Soc Sci Med* 38 (8): 1091–1110.

Birth Preparedness and Complication Readiness (BP/CR) is a strategy to promote the timely use of skilled maternal and neonatal care, especially during childbirth, based on the theory that preparing for childbirth and being ready for complications reduces delays in obtaining this care. This strategy is equally useful in programs that focus on EmOC and skilled care during childbirth, although the specific BP/CR messages and the relative importance placed on birth preparedness versus complication readiness would differ between the two approaches.

In a skilled care approach, birth preparedness includes identifying a skilled provider and making the necessary plans to receive skilled care for all births, whereas in programs advocating EmOC, birth preparedness consists of preparing to have the cleanest, safest childbirth possible, whether at the woman's home, in a health facility, or somewhere else. Since both approaches share an emphasis on the need for skilled care at least in the event of emergencies, the complication readiness component is similar between the two. Complication readiness may receive greater emphasis than birth preparedness in EmOC programs.

DEFINING BIRTH PREPAREDNESS AND COMPLICATION READINESS

Birth preparedness and complication readiness (BP/CR) is a relatively common strategy employed by numerous groups implementing safe motherhood programs[4]; however, the applications of the concept are varied and there is no single agreed-upon definition. For example, the Prevention of Maternal Mortality (PMM) Program (1987–1997) found that inadequate funds and transport were a key cause of delay in deciding to seek care and in reaching facilities. Interventions to address these problems included a community loan program and transportation systems (Essien et al. 1997; Samai and Sengeh 1997). The MotherCare Project (1988–1998) included interventions to promote "birth planning" or "contingency planning." These interventions focused on planning for emergencies (MotherCare 2000b).

CARE has also conducted several programs focusing on birth planning. A program in Bangladesh defined birth planning as taking a series of steps prior to birth to ensure that a pregnant woman is prepared for normal birth and complications. Key messages included: care for yourself during pregnancy and childbirth, know danger signs, identify a trained birth attendant, prepare for a clean childbirth, know which health facility to go to in case of an emergency, and plan for complications, including savings and transportation (Barbey et al. 2001).

The CHANGE Project (AED) developed a Maternal Survival Toolkit including tools for birth preparedness. This toolkit defines the "standard elements" of birth preparedness such as knowing the danger signs, choosing a birth location and provider, knowing the location of the nearest skilled provider, obtaining basic safe birth supplies, and identifying someone to accompany the woman. It also includes arranging for transportation, money, a blood donor, and temporary family care in case of emergencies. The toolkit recommends additional elements, such as information on danger signs in the newborn, making arrangements for skilled early postpartum care, obtaining an HIV test during pregnancy to determine the need for prevention of mother to child transmission (PMTCT) interventions, and arranging medical and social support for the woman in case the HIV test is positive. The CHANGE toolkit refers to these elements as "Birth Preparedness Plus"(see http://www.changeproject.org/technical/maternalhealthnutrition/maternaltoolkit.htm).

Despite subtle differences in these applications of the BP/CR strategy, what they all have in common is an emphasis on the "demand side" of the equation, that is, the individual, family and community, or the users of healthcare services. Also, all focus on reducing only the first and second delays: deciding to seek care and reaching care.

The Maternal and Neonatal Health (MNH) Program has expanded the concept of BP/CR to address also the "supply side" of the equation, that is, the provider, the facility and the policymaker. Promoting BP/CR among these actors can reduce delays in receiving (or providing) appropriate care at the health facility. By including these additional levels in birth preparedness and complication readiness, the program recognizes that the factors causing the three phases of delays arise from many different sources, and therefore actors across multiple levels of society share the responsibility for preparing for birth and being ready for complications in order to save the lives of women and newborn babies.

For the purpose of this manual, BP/CR is defined as an overarching program approach to improve the use and effectiveness of key maternal and newborn health services, based on the premise that preparing for birth and being ready for complications reduces all three phases of delays in receiving

[4] See Kureshi 2000, for descriptions of several of these programs.

these services. Furthermore, because the factors contributing to life-threatening delays are wide ranging, this approach calls for agents at multiple levels—including women and their families, communities, providers, facilities, and policymakers—to engage in BP/CR actions.

Actions to prepare for birth corresponding to each level are summarized in a programming tool entitled "Birth Preparedness and Complication Readiness: A Matrix of Shared Responsibility" (JHPIEGO/MNH Program 2001). At the individual level, pregnant women and their partners can prepare by learning to recognize danger signs that may indicate life-threatening complications for the mother and baby, identifying a skilled provider and a birth location, saving money, and arranging for transportation. Communities and families can prepare by making arrangements for money, transport, or a blood donor to assist a woman and her family in reaching and receiving care in case of an obstetrical emergency. Facilities can prepare by having the required equipment, supplies, and support systems available. At the provider level, clinical personnel can prepare by acquiring the necessary knowledge and skills needed to attend normal childbirth and manage obstetric and newborn complications. Policymakers can prepare by instituting evidence-based healthcare policies and assuring adequate funding for maternal and newborn healthcare services.

Towards a Conceptual Framework for Birth Preparedness and Complication Readiness

Figure 1-2 below illustrates the role of BP/CR in improving the use and effectiveness of key maternal and neonatal services through reducing delays. It is important to emphasize that this framework is theoretical rather than evidence-based. The pathways laid out in the diagram have not yet been tested using rigorous scientific studies. For simplicity, this explanation of the framework will focus on the use of a skilled provider at birth, since such a high proportion of life-threatening complications for both mother and newborn arise during this period. However, the framework applies equally to use of other routine and emergency services during the antenatal and postpartum periods, which also contribute to maternal and newborn survival.

According to the framework in **Figure 1-2**, BP/CR reduces delays in deciding to seek care in two ways. First, birth preparedness (in a programming approach focused on skilled care during childbirth) motivates people to plan to have a skilled provider at every birth. If women and families make the decision to seek care before the onset of labor, and they successfully follow through with this plan, the woman will reach care *before* developing any potential complications during childbirth, thus avoiding the first two delays completely. Second, complication readiness raises awareness of danger signs among women, families, and communities, thereby improving problem recognition and reducing the delay in deciding to seek care.

BP/CR encourages women, households, and communities to make arrangements such as identifying or establishing available transport, setting aside money to pay for service fees and transport, and identifying a blood donor in order to facilitate swift decision-making and reduce delays in reaching care once a problem arises. In sum, at the demand level, BP/CR promotes the use of a skilled provider at birth through increasing demand and improving access.

BP/CR also reduces delays in receiving appropriate care. It calls on providers and facilities to be prepared to attend births and ready to treat complications. To have birth preparedness and complication readiness at the provider level, nurses, midwives, and doctors must have the knowledge and skills necessary to treat or stabilize and refer women with complications, and they must employ sound normal birth practices that reduce the likelihood of preventable complications.

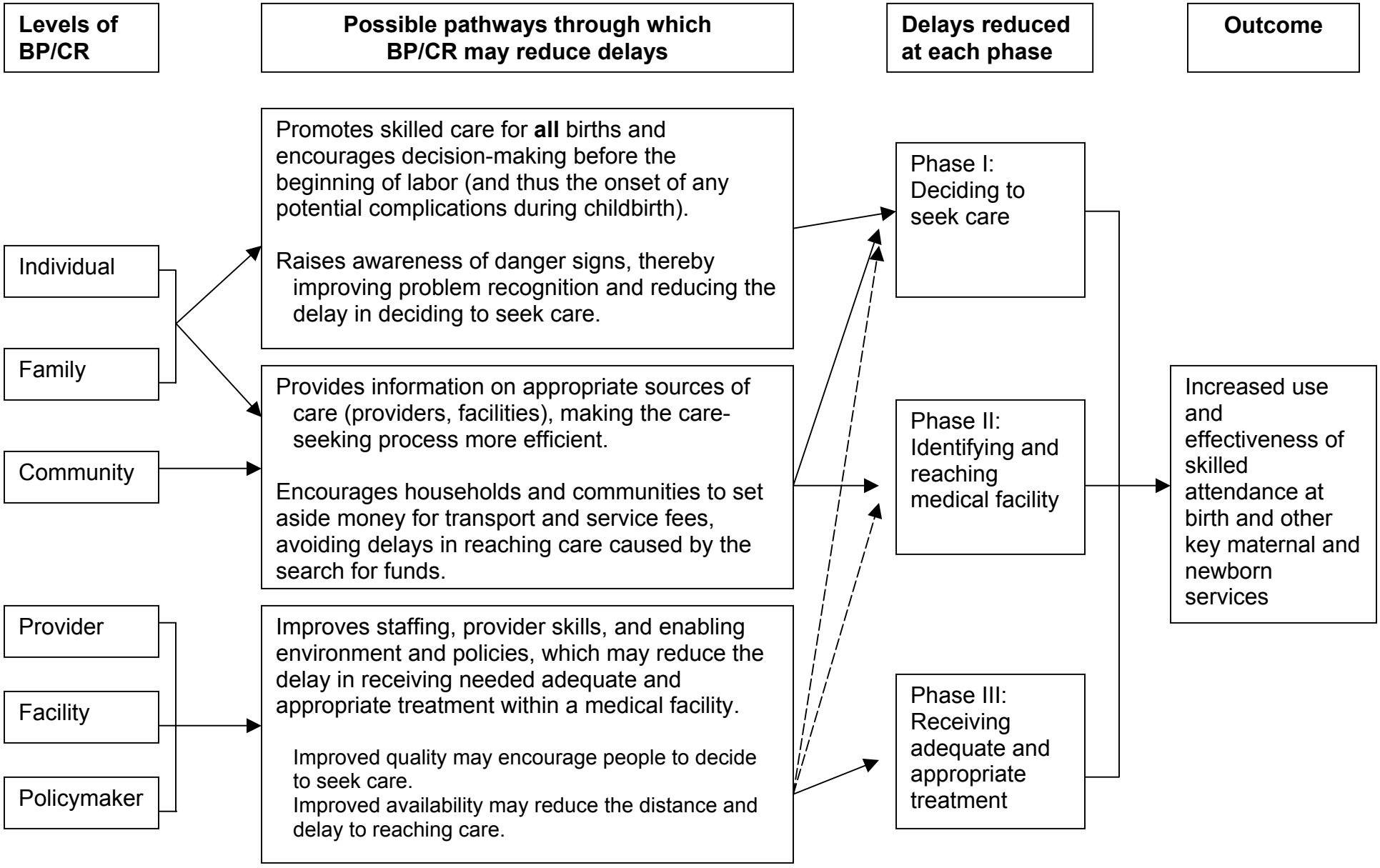
Facilities must have the necessary staff, supplies, equipment, and infrastructure to serve clients with normal births and complications, and they must be open, clean and inviting. BP/CR calls on policymakers to work to strengthen the service delivery environment and to remove policies that prevent health systems, facilities, and providers from adequately serving their clients. Thus, at the supply level, BP/CR promotes the use of a skilled provider at birth by improving the availability and quality of skilled attendance.

Delineating the Meanings of "Skilled Provider"

What the terms skilled provider or skilled attendant mean depends on the context in which the term is used. As stated above, the recognized definition of skilled attendant (referred to as skilled provider in this manual) includes a designation of the set of clinical skills the provider has. To further refine this definition, the International Confederation of Midwives recently developed a list of "essential competencies" that a provider must have in order to be considered skilled in maternal and newborn care (see **Appendix A**). This detailed list, which could be used to assess skill status of providers, represents a supply-side perspective on the definition of a "skilled provider."

From the demand-side perspective, the goal is to measure women's behavior regarding their choice of a birth attendant. Population-based surveys are usually the method for measuring skilled care from the demand side. Because a healthcare user is not able to discern the skills of her birth attendant, when a survey asks a woman about her birth attendant, it asks her not about the skill level of her attendant, but rather about the attendant's level of professional training a for example, doctor, nurse, midwife, auxiliary, family member, traditional birth attendant, or other). Researchers then combine the response codes for all attendants with professional training in healthcare and use this measure as a proxy for births with a skilled provider. For precisely this reason, Demographic and Health Surveys (DHS) uses the term "health professional" rather than skilled provider or skilled attendant when presenting this kind of data.

Figure 1-2. Conceptual Diagram of How BP/CR May Increase the Use of Skilled Care



CREATING A BIRTH PREPAREDNESS AND COMPLICATION READINESS INDEX

Although many safe motherhood programs have used BP/CR strategies in an effort to increase access to healthcare in recent years, few of these programs have been systematically evaluated.[5] One reason for this is the lack of well-accepted tools to measure birth preparedness across the spectrum of levels and actors. However, as programs mature, program administrators and donors will require greater accountability in terms of measurable change.

The purpose of this manual is to establish a set of indicators, called an index, which can be used to measure BP/CR at six different levels: the individual woman, her family (husband/partner), the community, the healthcare provider, the health facility, and the policy environment. The proposed indicators for each level are quantifiable, and the total score for each level sums to 100. Such scoring is useful for monitoring a given program over time or for comparing different regions of a country, if applicable. The BP/CR indices can be used in several different ways, which differ in terms of degree of difficulty and level of resources needed.

The first and most ambitious use of the index is to track BP/CR at the national level to measure progress of a given country on one or more of the levels, reflecting both programmatic interventions and non-programmatic factors such as economic, political, and social influences. The second choice is to use the index to track the progress of a specific program in a limited geographical area at one or more levels. For example, a local nongovernmental organization (NGO) might apply the community-level indicators to its particular district. As a third option, a given program at the local level might choose to design its supervisory system for providers and clinics to be consistent with the BP/CR indices for the provider and facility levels. Such a use converts a research tool into a programmatic tool for improving quality of care in a single health facility or set of facilities.

The numbers of indicators for each index differ greatly for each level: from only five at the community and facility levels to 12 at the individual level. In fact, the guiding principle in designing each index was to draw up a "short list" in each case. This approach is feasible for the indices measuring demand at the individual, family (husband/partner), and community level. The underlying assumption was that programs scoring well on the short list would most likely score well on a more extensive list.

However, for evaluating healthcare providers and health facilities, a longer list of items was developed, reflecting the set of skills, tasks, supplies, and equipment necessary to provide quality services. Nonetheless, the index for each level is set at 100 points to facilitate comparison across time and across levels.

The sources of data vary by index for each level and are summarized in **Table 1-1**.

[5] See Koblinsky and Sibley 2003, for examples of interventions to improve awareness of danger signs or birth preparedness with evaluations.

Table 1-1. Sources of Data for Each Index

Level	Preferred Source(s) of Data
Individual	Household level surveys[6]
Family	Household level surveys
Community	Semi-structured in-depth and group interviews with key informants
Provider	Provider knowledge questionnaires, case studies, skills observation checklists
Facility	Facility audits
Policy	Key informant surveys, conducted as part of the Maternal and Neonatal Program Effort Index (MNPI)

OVERVIEW OF THE INDEX FOR EACH LEVEL

Individual Level

The primary audience for most safe motherhood initiatives is women of reproductive age, more specifically those who are currently pregnant or wish to be soon. Although some surveys (for instance, the standard Demographic and Health Survey, which includes a few questions on safe motherhood) include all women of reproductive age, surveys specific to safe motherhood often limit the sample to women who are currently pregnant or have recently given birth. The reasons are twofold. First, currently pregnant women represent the primary target population for BP/CR initiatives. However, in any given survey, many of the currently pregnant women, especially those early in the pregnancy, will not have experienced the full range of events of interest to the researcher or evaluator. Women who have recently given birth are able to provide this full range of information (to the extent their recollection permits), and thus constitute an important part of the sample population for safe motherhood surveys. Second, it is extremely expensive in terms of human and financial resources to select a sample of women of reproductive age that is large enough to yield a reasonable sub-sample of women who are currently pregnant or recently gave birth. In this manual, "women who recently gave birth" refers to women who gave birth within the previous 2 years. In fact, less than two in ten of all women of reproductive age will be currently pregnant or have recently given birth, even in countries with higher fertility rates.

In order to carry out this data collection activity, the users of the BP/CR indices will likely need to hire the services of an agency experienced in conducting population-based surveys that utilizes researchers familiar with administering face-to-face interviews. Implementation of this household questionnaire requires familiarity with applying a sampling methodology; training interviewers and supervisors; coordinating multiple field teams; instituting data quality checks during fieldwork; designing the database; entering, cleaning, and analyzing the data; and interpreting results.

Family (Husband/Partner) Level

Often, it is not the pregnant woman herself who decides on the place for childbirth, but rather her family members. Thus, BP/CR initiatives must target not only the woman but also those in her family circle most likely to make that decision. In societies in general, the husband or partner is the

[6] Where budget constrains exist, programs may opt to use less expensive sources of data. For example, data on the individual woman can also be obtained from client exit interviews or health service data. However, such alternative sources do not provide representative findings.

most influential decision-maker and, even if others offer their opinions, he will be the one to make the final decision. Thus, in this index, we have included the husband/partner as the key member of the family.

In countries where another family member such as the mother-in-law plays a major role in decision-making related to childbirth, researchers may want to adapt the instrument to collect data on a second individual as well. They may choose to include them along with responses from husbands/partners to calculate a single set of indicators; however it is preferable to leave the responses of the two groups of respondents (husbands/partners and other family members) separate, and calculate two sets of indicators.

Community Level

Relatively few programs have systematically evaluated BP/CR at the community level, and thus, we have included the Community-Level Index with the caveat that further testing may lead to improved means of collecting data at this level. Furthermore, the definition of "community" may differ according to the design of the intervention and the context in which it is implemented. In some instances, it may be appropriate to define a community by pre-existing geopolitical divisions such as villages or census enumeration areas. In other cases, a less space-bound definition of community may work better. For example, in an intervention working with women's groups, the implementers may choose to define "community" in terms of the active members of the groups, regardless of where they live.

The community assessment involves identifying key informants at the community level and ascertaining from them the availability of certain items or mechanisms that reflect readiness in the case of pregnancy complications for women in the community. Researchers determine in advance the profile of the persons whom they will seek out to provide this information (e.g., the village chief, the head of the health committee, a member of the health committee, a respected woman in the community) and the rules for substitution if those individuals are not available. Although different persons may give different answers, the interviewer seeks to arrive at a consensus answer, such that reflects that each community has a single response to a given question. In researchers' language, the community (not the respondent) is the unit of analysis.

Provider Level

The 10 indicators included in the Provider-Level Index cover several aspects of a provider's performance including knowledge, clinical competencies, interpersonal communication and counseling skills, and clinical decision-making. Several different methods of data collection are required to gather the information needed to calculate the indicators in the Provider-Level Index. These methods include written tests with multiple choice questions and case studies, direct observation of clinical and counseling skills with clients, and observation of clinical skills with a client or on a model. Because direct observation of providers requires specialized technical skills, it may not always be possible for users of the Provider-Level Index to collect data on every indicator at the provider level.

The provider assessment is usually conducted in connection with the health facility audit, that is, at the same set of health facilities (preferably selected at random). However, the difference between them is that the provider assessment generally includes *multiple* providers at each facility. Therefore, the evaluator must establish and consistently apply a set of rules regarding the number and types of

healthcare providers to include. The existence of multiple providers (and often a different number of providers) at each health facility increases the complexity of the scoring process, which will be discussed in greater detail in the section on **Measurement of the Indices**.

The Provider-Level Index can be applied at a randomly selected sample of health facilities, representative at the national level. Alternatively, it can provide useful data on provider competence in a purposeful sample of health facilities or a single health facility in the catchment area of an NGO.

Facility Level

Several instruments have been designed to assess the adequacy of clinical facilities to provide maternal care, most notably the Safe Motherhood Needs Assessment developed by the World Health Organization (WHO 1998a), and the Maternity Care Supervisory Aid and Evaluation Tool developed by the Population Council (The Population Council 2000).

In developing the tool for facility assessment presented in Part Three (Facility Audit), we consulted the instruments mentioned above as well as several others available. This tool includes questions on the facility infrastructure, equipment and supplies, and services. The section on **Calculating Indicators** in Part Three directs users on how to calculate the five facility indicators as well as the total Facility-Level Index score based on the information this instrument gathers. At the same time, it remains invaluable for program managers to disaggregate the total score to better understand the areas in which the health facility or facilities are in need of improvement.

The Facility-Level Index can be used to assess readiness to deliver services at the national, district, or local level. Assessments at the national level require a representative sample of all facilities, whereas assessments at the district level may include all facilities or a subset within the district. The index is equally useful in assessing a single clinic.

Policy Level

To measure the policy environment, tested indicators are already available from the Maternal and Neonatal Program Effort Index (MNPI) (Bulatao and Ross 2000). This instrument, developed by The Futures Group International along the lines of the well-known Family Planning Program Effort Index (Ross and Stover 2001), is based on data from a survey among decision makers, program administrators, and other individuals knowledgeable about the program of a given country. With data available to date from 49 countries (see **Table 1-2, next page**), the MNPI includes 81 items on the following dimensions of maternal health programming: health facility capacity, access to maternal health services, maternal and neonatal care received, family planning provision, and policy and support services. For the purposes of the BP/CR Index at the policy level, we recommend using all items from the "Policy" and "Resources" sub-areas of the MNPI (see items listed on **Table 1-9, page 1-22**).

In contrast to the instruments for the other five levels, the MNPI is only applicable at the national level; it does not apply at the regional or district level within a country. We do not recommend that programs conduct their own data collection to assess the policy environment. Rather, assuming their country is among the 49 for which MNPI data are available, they may simply report the data collected by The Futures Group International. For the disaggregated scores measuring the individual items that comprise the "Policy" and "Resources" areas as well as the overall BP/CR Policy-Level Index score of countries participating in this study, see **Appendix B**. For more information on the MNPI, refer to http://www.policyproject.com/pubs/mnpi.cfm.

Table 1-2. Countries Currently Evaluated by the Maternal and Neonatal Program Effort Index (MNPI)

East and Southeast Asia	**Middle East and North Africa**
Cambodia	Algeria
China	Egypt
Indonesia	Iran
Myanmar	West Bank
Philippines	Yemen
Vietnam	
	Francophone Sub-Saharan Africa
South Asia	Benin
Bangladesh	Congo
India	Democratic Republic of the Congo
Nepal	Guinea
Pakistan	Madagascar
	Mali
Latin America and the Caribbean	Rwanda
Bolivia	Senegal
Brazil	
Dominican Republic	**Non-Francophone Sub-Saharan Africa**
Ecuador	Angola
El Salvador	Ethiopia
Guatemala	Ghana
Haiti	Kenya
Honduras	Malawi
Jamaica	Mozambique
Mexico	Nigeria
Nicaragua	South Africa
Paraguay	Sudan
Perú	Tanzania
	Uganda
	Zambia
	Zimbabwe

Source: Bulatao and Ross 2000.

MEASUREMENT OF THE INDICES

The BP/CR Index is actually a set of six separate indices, one for each level measured. Although it is possible to aggregate the six separate indices into a combined or total score, this approach is not always feasible or useful. First, not all countries or programs will be able to collect data on all of the six levels. Second, the total score would tend to mask the scores on the different levels, which represents a loss of information. Third, the units of analysis and sources of data differ by level.

The set of indicators for each level has a possible total score of 100. As discussed above, each index contains from 5 to 12 items. Although some items may be more important than others in a given index, it is often difficult to quantify such differences. Consequently, each item on the indices is given equal weight.

An important caveat in interpreting scores is that the indices based on a smaller number of items will show far greater variations due to change on a single item. For example, on the Community-Level Index, a change in a single item would cause a jump of twenty points on the index. In contrast, the changes on individual indicators on indices comprised of a higher number of indicators, such as the Individual (Woman's) or Family (Husband/Partner) Indices, would have a smaller change on the

overall score for the index. Despite the limitation, we still propose that each of the six indices has a total possible score of 100 for simplicity of presentation.

In four of the indices (Individual-, Family-, Community-, and Facility-Level), the denominator for each item will be the number of respondents or units sampled. The numerator will be the number of the respondents or units sampled that give a particular response or have a particular characteristic. For the above four indices, the final score is simply the mean of the percentages for each individual item on the index. For example, suppose that a survey of 200 communities yielded the data shown on **Table 1-3**. One would then take the average of the percentages to arrive at the score for the Community-Level Index: (63+45+23+76+36)/5 = 48.6.

Table 1-3. Sample of Community-Level Index Score Calculation

Indicator	Score
% of communities that have a system to identify pregnant women	63
% of communities that have an emergency response mechanism	45
% of communities that have a blood donor system	23
% of communities that have a transportation system	76
% of communities that have a financial support system	36
Mean Score	48.6

The scoring for the provider and facility indices is somewhat less straightforward. Decisions made during the process of selecting the sample of facilities or the sample of providers within a health facility may need weighting of the provider and/or the facility data collected in order to correctly score each indicator. This technique is beyond the scope of this manual and would require consultation with a local statistician. (See the section on **Calculating Indicators** in Part Three for further detail on this subject.)

More information with regard to sampling for the Policy-Level Index can be found in Bulatao and Ross (2000). However, we reiterate our recommendation to use the scores obtained by The Futures Group International for specific countries on this index, and we do not address alternative data collection techniques at the policy level.

ADAPTING THE INDEX TO RESOURCE-CONSTRAINED ENVIRONMENTS

For an organization to apply all six indices included in this instrument requires substantial resources, both financial and technical. Countries with a large, well-funded safe motherhood program may consider the investment in tracking progress well justified, but countries or NGO programs with more constrained resources may not have that option. Nonetheless, organizations can take advantage of this instrument by applying it on a more limited scale in the following ways:

Track only a subset of the indices. Depending on the particular focus of the BP/CR intervention, the organization might opt to monitor only one index. For example, for a community mobilization intervention, one would only use the Community-Level Index.

Track only a subset of the indicators for a given index. Although scoring for this manual is set up to yield 100 points per index, an organization can disregard the scoring for the proposed set of

indicators and track two or three indicators from the larger set instead. The choice of indicators should reflect both program priorities and data availability (or ease of collection). For example, the Provider-Level Index includes data on healthcare provider knowledge and skills; the latter require observation by a trained provider. Although not ideal, an organization could opt to apply only those parts of the index that relate to knowledge and are relatively easier to collect. Correct knowledge does not ensure correct performance of skills; lack of knowledge on basic issues, however, sends to program managers a clear message regarding the need for additional training.

Track the indices for a restricted geographical area. Although the intervention may occur at the national or regional level, the organization might opt to monitor the program in a single district. However, the district chosen should be *average*, not an area known to be better off than most or favored for a particular reason (e.g., the natal home of the country's president).

Interview clients at a central facility (e.g., a clinic) rather than conducting a population-based survey that requires a random sample. In order to obtain data from women who are currently pregnant or have recently given birth, one could interview clients at those facilities providing healthcare to these groups. The major drawback is that such a sample would not represent the population as a whole, but rather those who opted to seek care at health facilities. Thus, the results are likely to be biased upward, that is, to "show effects" among this group when they may not have occurred among the general population. However, if the data show that a client population has not undertaken certain behaviors, it is likely that the general public has not either. Thus, programs could use this information to identify areas in need of further attention.

Use existing clinical records as a basis for tracking certain indicators. Many developing countries may not have records that are sufficiently reliable to use for this purpose. However, where good data exist, they can be useful in tracking certain indicators, such as percentage of births with a partograph.

BIRTH PREPAREDNESS AND COMPLICATION READINESS INDICES INDICATORS TABLES

The tables that follow list the indicators for each index (Individual-, Family-, Community-, Provider-, Facility-, and Policy-Level). The checked cells in the first columns identify indicators that are appropriate for specific respondents (currently pregnant women, husbands/partners of currently pregnant women, women who recently gave birth, husbands/partners of women who recently gave birth, all women of reproductive age, and all husbands/partners). The checked cells in the next group of columns identify which measurement methods can provide the data source for each indicator (population-based survey, health services data, key informant interviews, knowledge questionnaires, case studies, checklists, facility audits, and the MNPI). In the Individual-Level Index (**Table 1-4**), the last column lists the question numbers on the Women's Prototype Safe Motherhood Questionnaire that correspond to that indicator. In the Policy-Level Index, the last column provides the item number on the MNPI questionnaire that measures that indicator.

Table 1-4. Indicators for the Individual-Level (Woman's) Index

Indicator Number	Indicator	Respondents			Data Source	
		All Women of Reproductive Age	Women Who Recently Gave Birth[a]	Currently Pregnant Women	Population-Based Survey	Women's Survey Question Numbers[b]
Knowledge of key danger signs						
1.1	% of women who know key danger signs during pregnancy	•	•	•	•	302
1.2	% of women who know key danger signs during labor and childbirth	•	•	•	•	304
1.3	% of women who know key danger signs during postpartum	•	•	•	•	306
1.4	% of women who know key danger signs in the newborn	•	•	•	•	308
Service use and planning actions: Intentions and behaviors						
1.5	% of women who (plan to) attend at least 4 antenatal care visits with a skilled provider	N/A	•	•	•	602, 603 (902, 903)
1.6	% of women who attend first antenatal care visit with a skilled provider during first trimester	N/A	•	•	•	602, 604 (902, 904)
1.7	% of women who (plan to) give birth with a skilled provider	N/A	•	•	•	722, (921)
1.8	% of women who (plan to) save money for childbirth	N/A	•	•	•	703, 704 (917, 918)
1.9	% of women who (plan to) identify a mode of transport to place of childbirth	N/A	•	•	•	703, 704 (917, 918)
Knowledge of community resources						
1.10	% of women who know that their community has a financial support system[c]	•	•	•	•	313
1.11	% of women who know that their community has a transportation system	•	•	•	•	313
1.12	% of women who know that their community has a blood donor system	•	•	•	•	313

[a] In this manual, "women who recently gave birth" refers to women who gave birth within the previous 2 years.
[b] Question numbers apply to the Prototype Woman's Safe Motherhood Questionnaire in Part Two of the manual.
[c] Indicators 1.10 to 1.12 are best applied when linked to community indicators on the existence of financial, transportation, and blood donor systems. See **pages 1-30 and 1-31**.

Table 1-5. Indicators for the Family-Level (Husband/Partner) Index

		Respondents			Data Source	
Indicator Number	**Indicator**	**All Husbands[a]**	**Husbands of Women Who Recently Gave Birth[b]**	**Husbands of Currently Pregnant Women**	**Population-Based Survey**	**Women's Survey Question Numbers[c]**
Knowledge of key danger signs						
2.1	% of husbands who know key danger signs during pregnancy	•	•	•	•	302
2.2	% of husbands who know key danger signs during labor and childbirth	•	•	•	•	304
2.3	% of husbands who know key danger signs during postpartum	•	•	•	•	306
2.4	% of husbands who know key danger signs in the newborn	•	•	•	•	308
Service use and planning actions: Intentions and behaviors[d]						
2.5	% of husbands who plan that their wife will attend at least 4 antenatal care visits with a skilled provider	N/A	N/A	•	•	902, 903
2.6	N/A	N/A	N/A	N/A	N/A	N/A
2.7	% of husbands who plan that their wife will give birth with a skilled provider	N/A	N/A	•	•	902, 904
2.8	% of husbands who plan to save money for childbirth	N/A	N/A	•	•	917, 918
2.9	% of husbands who plan to identify a mode of transport to place of birth	N/A	N/A	•	•	917, 918
Knowledge of community resources						
2.10	% of husbands who know that their community has a financial support system	•	•	•	•	313
2.11	% of husbands who know that their community has a transportation system	•	•	•	•	313
2.12	% of husbands who know that their community has a blood donor system	•	•	•	•	313

[a] The term "husbands" includes both husbands and partners.
[b] In this manual, "women who recently gave birth" refers to women who gave birth within the previous 2 years.
[c] Question numbers apply to the Prototype Woman's Safe Motherhood Questionnaire in Part Two of the manual. For guidance in adapting the questionnaire for use with husbands/partners, see **Part Two, page 2-135**.
[d] These indicators are not applicable to husbands/partners of women who recently gave birth since all behaviors occur in the past and the women themselves are a sufficient source for this data. Researchers should also use caution when measuring these indicators for husbands/partners of currently pregnant women. For further information, see **page 1-31**.

Table 1-6. Indicators for the Community-Level Index

		Respondents		Data Source
Indicator Number	**Indicator**	**Key Informants[a]**	**Semi-Structured Interviews**	**Group Interviews**
3.1	% of communities[b] that have a system to identify pregnant women	•	•	•
3.2	% of communities that have a financial support system	•	•	•
3.3	% of communities that have a transportation system	•	•	•
3.4	% of communities that have a blood donor system	•	•	•
3.5	% of communities that have an emergency response mechanism	•	•	•

[a] Key informants can be the village chief, the president and/or members of the health committee, if present, or a respected woman in the village.
[b] Communities are usually formed by pre-existing geopolitical divisions or census enumeration area.

Table 1-7. Indicators for the Provider-Level Index

		Respondents	Data Source		
Indicator Number	**Indicator**	**Skilled Providers***	**Knowledge Questionnaire**	**Case Study**	**Skills Observation Checklist**
Provider Knowledge					
4.1	% of providers with essential knowledge of management of normal pregnancy	•	•	N/A	N/A
4.2	% of providers with essential knowledge of care during childbirth and immediate newborn care	•	•	N/A	N/A
4.3	% of providers with essential knowledge of complications management	•	•	N/A	N/A
4.4	% of providers with essential knowledge of postpartum care	•	•	N/A	N/A
Provider Skills					
4.5	% of providers with adequate decision-making skills	•	N/A	•	N/A
4.6	% of providers competent in IPC/C	•	N/A	N/A	•
4.7	% of providers with clinical competence in normal childbirth	•	N/A	N/A	•
4.8	% of providers with clinical competence in bimanual compression of the uterus and aortic compression	•	N/A	•	•
4.9	% of providers with clinical competence in newborn resuscitation	•	N/A	N/A	•
4.10	% of providers with clinical competence in manual vacuum aspiration	•	N/A	N/A	•

* See Essential Competencies for Basic Midwifery Practice in **Appendix A**.

Table 1-8. Indicators for the Facility-Level Index

		Unit of Analysis	Data Source
Indicator Number	**Indicator**	**Health Facilities**	**Facility Audit**
5.1	% of facilities that have necessary supplies and equipment	•	•
5.2	% of facilities adequately staffed at all times	•	•
5.3	% of facilities with a health committee	•	•
5.4	% of facilities that have a routine system to review cases of maternal and perinatal deaths and/or severe complications	•	•
5.5	% of facilities that have adequate privacy	•	•

Table 1-9. Indicators for the Policy-Level Index

		Unit of Analysis	Data Source	
Indicator Number	**Indicator**	**Country**	**MNPI**	**MNPI* Question Number**
Policy				
6.1	Adequate ministry of health policies toward pregnancy and childbirth	•	•	57
6.2	Development of policies through adequate consultation with interested parties	•	•	58
6.3	Reasonable and fair policies concerning who can provide maternal health services	•	•	59
6.4	Favorable policy towards treatment of complications of any abortions	•	•	60
6.5	Regular high-level reviews and updated action plans for policies	•	•	61
6.6	Director of services for maternal health at high administrative level	•	•	62
Resources				
6.7	Frequent statements to the public supporting safe motherhood from high officials	•	•	63
6.8	Adequate budgeting for the needs of safe motherhood	•	•	64
6.9	Free drugs and services to all clients	•	•	65
6.10	Active private sector covering substantial share of pregnancy and childbirth cases	•	•	66

* Question numbers apply to the Maternal and Neonatal Program Effort Index. See Bulatao R and J Ross. 2000. *Rating Maternal and Neonatal Health Programs in Developing Countries*. MEASURE *Evaluation* Working Paper WP-00-26. MEASURE *Evaluation:* Chapel Hill, NC. http://www.cpc.unc.edu/measure/publications/pdf/wp-00-26.pdf

BIRTH PREPAREDNESS AND COMPLICATION READINESS INDEX INDICATOR DEFINITIONS

This section provides a description of the indicators from the scorecards applicable to each of the six levels (individual, family, community, provider, facility, and policymaker). Each description includes an explanation of why the indicator is an important component for birth preparedness and complication readiness.

Some of the indicators are composite, while others are individual. Therefore, some indicators can be measured from a single question (variable) from the relevant data source, whereas others require more than one variable. Many of the indicators appear in the *Compendium of Indicators for Evaluating Reproductive Health Programs* (Bertrand and Escudero 2002). In such cases, the definitions below are largely based on that reference source.

Individual-Level (Woman's) Index

Respondents

Currently pregnant women and women who recently gave birth

Women who are currently pregnant and women who recently gave birth form the two groups of respondents in the Individual-Level (Woman's) Index. In this manual, "women who recently gave birth" refers to women who gave birth within the previous 2 years. There are pros and cons to asking questions about birth preparedness and complication readiness (BP/CR) to each of these two groups. Women who delivered up to 2 years prior to an interview may have difficulty recalling preparations they made or services they used during that pregnancy and childbirth. The advantage of asking women who are currently pregnant about BP/CR is that these actions will be much more immediate and therefore easier to report accurately.

However, there are also disadvantages to interviewing currently pregnant women. Since they have not completed their pregnancies, they may not yet have had the opportunity or need to make arrangements related to BP/CR. The evidence base on how the planning process works and at what point in pregnancy it is most effective is still weak. For this reason, it may be difficult to interpret the meaning of responses that currently pregnant women give to these questions. In addition, pregnant women are unable to report whether they used services they have not yet needed, for example a skilled provider to assist them with the birth. Pregnant women are only able to provide information on whether they *plan* to use these services. In the field of maternal and newborn health, little evidence exists on how strong the connection is between intention to use services and actual use of services.

Indicators 1.5 to 1.9 on use of services and planning actions must be worded differently depending on whether the respondent is currently pregnant or gave birth recently. For indicator 1.7, for example, a currently pregnant woman reports whether she *plans* to give birth with a skilled provider, whereas a woman who recently gave birth reports whether she actually gave birth with a skilled provider. The difference in wording for different respondents in these indicators is denoted by placing "plan to" between parentheses in the indicator definition.

Given that intention to use services and actual use of services are markedly different, in combining the responses of both currently pregnant women and those who recently gave birth, we are rolling two similar but distinct indicators into one. The reason for combining these parallel indicators for

currently pregnant women and women who recently gave birth is to increase the sample size, reduce sampling error, and improve the chance of showing statistically significant change in the indicator over time. However, implementers who want to respect the conceptual difference between intention and action may choose to track indicators 1.5 to 1.9 separately for currently pregnant women and for women who recently gave birth.

Because knowledge about BP/CR is important for all pregnancies, we recommend including all women who have recently given birth in the denominator for the indicators in the Individual-Level Index, whether they had a live birth or a stillbirth. Adding women who had stillbirths in the sample means including a careful series of questions in the women's questionnaire in order to identify them (see Prototype Woman's Safe Motherhood Questionnaire, questions 204–210). It should be noted that DHS surveys include only women who had a live birth. Adding women who had stillbirths into the denominator for these indicators makes it difficult to compare them to measurements taken by the DHS.

All women of reproductive age

Because BP/CR is a shared responsibility of everyone, some implementers of this manual may consider it useful to include all women of reproductive age on the knowledge questions. However, due to sampling considerations (see **Part Two, pages 2-68 to 2-79**), we have opted to define all of the Individual-Level Index indicators to include only women who are currently pregnant or have recently given birth.

Data Sources

Population-based surveys

The only data source that will provide accurate percentages for the indicators on the Individual-Level Index is a population-based survey. The advantage of this research methodology is that it can provide representative information on all women in the population who satisfy the criteria of interest, for example having given birth recently; however, population-based surveys are quite expensive and require input from technical experts in sampling.

Client exit interviews

Local organizations or health facilities that do not have funds or expertise to conduct a population-based survey may still measure the indicators in the Individual-Level Index by interviewing their client base. Client exit interviews do not provide information about BP/CR of the population as a whole, but of women who are already using some services. Measurements of this sub-group are likely to be favorable when compared to the broader population. A population-based survey is by far the preferred data source when feasible.

Knowledge of key danger signs, Indicators 1.1 to 1.4

Definition and purpose: Indicators 1.1 to 1.4

An important aspect of assessing BP/CR is measuring spontaneous knowledge of essential danger signs of obstetric and newborn complications. Spontaneous knowledge refers to the respondent's naming a sign without being asked about that sign by name. Danger signs are not the actual obstetric complications, but symptoms that are easily identified by non-clinical personnel.

Knowledge of the danger signs of obstetric complications is the essential first step in the appropriate and timely referral to essential obstetric care (Perreira et al. 2002). Similarly, because most babies are

born at home or are discharged from the hospital in the first 24 hours, increasing community awareness of the danger signs of newborn complications is of critical importance for improving newborn survival.

We place emphasis on key danger signs in women and the newborn as a way to simplify the way to measure this knowledge. The danger signs specified below were selected as key because they are common, easy to recognize, and associated with a potentially severe problem.

For the purpose of the indicator on knowledge of key danger signs during the postpartum, this period is defined as beginning after the delivery of the placenta and continuing until 6 weeks after the birth. The key danger signs in the newborn are focused on those signs that indicate problems most likely to occur during the first 7 days of the newborn's life since almost two-thirds of neonatal deaths occur during the first week after birth (WHO 1996).

The key danger signs during pregnancy include:

- Severe vaginal bleeding
- Swollen hands/face
- Blurred vision

The key danger signs during labor and childbirth include:

- Severe vaginal bleeding
- Prolonged labor (> 12 hours)
- Convulsions
- Retained placenta

The key danger signs during the postpartum period include:

- Severe vaginal bleeding
- Foul-smelling vaginal discharge
- High fever

The key danger signs in the newborn include:

- Convulsions/spasms/rigidity
- Difficult/fast breathing
- Very small baby
- Lethargy/unconsciousness

Indicators of knowledge of key danger signs of obstetric or newborn complications have limitations, however. Since knowing a danger sign does not guarantee that an individual will recognize it in practice, these indicators of knowledge of danger signs do not fully measure an individual's ability to recognize problems when they occur. Even in cases where awareness of danger signs helps individuals to recognize a problem, how severe they consider the problem to be is also an important

determinant of deciding when to act. These indicators do not capture the severity aspect of danger sign recognition.

Experience has shown that improvement in knowledge of obstetric complications is usually much smaller than improvements in other health education messages such as self-care (e.g., iron supplementation) (MotherCare 2000a and 2000b). Therefore, even small improvements in this area can be regarded as significant program achievements.

1.1: Percentage of women who know key danger signs during pregnancy

$$\left(\frac{\text{\# of women who spontaneously mention ALL three danger signs for pregnancy}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

1.2: Percentage of women who know key danger signs during labor and childbirth

$$\left(\frac{\text{\# of women who spontaneously mention ALL four danger signs for labor/childbirth}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

1.3: Percentage of women who know key danger signs during postpartum period

$$\left(\frac{\text{\# of women who spontaneously mention ALL three danger signs for postpartum}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

1.4: Percentage of women who know key danger signs in the newborn

$$\left(\frac{\text{\# of women who spontaneously mention ALL four danger signs in the newborn}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

Service use and planning actions: Intentions and behaviors, Indicators 1.5 to 1.9

Definition and purpose: Indicator 1.5

Percentage of women who (plan to) attend at least 4 antenatal care visits with a skilled provider

Antenatal care (ANC) cannot prevent or predict the major complications of childbirth. However, measuring the use of ANC is important since certain ANC interventions (for example, prevention, detection, and treatment of anemia, detection of hypertension, treatment of eclampsia, and infection prevention) can reduce the likelihood of poor maternal outcomes (Bergsjø 2001; Rooney 1992).

This indicator measures the use of 4 ANC visits because 4 is the number of visits included in the package of ANC services currently recommended by the World Health Organization. Clinical evidence has shown that women who receive 4 ANC visits with effective interventions are as likely to have good outcomes as women who receive more visits (Villar et al. 2001).

This indicator does not capture the timing of visits or the reasons for seeking care, nor does it measure the quality and content of the care received.

1.5: Percentage of women who (plan to) attend at least 4 ANC visits with a skilled provider

$$\left(\frac{\text{\# of pregnant women who plan to attend 4 ANC visits with a skilled provider}}{\text{\# of pregnant women}} + \frac{\text{\# of women who attended 4 ANC visits with a skilled provider}}{\text{\# of women who had stillbirths or live births in the last 2 years}}\right) \times 100$$

Definition and purpose: Indicator 1.6

Percentage of women who attend first ANC visit with a skilled provider during first trimester

The information provided for indicator 1.5 about the importance of measuring the use of ANC in maternal and newborn health also applies here (see above). The Individual-Level (Woman's) Index includes an indicator on the use of ANC during the first trimester because emerging evidence suggests that ANC is more effective when received earlier in the pregnancy.

Due to the fact that the great majority of women identified to be currently pregnant for inclusion in the sample will have already completed their first trimester, this indicator asks both pregnant women and women who recently gave birth about their actual use of services. No respondent provides information about intentions for this indicator. Data analysts should exclude any women still in their first trimester of pregnancy at the time of interview for this indicator.

As with indicator 1.5, this indicator does not measure the quality or content of ANC services provided.

1.6: Percentage of women who attend first ANC visit with a skilled provider during first trimester

$$\frac{\text{\# of women who attend first ANC visit with a skilled provider in the first trimester}}{\text{\# of 2nd and 3rd trimester pregnant women and women who had stillbirths or live births in the last 2 years}} \times 100$$

Definition and purpose: Indicator 1.7
Percentage of women who (plan to) give birth with a skilled provider

The purpose of this indicator is to provide information on women's use of childbirth care services. As discussed earlier in this manual, the presence of a skilled provider does not necessarily translate into the provision of skilled care (or attendance). The latter requires, in addition, adequate staffing, supervision, the availability of supplies and equipment, and other factors that enable the provider to deliver quality care.

Because of the difficulty in measuring skilled attendance, evaluators commonly measure the percentage of births with a skilled provider as a proxy, as this manual recommends. However, defining skilled providers is also challenging in itself. Major differences exist between countries in how different cadres of providers are trained, in what providers are allowed to practice and actually practice, and in what resources, equipment, and supplies are available to them. In order to establish a standard set of skills that any provider should have in order to be defined as a skilled provider, the International Confederation of Midwives (ICM) developed a list of essential competencies (see **Appendix A**; for further details on the essential competencies development process, visit www.internationalmidwives.org). Because of this variation, evaluators should not infer that similar rates of births with a skilled provider between countries reflect similar levels of care.

Since the source of data for this indicator is the woman herself (whether through a population-based survey or other method such as a client exit interview), we must recognize that she will not be able to assess the clinical skill of her provider to determine whether or not he/she was actually "skilled" (Curtis et al. 2003). The information the woman provides will more likely reflect the professional training of the provider and what cadre of health professional he/she is. Therefore, when the indicator "percentage of births with a skilled provider" is gathered through a population-based survey, skilled provider is usually defined in terms of whether or not the provider was a "professional healthcare provider," rather than her/his actual skills as compared to the ICM's list of essential competencies.

Although place of birth is not an indicator on the Individual-Level Index, disaggregating skilled provider at childbirth by place of the birth is one way to further document the level of care a woman and her newborn receive at the time of childbirth. This measure of care or "skilled attendance" will vary by setting and provider. A skilled provider assisting a birth in a hospital, for example, may be able to provide a higher level of "skilled attendance" than can a skilled provider assisting a birth at home. On the other hand, births occurring in a health facility sometimes occur without any provider present, or with a provider from a lower cadre who is not considered a skilled provider. For this reason, it is important to look at both the place and the provider.

1.7: Percentage of women who (plan to) give birth with a skilled provider

$$\left(\frac{\text{\# of pregnant women who plan to give birth with a skilled provider} + \text{\# of women who gave birth with a skilled provider}}{\text{\# of pregnant women} + \text{\# of women who had stillbirths or live births in the last 2 years}}\right) \times 100$$

Definition and purpose: Indicator 1.8

Percentage of women who (plan to) save money for childbirth

The lack of money and transportation is a barrier to seeking care as well as identifying and reaching medical facilities (Thaddeus and Maine 1994). Money saved by the women or her family can pay for health services and supplies, transport, or other costs such as loss of work. If the woman can afford to pay for these costs, she is more likely to seek care.

The woman herself may not be the person saving money; rather, the money may be part of a common household pot. We have little empirical evidence to know if it is important for the woman to have saved the money versus having access to household savings. We also have little evidence to suggest what sum of money may be "effective" in improving health outcomes in different circumstances. Many factors including the severity of a complication, distance to a health facility, and cost of healthcare services will determine the amount of money needed. With future research, it may be possible to develop recommendations for amounts of money to save in specific settings. This indicator measures whether the woman or her family put aside any money at all, even if it may be too little money to make a difference.

1.8: Percentage of women who (plan to) save money for childbirth

$$\left(\frac{\text{\# of pregnant women who plan to save money for childbirth} + \text{\# of women who saved money for childbirth}}{\text{\# of pregnant women} + \text{\# of women who had stillbirths or live births in the last 2 years}}\right) \times 100$$

Definition and purpose: Indicator 1.9

Percentage of women who (plan to) identify a mode of transport to place of childbirth

Even when money is available, it can be difficult to secure transport at the last minute after a complication has arisen. Arranging transport ahead of time reduces the first and second delays: the delay in seeking services and the delay in reaching services, respectively. As in indicator 1.8, this indicator makes no judgment about whether the transportation arrangements are sufficient.

1.9: Percentage of women who (plan to) identify a mode of transport to place of childbirth

$$\frac{\text{\# of pregnant women who plan to identify a mode of transport to place of childbirth} + \text{\# of women who identified a mode of transport to place of childbirth}}{\text{\# of pregnant women} + \text{\# of women who had stillbirths or live births in the last 2 years}} \times 100$$

Knowledge of community resources, Indicators 1.10 to 1.12

Definition and purpose: Indicators 1.10 to 1.12

These indicators measure women's knowledge of the existence of community-level systems to provide emergency funds, transport, and blood donors. The definition and purpose for indicators 1.8 and 1.9 present information on the significance of money and transport in promoting maternal and newborn survival. Making arrangements for blood donors is also important because women giving birth may need blood transfusions in the event of hemorrhage or cesarean section. The unavailability of blood is a barrier to receiving adequate and appropriate treatment (Thaddeus and Maine 1994). Blood donor systems at the community level can help overcome problems related with access to blood.

Saving money, arranging transportation, and identifying blood donors are not only the duty of an individual woman and her family. Because BP/CR is a shared responsibility, the community also plays an important role in working to remove barriers and improve access to care for women and newborn babies. Community leadership, therefore, has an obligation to work on setting up systems including financing, transportation, and blood donation, and to make those systems known to the public.

These indicators in the Individual-Level Index do *not* measure the actual existence of such community systems, but rather whether the woman knows that her community has these systems. If the woman answers that she does not know if the community has a system, this response may indicate either that the community in fact does not have one, or that the community has one but she does not know about it. Since this response is difficult to interpret, it is important to link these indicators to those in the Community-Level Index, which measure the actual existence of systems that remove barriers and reduce delays to reaching health care. Researchers may want to include in the denominators of indicators 1.10 and 1.12 only those women who live in a community that has these systems in place, as verified through Community-Level Index indicators 3.2 to 3.4.

Even if a community has these systems in place, if a woman has no knowledge of them, then they are unlikely to help her. Therefore, in addition to measuring the actual existence of community systems under the Community-Level Index, these indicators of the woman's knowledge about community systems measure an additional factor determining access.

1.10: Percentage of women who know that their community has a financial support system

$$\left(\frac{\text{\# of women who know of community financial support system}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

1.11: Percentage of women who know that their community has a transportation system

$$\left(\frac{\text{\# of women who know of community transportation system}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

1.12: Percentage of women who know that their community has a blood donor system

$$\left(\frac{\text{\# of women who know of community blood donor system}}{\text{\# of women interviewed}}\right) \text{ X } 100$$

Family-Level (Husband/Partner) Index

Respondents

Husbands or partners of women who are currently pregnant or who recently gave birth

Making decisions about what to do in the event of obstetric complications is a complex process, but in almost all settings, women's families play a significant, sometimes dominant, role in that process (MotherCare 2000a and 2000b). The husbands or partners of pregnant women are often the decision-makers, especially if the woman is experiencing a life-threatening complication. They are also usually the ones responsible for making financial and logistical arrangements for transfer to an emergency facility (MotherCare 2000a and 2000b). For this reason, husbands and partners have been identified as the key respondents for the Family-Level Index.

As described in the previous section, all indicators on the Individual-Level (Woman's) Index can be worded to apply to both women who recently gave birth and women who are currently pregnant. For women who are currently pregnant, indicators 1.5 and 1.7 to 1.9 apply to plans for future actions. For women who recently gave birth, these indicators apply to events that occurred in the past. For reasons explained in the previous section (Individual-Level Index), indicator 1.6, "Percentage of women who attend first antenatal care visit with a skilled provider during first trimester," refers to an event in the past for both currently pregnant women and those who recently gave birth.

For the purpose of program monitoring, it is not necessary to get a report from both the woman who recently gave birth and her husband/partner about events that happened in the past, such as what services she used and whether they prepared money and transport. Since the woman's answer is likely

to be more accurate, researchers should rely on her responses. Measuring these same past events using the husband/partner's responses for indicators 2.5 to 2.9 is extra effort that can be spared.

On the other hand, researchers may find meaningful differences between women and their husbands/partners concerning plans to use services, save money, and arrange transportation in the future. It is important to ask husbands/partners about their intentions relating to childbirth since they may have weighty influence on the decisions the family makes about whether and when to seek skilled care. For this reason, indicators 2.5 and 2.7 to 2.9 have been kept on the Family-Level (Husband/Partner) Index only for the husbands/partners of currently pregnant women.

However, researchers must keep in mind one important caveat in deciding whether it is worth the investment to add these questions to the questionnaire for husbands/partners of currently pregnant women. Many surveys elect to interview only a portion of the husbands/partners of the women in their sample, for example, one-third or one-half. If the percentage of currently pregnant women in the sample is small to start with, and then the sample size decreases further because not all of their husbands/partners were included, the number of husbands/partners of pregnant women in the final sample may be too small to provide meaningful results. Researchers should weigh these considerations carefully before deciding to measure indicators 2.5 and 2.7 to 2.9.

Other family members of currently pregnant women or women who recently gave birth

Co-habiting partners may be the appropriate respondents in some households, while in some cultures other family members, such as the mother-in-law, also play a crucial role in decision-making. Implementers should consider adding these family members as respondents in addition to the husband/partner as appropriate. They may choose to include these additional family members in the same Index as the husbands/partners, or leave their responses in a separate Index. We recommend using a separate Index since husbands and partners may influence decisions differently than other family members. Finally, in many settings, men are not required to be present for births; hence, some indicators may not be applicable to husbands/partners in all settings (MotherCare 2000a and 2000b).

All men of reproductive age

Some implementers of this manual may choose to include all men of reproductive age on the knowledge questions. For the rationale, please see "All women of reproductive age" under "Respondents" in the previous section (Individual-Level Index).

Data Sources

Population-based surveys

Population-based surveys should be used as the data source for the indicators on the Family-Level (Husband/Partner) Index. Although such surveys are expensive and require human resources with expertise in this area, it is the only methodology to provide representative information on BP/CR at this level. Husbands or partners generally do not accompany the woman to services regularly enough to be able to interview them in the facility setting.

Definition and purpose: Indicators 2.1 to 2.12

Apart from the differences in respondents, each of the indicators on the Family-Level (Husband/Partner) Index is parallel to the indicator of the corresponding number in the Individual-Level Index. See the section on the Individual-Level Index for the definition and purpose of each indicator and issues associated with its measurement. The term "husbands" here includes both husbands and partners.

2.1: Percentage of husbands who know key danger signs during pregnancy

$$\left(\frac{\text{\# of husbands who spontaneously mention ALL three danger signs of pregnancy}}{\text{\# of husbands interviewed}}\right) \text{ X } 100$$

2.2: Percentage of husbands who know key danger signs during labor and childbirth

$$\left(\frac{\text{\# of husbands who spontaneously mention ALL four danger signs of labor/childbirth}}{\text{\# of husbands interviewed}}\right) \text{ X } 100$$

2.3: Percentage of husbands who know key danger signs during postpartum

$$\left(\frac{\text{\# of husbands who spontaneously mention ALL three danger signs of postpartum}}{\text{\# of husbands interviewed}}\right) \text{ X } 100$$

2.4: Percentage of husbands who know key danger signs in the newborn

$$\left(\frac{\text{\# of husbands who spontaneously mention ALL four danger signs in the newborn}}{\text{\# of husbands interviewed}}\right) \text{ X } 100$$

2.5: Percentage of husbands of pregnant women who plan that their wife will attend at least 4 ANC visits with a skilled provider

$$\left(\frac{\text{\# of husbands of pregnant women who plan that their wife will attend at least 4 ANC visits with a skilled provider}}{\text{\# of husbands of pregnant women}}\right) \text{ X } 100$$

2.7: Percentage of husbands of pregnant women who plan that their wife will give birth with a skilled provider

$$\left(\frac{\text{\# of husbands of pregnant women who plan that their wife will give birth with a skilled provider}}{\text{\# of husbands of pregnant women}}\right) \times 100$$

2.8: Percentage of husbands of pregnant women who plan to save money for childbirth

$$\left(\frac{\text{\# of husbands of pregnant women who plan to save money for childbirth}}{\text{\# of husbands of pregnant women}}\right) \times 100$$

2.9: Percentage of husbands of pregnant women who plan to identify a mode of transport to place of childbirth

$$\left(\frac{\text{\# of husbands of pregnant women who plan to identify a mode of transport to place of childbirth}}{\text{\# of husbands of pregnant women}}\right) \times 100$$

2.10: Percentage of husbands who know that their community has a financial support system

$$\left(\frac{\text{\# of husbands who know of community financial support system}}{\text{\# of husbands interviewed}}\right) \times 100$$

2.11: Percentage of husbands who know that their community has a transportation system

$$\left(\frac{\text{\# of husbands who know of community transportation system}}{\text{\# of husbands interviewed}}\right) \times 100$$

2.12: Percentage of husbands who know that their community has a blood donor system

$$\left(\frac{\text{\# of husbands who know of community blood donor system}}{\text{\# of husbands interviewed}}\right) \times 100$$

Community-Level Index

Respondents

Key Informants

Key informants are members of the community who are likely to serve as an authority on the subject of interest. Obtaining information from key informants is different from generating a representative sample and gathering data through a survey. Key informants do not provide information that is statistically representative of the community as a whole, but they are believed to be the best source of information for certain topics about the community.

Data Sources

Semi-structured in-depth interviews

Semi-structured in-depth interviews follow an interviewer's guide or a list of questions and topics to be covered in a particular order. These tools may contain both close-ended (quantitative) and open-ended (qualitative) questions. Semi-structured interviews are effective in obtaining a large amount of information about a topic, but interviewers must be trained in both quantitative and qualitative interviewing techniques, which can be time consuming.

Group interviews

The group interviewing methodology recommended in this manual for the Community-Level Index is similar to the qualitative component of the semi-structured key informant interviews described above. In a group, different individuals may give different answers. The interviewer needs to be proficient in guiding the group discussion until a clear sense of the group's answer regarding a specific topic is obtained.

Definitions and purpose: Indicator 3.1

Percentage of communities that have a system to identify pregnant women

A system to identify pregnant women is a routine process through which community-based health promoters or other individuals identify all pregnant women and place their names and addresses on a list, like a registration log. When neighbors, key community members, and healthcare providers know that a woman is pregnant, they share the responsibility of ensuring that she receive needed services and helping her if the need arises.

3.1: Percentage of communities that have a system to identify pregnant women

$$\left(\frac{\text{\# of communities that have a system to identify pregnant women}}{\text{\# of communities surveyed}}\right) \text{ X } 100$$

Definition and purpose: Indicators 3.2 to 3.4

Financial support, transportation and blood donor systems at the community level

For information about the role that financial support, transportation, and blood donor systems play in maternal and newborn health, see the explanations provided for indicators 1.10 to 1.12 in the section on the Individual-Level Index. Unlike indicators 1.10 to 1.12, which measure a woman's unverified knowledge about whether community systems exist, indicators 3.2 to 3.4 measure

whether community systems are actually in place. The researcher should verify the responses of key informants by observing available evidence of these key systems.

Evidence of a financial support system could be actual cash funds, written rules about how the system operates, and interviews with contributors. Evidence of a transportation system could include the actual vehicle used for transportation and an interview with the person who controls access to the vehicle. Evidence of a blood donor system could be a list of identified blood donors and interviews with those individuals. Because we still lack evidence to determine what characteristics financial, transport and blood donor systems must have in order to be effective, this manual does not provide guidelines for the specific criteria that these systems require.

3.2: Percentage of communities that have a financial support system

$$\left(\frac{\text{\# of communities that have a financial support system}}{\text{\# of communities surveyed}}\right) \text{ X } 100$$

3.3: Percentage of communities that have a transportation system

$$\left(\frac{\text{\# of communities that have a transportation system}}{\text{\# of communities surveyed}}\right) \text{ X } 100$$

3.4: Percentage of communities that have a blood donor system

$$\left(\frac{\text{\# of communities that have a blood donor system}}{\text{\# of communities surveyed}}\right) \text{ X } 100$$

Definition and purpose: Indicator 3.5
Percentage of communities that have an emergency response mechanism

An emergency response mechanism is a combination of the above four systems (identification of pregnant women, financing, transportation, and blood donation) and includes a designated contact person who must be able to:

- Recognize the danger signs of obstetric complications
- Know where to take the woman
- Release funds
- Mobilize transport
- Identify a blood donor

For the purposes of this indicator, the community is defined as having an emergency response mechanism if all of the following systems are in place: identification of pregnant women, finance, transportation, blood donation, and if there is at least one contact person responsible for linking these systems to the woman in need. However, since blood donation systems can be difficult to establish in some countries, due to factors such as taboos surrounding blood, this system may not be applicable to all settings. In these places, complete emergency response mechanisms will not include blood donor systems.

3.5: Percentage of communities that have an emergency response mechanism

$$\frac{\text{\# of communities that have ALL systems of an emergency response mechanism in place}}{\text{all communities surveyed}} \times 100$$

Provider-Level Index

Respondents

The respondents for the Provider-Level Index are healthcare providers with midwifery or obstetric training, that is, "skilled providers" (or "skilled attendants", as referred to previously in this manual). **Appendix A** provides a list of internationally agreed-upon essential competencies that skilled providers should possess. Across countries, each cadre of providers has a different set of skills and level of care they are legally permitted to provide. The specific cadres that fit the definition of "skilled provider" will vary from country to country.

Data Sources

In the Individual-, Family-, and Community-Level Indices, all of the indicators for each index derive from a single data source. In the Provider-Level Index, indicators come from one of the three types of data collection instruments: knowledge questionnaires, case studies, or skills checklists.

The knowledge questionnaires included in Part Three measure only the most essential knowledge healthcare providers must have in the areas addressed. Provider knowledge is a key component of provider competency in the delivery of quality care but it is not sufficient by itself. Case studies are designed to assess providers' decision-making ability. A case study is a self-administered questionnaire that begins with a description of a hypothetical client. A series of questions follows requiring the provider to interpret the information given and state the course of action he/she would take. Skills checklists are tools that help observers to score providers' performance of psychomotor skills. Directly observing a provider while he/she performs a skill is the only way to determine whether that provider possesses the level of competency required to meet an established standard of care. Observers implementing these tools must therefore be qualified providers themselves.

Specific tools have been designed to measure each indicator. These tools are included in Part Three of this manual. The boxes describing how to calculate each indicator list the specific instrument used to make the calculation. For the Provider-Level Index indicators referring to clinical skills, that is, indicators 4.6 to 4.10, Part Three includes specific instructions to determine whether a provider is

competent in each skill based on his or her score on the case study or skills checklist used to measure that skill.

Provider knowledge

Definition and purpose: Indicators 4.1 to 4.4

The Provider-Level Index divides essential knowledge in maternal and newborn health into four components: management of normal pregnancy, care during childbirth and immediate newborn care, complications management, and postpartum care.

4.1: Percentage of providers with essential knowledge of management of normal pregnancy

$$\left(\frac{\text{\# of providers with at least 80\% correct answers on knowledge questionnaire}}{\text{Total \# of providers}}\right) \text{ X } 100$$

Data source: Antenatal Care Knowledge Questionnaire

4.2: Percentage of providers with essential knowledge of care during childbirth and immediate newborn care

$$\left(\frac{\text{\# of providers with at least 80\% correct answers on knowledge questionnaire}}{\text{Total \# of providers}}\right) \text{ X } 100$$

Data source: Normal Labor, Childbirth, and Immediate Newborn Care Knowledge Questionnaire

4.3: Percentage of providers with essential knowledge of complications management

$$\left(\frac{\text{\# of providers with at least 80\% correct answers on knowledge questionnaire}}{\text{Total \# of providers}}\right) \text{ X } 100$$

Data source: Management of Complications Knowledge Questionnaire

4.4: Percentage of providers with essential knowledge of postpartum care

$$\left(\frac{\text{\# of providers with at least 80\% correct answers on knowledge questionnaire}}{\text{Total \# of providers}}\right) \text{ X } 100$$

Data source: Postpartum Care (Mother and Baby) Knowledge Questionnaire

Provider Skills

Definition and purpose: Indicator 4.5

Percentage of providers with adequate decision-making skills

In order to provide quality care to women and newborn babies, healthcare providers must not only have the skills to perform various procedures, but they must also be able to recognize problems and decide if and when they should carry out those procedures. To assess providers' decision-making skills, Part Three of this manual includes two separate case studies: Use of the Partograh and Postpartum Hemorrhage.

A partograph is a tool used by healthcare providers to monitor the progress of labor. This tool, when used correctly, can help the provider recognize problems and make the appropriate decision about what action to take. The partograph case study consists of a partograph filled out with sample data for a woman during childbirth, followed by a list of questions asking the provider to first interpret the information on the partograph and then to make a decision based on this information and to recommend a course of action. The postpartum hemorrhage case study describes a woman who presents with heavy vaginal bleeding after childbirth. The subsequent questions guide the provider through the examination process to diagnose the cause of the hemorrhage and ask what actions he/she should take to stop the bleeding. Part Three provides more detailed instructions for rating providers as having adequate decision-making skills using these tools.

4.5: Percentage of providers with adequate decision-making skills

$$\left(\frac{\text{\# of providers with adequate decision-making skills}}{\text{Total \# of providers}}\right) \times 100$$

Data source: Use of the Partograph and Postpartum Hemorrhage Case Studies

Definition and purpose: Indicator 4.6

Percentage of providers competent in interpersonal communication and counseling skills

An important aspect of delivering quality services is the demonstration of good counseling skills by the provider. Specific behaviors that improve interpersonal communication and counseling (IPC/C) and/or make the client feel comfortable include:

- Establishing and maintaining rapport
- Collecting material for childbirth
- Problem solving, decision-making, and planning

A provider demonstrates proficiency in counseling skills by generally making the client feel at ease. Provider skill in this area is particularly important because a client may be more likely to continue seeking care if she feels comfortable with her interactions with clinic staff (MEASURE *Evaluation* 2001). The section on **Calculating Indicators** in Part Three provides specific details on how to classify a provider as competent in this skill using the IPC/C checklist.

4.6: Percentage of providers competent in IPC/C

$$\left(\frac{\text{\# of providers competent in IPC/C}}{\text{Total \# of providers}}\right) \quad \text{X 100}$$

Data source: Skills Checklist for Interpersonal Communication and Counseling

Definition and purpose: Indicator 4.7

Percentage of providers with clinical competence in normal childbirth

Clinical skills in normal childbirth are critical since care during childbirth, including practice of active management of the third stage of labor, can prevent the occurrence of some life-threatening complications. To measure clinical competence in normal childbirth, this manual provides a checklist that covers all of the essential skills for care during childbirth, including infection prevention. See Part Three for a discussion of how to use the Checklist for Normal Labor, Childbirth, and Immediate Newborn Care to determine if a provider can be qualified as competent in this skill.

4.7: Percentage of providers with clinical competence in normal childbirth

$$\left(\frac{\text{\# of providers competent in normal childbirth}}{\text{Total \# of providers}}\right) \quad \text{X 100}$$

Data source: Skills Checklist for Normal Labor, Childbirth, and Immediate Newborn Care

Definition and purpose: Indicator 4.8

Percentage of providers with clinical competence in bimanual compression of the uterus and aortic compression

Bimanual compression of the uterus and compression of the abdominal aorta are two critical skills for managing persistent postpartum hemorrhage (PPH). PPH is commonly defined as blood loss after childbirth in excess of 500 ml. It usually occurs in the immediate postpartum period (within 24 hours after birth). Anemic women are particularly susceptible to harm from such blood loss. Part Three includes discussion on how to use the checklist for bimanual compression of the uterus and aortic compression to determine if a provider is competent in this skill.

4.8 Percentage of providers with clinical competence in bimanual compression of the uterus and aortic compression

$$\left(\frac{\text{\# of providers competent in bimanual compression of the uterus and aortic compression}}{\text{Total \# of providers}}\right) \quad \text{X 100}$$

Data source: Skills Checklist for Bimanual Compression of the Uterus and Aortic Compression

Definition and purpose: Indicator 4.9

Percentage of providers with clinical competence in newborn resuscitation

Birth asphyxia is defined as "the failure to initiate and sustain breathing at birth" (WHO 1998b). It is the leading cause of neonatal mortality (death of a live born baby in the first 28 days of life), accounting for roughly 20% of such deaths (WHO 1996). Skills in newborn resuscitation enable providers to prevent newborn babies from dying of this complication. Part Three provides instructions for classifying providers as competent in newborn resuscitation using this checklist.

4.9: Percentage of providers with clinical competence in newborn resuscitation

$$\left(\frac{\text{\# of providers competent in newborn resuscitation}}{\text{Total \# of providers}}\right) \times 100$$

Data source: Skills Checklist for Newborn Resuscitation

Definition and purpose: Indicator 4.10

Percentage of providers with clinical competence in manual vacuum aspiration (MVA)

Incomplete and unsafe abortions contribute to 13% of maternal mortality. (WHO/UNFPA/UNICEF/World Bank 1999). It is therefore important for providers to be equipped with the skills to manage this complication. Part Three of this manual provides an observation checklist to be used in evaluating providers' competence in this skill.

4.10: Percentage of providers with clinical competence in MVA

$$\left(\frac{\text{\# of providers competent in MVA}}{\text{Total \# of providers}}\right) \times 100$$

Data source: Skills Checklist for Manual Vacuum Aspiration

Facility-Level Index

Respondents

Health facility managers are the respondents who provide data for the indicators included in the Facility-Level Index. In the field of maternal and neonatal health, healthcare facilities are divided into two categories based on the level of services they provide: basic essential obstetric care facilities and comprehensive essential obstetric care facilities (WHO 2000b). For some indicators, including supplies and equipment, each type of facility is assessed according to a standard that corresponds to the level of care they provide. Categorizing a facility by level of care consists of determining whether the facility has provided all of the services below at least once in the last 3 months.

Facilities that offer basic essential obstetric care (Basic EOC)

Basic EOC facilities provide the following services:

- Administer parenteral antibiotics (by intravenous drip)
- Administer parenteral uterotonics
- Administer parenteral anticonvulsants
- Perform manual removal of the placenta
- Perform removal of retained products of conception (e.g., manual vacuum aspiration)

Facilities that offer comprehensive essential obstetric care (Comprehensive EOC):

Comprehensive EOC facilities provide all of the services included under basic EOC plus:

- Perform surgery (e.g., cesarean section)
- Provide anesthesia
- Perform blood transfusion
  (WHO 2000b)

Data Sources

The data source for all indicators on the Facility-Level Index is a Facility Audit. This tool is provided in Part Three of the manual and includes an equipment and supplies checklist as well as questions to collect data to address all other indicators on this Index. The data collector should complete the Facility Audit with assistance and information provided by the facility manager.

Definition and purpose: Indicator 5.1
Percentage of facilities that have necessary supplies and equipment

This indicator provides information on the preparedness of a facility to offer a specific service to meet a set standard of quality. It can be used to identify gaps between planned service standards and actual resources on site. These gaps will most often reflect problems with the support systems, such as commodities and logistics systems, staff allocation, or staff training. The full list of supplies and equipment appears on the facility tool in Part Three of this manual.

Indicator 5.1 provides data on the extent to which a given facility or set of facilities is prepared to provide a given service but it does not measure the actual delivery of the service, that is, whether or not it meets the standard of quality. The Facility Audit tool measures neither facility caseload nor the quantity of each item on the list; thus the indicator also does not assess preparedness of the facility in relation to the potential demand for services. Part Three includes detailed instructions on how to use the Facility Audit to calculate the number of basic EOC and comprehensive EOC healthcare facilities that possess the necessary supplies and equipment.

5.1: Percentage of facilities that have necessary supplies and equipment

$$\left(\frac{\text{\# of facilities with necessary supplies and equipment}}{\text{\# of facilities}}\right) \text{ X } 100$$

Definition and purpose: Indicator 5.2
Percentage of facilities adequately staffed at all times

In order for a basic or comprehensive EOC facility to be adequately staffed at all times, there must be at least one staff member with midwifery or obstetric skills on duty at the facility 24 hours a day, 7 days a week. This indicator does not measure the skills of the providers, only whether such providers are present.

5.2: Percentage of facilities adequately staffed at all times

$$\left(\frac{\text{\# of facilities with at least one staff member with midwifery or obstetric skills on duty 24 hours a day, 7 days a week}}{\text{\# of facilities}}\right) \times 100$$

Definition and purpose: Indicator 5.3
Percentage of facilities that have a health committee

This indicator is a proxy measure of community involvement in the operation of the health facility. Although they may look different across different health facilities, for the purposes of this indicator, health committees are defined as follows: they include providers, administrators, and community members; they have decision-making authority over how services are provided at the site; and they have had at least one meeting in the last month.

5.3: Percentage of facilities that have a health committee

$$\left(\frac{\text{\# of facilities with a health committee}}{\text{\# of facilities}}\right) \times 100$$

Definition and purpose: Indicator 5.4
Percentage of facilities that have a routine system to review cases of maternal and perinatal deaths and/or severe complications

Routine reviews of cases of maternal deaths and severe complications at facilities are an important tool to evaluate, maintain, and improve quality of care. Case reviews involve a discussion with all individuals responsible for providing healthcare in the case in question. The purpose of this discussion is to understand why the death happened, or in the case of a severe complication, why a "near miss" occurred instead of a death. The findings of these reviews can be used to improve quality of care at the site.

Investigations of maternal and perinatal deaths and "near misses" can also take the form of "clinical audits." Clinical audits are highly structured with an emphasis on comparing clinical practice to a set of agreed-upon standards of care. There is a wide body of literature documenting the use of medical case reviews and different types of audits.[7]

[7] See the following sources:

Bailey P et al. 2002. *Improving Emergency Obstetric Care through Criterion-Based Audit*. Averting Maternal Death and Disability: New York. http://cpmcnet.columbia.edu/dept/sph/popfam/amdd/resources.html.

World Health Organization. 2004. *Beyond the Numbers: reviewing maternal deaths and complications to make pregnancy safer*. WHO: Geneva.

Graham W et al. 2000. Criteria for clinical audit of the quality of hospital-based obstetric care in developing countries. *Bull World Health Organ* 78(5): 614–620.

Supratikto G et al. 2002. A district-based audit of the causes and circumstances of maternal deaths in South Kalimantan, Indonesia. *Bull World Health Organ* 80(3): 228–234.

5.4: Percentage of facilities that have a routine system to review cases of maternal and perinatal deaths and/or severe complications

$$\left(\frac{\text{\# of facilities that have a consistent system for reviewing case}}{\text{\# of facilities}}\right) \times 100$$

Definition and purpose: Indicator 5.5
Percentage of facilities that have adequate privacy
For this indicator, adequate privacy is defined as having a separate room or curtained-off area such that the client cannot be seen by other clients or their family members while receiving healthcare services.[8]

5.5: Percentage of facilities that have adequate privacy

$$\left(\frac{\text{\# of facilities with adequate privacy}}{\text{\# of facilities}}\right) \times 100$$

Policy-Level Index

Respondents

The methodology for the Maternal and Neonatal Program Effort Index (MNPI) as developed by The Futures Group International calls for the selection of 10 to 25 expert raters per country. Experts included staff from ministries of health, medical schools and universities, professional associations, nongovernmental and community organizations, and donor agencies.

Data Source

The tool was designed to assess the overall efforts of developing countries in maternal and neonatal health. It covers preventive and curative services as well as infrastructure required for the areas of essential obstetric services, antenatal care, newborn care, family planning, and control of sexually transmitted infections. The MNPI also addresses policy in the area of maternal and neonatal health. The questionnaire consists of 81 items rated on a scale of 0 to 5 running from no adequacy to full adequacy. The BP/CR Policy-Level Index includes the 10 items from the "Policy" and "Resources" sub-areas of the MNPI.

Definition and purpose

For further information on the indicators from the MNPI included in the Policy-Level Index, please see Bulatao and Ross (2000) and The Futures Group International website at http://www.policyproject.com/pubs/mnpi.cfm.

[8] *Adapted from*: MEASURE *Evaluation*. 2001. *Quick Investigation of Quality (QIQ): A User's Guide to Monitoring Quality of Care in Family Planning*. MEASURE *Evaluation* Manual Series, No. 2. MEASURE *Evaluation*: Chapel Hill, NC.

PART TWO:

SURVEYING WOMEN, HUSBANDS/PARTNERS, AND THE COMMUNITY

PART TWO: SURVEYING WOMEN, HUSBANDS/PARTNERS, AND THE COMMUNITY

PART TWO: SURVEYING WOMEN, HUSBANDS/PARTNERS, AND THE COMMUNITY

INTRODUCTION TO PART TWO

Part Two of this manual presents the instruments necessary for collecting data on the indicators at the level of the individual woman, the family (husband/partner), and the community. In addition, it provides related information for conducting population-based surveys, including a discussion of sampling issues unique to safe motherhood surveys, a Guide for the Researcher, and a Guide for the Interviewer. Since the questionnaire for husbands/partners contains many of the same questions as the one used for interviewing the woman, we have not included the full questionnaire for the husband/partner survey. Instead, there is a separate section with recommendations on how to adapt the Prototype Woman's Safe Motherhood Questionnaire to a sample of husbands and partners.

The questionnaires included in this section can be used in one of two ways: first, to guide the design of programs and interventions by generating reliable data on key knowledge and practice indicators, and second, to establish a baseline against which to track progress in a given population concerning birth preparedness and complication readiness (BP/CR). In terms of the second use, the survey generates the data needed for the BP/CR Indices discussed in Part One for the individual (woman's), the family (husbands/partners), and the community. Indeed, the questionnaire will yield considerably more data than just those needed to measure the indicators, as shown in **Table 2-1**.

Many surveys, including the Demographic and Health Surveys (DHS), collect basic data on the utilization of antenatal care, birth attendant and place of birth, and hundreds of surveys have analyzed the factors that affect women's use of family planning services. The collection of detailed data on women's knowledge, attitudes, and behaviors related to safe motherhood, however, is a relatively recent phenomenon and presents some new challenges. For example, women typically become pregnant relatively few times in their lives, and they do not always develop complications; the relative infrequency of these events means that samples must include a sufficiently large number of eligible women to produce statistically significant results. In addition, strong cultural beliefs or taboos around pregnancy and childbirth can make it difficult to gather accurate information.

INDIVIDUAL-LEVEL INDEX

DEFINING THE RESPONDENTS

To this point in the manual, we have referred to the respondent at the individual level simply as "the woman" or "women of reproductive age." However, different organizations conducting safe motherhood surveys may differ in the profile of respondent they intend to interview for this type of survey. For example, Family Care International (FCI) interviewed all women of reproductive age in its surveys in Burkina Faso, Kenya, and Tanzania. By contrast, JHPIEGO'S Maternal and Neonatal Health Program limited the sample to women who are currently pregnant or recently gave birth in its surveys conducted in Burkina Faso, Guatemala, and Indonesia, and to currently pregnant women only in Nepal. This decision has important implications for designing the sample, as discussed in the section on **Sampling Issues for Birth Preparedness and Complication Readiness Surveys**.

The Prototype Woman's Safe Motherhood Questionnaire included in this manual is designed to be applicable to a number of different "profiles": all women of reproductive age, women who have given birth recently (within the last 2 years), and currently pregnant women. The researcher can

apply filter questions at the start of the survey to screen for the profile of interest in a specific survey.

Similarly, this manual focuses on the husband/partner as a proxy for the family level. However, some researchers may opt to obtain data from other key members of the family. For example, the MNH Program survey in Nepal collected data from the mother-in-law and other family members identified by the woman to be important in the decision-making process.

The questionnaire is also designed to measure the three delays. However, some of the delay-related questions may not be applicable in some situations (e.g., if women did not seek care at a health facility). Moreover, only women who have survived childbirth are included.

Table 2-1 lists the general types of birth preparedness indicators that the survey questionnaire measures. The second column denotes indicators that are from the Individual- Level (Woman's) Index. The table categorizes the indicators by the components of BP/CR: knowledge/awareness, attitudes and perceptions, intentions, and behaviors. The cells on the table with a checkmark identify indicators that are appropriate for specific respondents (currently pregnant women, husbands/partners of currently pregnant women, women who recently gave birth, husbands/partners of women who recently gave birth, all women of reproductive age, and all husbands/partners). For example, currently pregnant women or their spouses can best answer all questions on intentions. Only women who have recently given birth or their husbands/partners can provide information on behaviors that occur at or shortly after birth.

The value of asking postpartum women about their knowledge or intentions before childbirth is questionable, depending on how much time has elapsed since the birth. It is also possible that when postpartum women respond to questions about the time of their pregnancy, their experiences and the care they received during childbirth will influence the knowledge or intentions that they report having had prior to childbirth.

A variety of questions regarding knowledge of danger signs, availability and location of obstetric care, and interpersonal communication regarding birth preparedness are appropriate for all adults in the community. One can ask these types of questions to adults at any time and need not be restricted to households where a recent birth occurred.

Table 2-1. Placement of BP/CR Indicators in the Questionnaire and Relevant Respondent Profiles

Part of the BP/CR Index	Indicator	Potential Respondents						Related Question Numbers*
		All women of reproductive age	All husbands/partners	Currently pregnant women	Husbands/partners of currently pregnant women	Women who recently gave birth	Husbands/partners of women who recently gave birth	
	Knowledge/Awareness							
✓	% of respondents with knowledge of the danger signs of pregnancy	✓	✓	✓	✓	✓	✓	301–303
✓	% of respondents with knowledge of the danger signs of childbirth	✓	✓	✓	✓	✓	✓	301, 304, 305
✓	% of respondents with knowledge of the danger signs postpartum	✓	✓	✓	✓	✓	✓	306, 307
✓	% of respondents with knowledge of the danger signs in newborn babies	✓	✓	✓	✓	✓	✓	308, 309
	% of respondents with knowledge of basic care for newborn babies	✓	✓	✓	✓	✓	✓	310
	% of respondents with knowledge of birth preparedness	✓	✓	✓	✓	✓	✓	311, 312
	% of respondents with knowledge of the location of essential or emergency obstetric care	✓	✓	✓	✓	✓	✓	501
✓	% of the respondents with knowledge of existing community services for emergency funds, transport, and blood	✓	✓	✓	✓	✓	✓	313
	Attitudes and Perceptions							
	% of respondents who believe in birth preparedness	✓	✓	✓	✓	✓	✓	401, 402
	% of respondents who believe husband/partner should be involved in pregnancy and childbirth	✓	✓	✓	✓	✓	✓	403, 407, 408
	% of respondents who believe healthcare is too expensive or too difficult to reach	✓	✓	✓	✓	✓	✓	404, 405, 719, 812, 837, 916
	% of respondents who believe health facility has good quality services	✓	✓	✓	✓	✓	✓	406,409,410, 504, 718

* Numbers correspond to questions in the Prototype Woman's Safe Motherhood Questionnaire.

Table 2-1. Placement of BP/CR Indicators in the Questionnaire and Relevant Respondent Profiles (continued)

Part of the BP/CR Index	Indicator	Potential Respondents						Related Question Numbers*
		All women of reproductive age	All husbands/partners	Currently pregnant women	Husbands/partners of currently pregnant women	Women who recently gave birth	Husbands/partners of women who recently gave birth	
	Intentions							
✓	% of respondents with intention to use a skilled provider at birth			✓	✓			921
	% of respondents with intention to use postpartum care			✓	✓			925
	Behaviors							
	% of respondents who had at least four antenatal care visits					✓	✓	603, 903
✓	% of respondents who had one antenatal care visit during first trimester			✓	✓	✓	✓	604,904
✓	% of respondents who used a skilled provider at birth					✓	✓	722
✓	% of respondents who made arrangements for the birth (money, transportation, or blood donor)			✓	✓	✓	✓	703, 704, 917, 918
	% of respondents who used postpartum care					✓	✓	801
	% of respondents who sought care among those with a perceived problem			✓	✓	✓	✓	620, 731, 811
	Delays							
	Average time to decide to go somewhere for assistance with complication					✓	✓	734, 814
	Average time to find transportation					✓	✓	738, 818
	Average time to get to health facility					✓	✓	503, 716, 739, 819
	Average time to get care					✓	✓	717, 740, 802, 820
	Birth Statistics							
	% of respondents who have ever been or are currently pregnant	✓	✓	✓	✓	✓	✓	104, 105
	Proportion of stillbirths for all births					✓	✓	204–208

* Numbers correspond to questions in the Prototype Woman's Safe Motherhood Questionnaire.

Table 2-1. Placement of BP/CR Indicators in the Questionnaire and Relevant Respondent Profiles (continued)

Part of the BP/CR Index	Indicator	Potential Respondents						Related Question Numbers*
		All women of reproductive age	All husbands/partners	Currently pregnant women	Husbands/partners of currently pregnant women	Women who recently gave birth	Husbands/partners of women who recently gave birth	
	Proportion of births by cesarean section for all births					✓	✓	208, 725
	Proportion of births by forceps/vacuum extraction for all births					✓	✓	208, 726
	Communications							
	% of respondents who have talked to others outside a health facility about birth preparedness messages	✓	✓	✓	✓	✓	✓	608–614, 908–914, 1104, 1204
	% of respondents who have heard birth preparedness messages	✓	✓	✓	✓	✓	✓	1101
	% of respondents who have participated in community interventions	✓	✓	✓	✓	✓	✓	1201
	% of respondents who took action based on messages or interventions	✓	✓	✓	✓	✓	✓	1106, 1206

* Numbers correspond to questions in the Prototype Woman's Safe Motherhood Questionnaire.

Respondents for surveys to collect data on BP/CR indicators differ from respondents for standard reproductive health surveys in three ways, as **Table 2-1** illustrates. First, data for many of the listed indicators relate to women who are pregnant at the time of interview or their husbands/partners. As the table reflects, the measurement of BP/CR focuses more on currently pregnant women and their husbands/partners than do other reproductive health surveys. For example, in the 18-year history of the Demographic and Health Surveys (DHS), few country reports include even one table based on data from currently pregnant women. Likewise, the State of the World's Children does not include indicators based on currently pregnant women (UNICEF 2002).

Second, as discussed in the next section, data collection on BP/CR may necessitate a more restrictive definition of a recent birth than is generally used in reproductive health surveys. For example, the DHS has routinely produced indicators on the use of antenatal care and care at birth based on live births to women in the last 3 to 5 years. This practice assumes that antenatal care and care during childbirth are specific behaviors that respondents can easily recall in detail 3 to 5 years later, and few have questioned this assumption. However, 3 to 5 years may well be too long for birth preparedness indicators that require women to recall specific arrangements made for emergency transportation, emergency funds, or a blood donor.

Third, the data on BP/CR should reflect both live births and stillbirths; most reproductive health surveys, though, focus data collection only on live births.

Sections 10, 11, and 12 of the Prototype Woman's Safe Motherhood Questionnaire deal with media and community interventions in some detail. These sections may not be applicable if programs do not include such interventions. However, if the program includes them, it is important to collect these data at baseline.

SAMPLING ISSUES FOR BIRTH PREPAREDNESS AND COMPLICATION READINESS SURVEYS[1]

In this section, we discuss issues that a statistician must take into consideration when designing a sample to measure BP/CR indicators from population-based surveys. The material (**pages 2-6 to 2-18**) is intended as guidance for those individuals knowledgeable about sampling for survey research. Readers who do not have training or experience in these methods may find the concepts difficult to grasp. In this case, we strongly recommend consulting a research agency or a statistician, and providing this text to them. Too often in the past, researchers have overlooked certain methodological issues, which have greatly limited the conclusions that could be drawn from their results. This section describes these methodological issues, proposes solutions, and provides examples of the proposed solutions in practice. We hope to contribute to improved research in birth preparedness and complication readiness in the future by drawing attention to these common pitfalls in data collection.

Birth preparation and complication readiness surveys are similar to other reproductive health (RH) surveys concerning the factors to consider in calculating the sample size. These include:

- Desired precision of estimates
- Estimate of anticipated baseline measure
- Preference for one- or two-sided tests
- The need to show change over time
- The need for analysis of differentials (e.g., parity, gravidity, previous maternal health service use, education, socioeconomic status, and urban/rural residence)
- The unit of analysis (woman versus births)
- Budget

Because all of these decisions are project-specific, we have not included in this section further discussion on the actual calculation of sample size.

By contrast, BP/CR surveys differ from other types of RH surveys in three important aspects:

1. They must include secondary target populations (i.e., husbands/partners and, in some cases, other family members), not just the primary audience (women).

[1] The information contained in this section is explained in further detail in Stanton C. 2004. Methodological Issues in the Measurement of Birth Preparedness in Support of Safe Motherhood. *Eval Rev* 28(3): 179–200.

2. They must obtain a sufficiently large sample of women who are currently pregnant or have recently given birth, which is far more difficult than selecting any woman of reproductive age.

3. They must redefine "women who recently gave birth" to a shorter interval than the one used on most reproductive health surveys (i.e., 3–5 years).

In order to take these differences into account when designing a sample to measure BP/CR, the researcher must pay special attention to the following issues:

- Constructing a sampling frame for women who are currently pregnant or recently gave birth
- Fertility level in the target population
- Duration of exposure to the intervention and its relationship to the definition of a recent birth
- Number and size of enumeration areas
- Anticipated response rates

The following sections describe each of these issues in detail and propose possible solutions.

Constructing a Sampling Frame for Women Who are Currently Pregnant or Recently Gave Birth

In a regular survey of women of reproductive age (such as those conducted by DHS), the sampling frame for the selection of households is the complete listing of existing households within pre-selected areas (called enumeration areas or clusters) from which a sample of households will be drawn. Depending on the sample design, either all eligible women or a sample of eligible women from selected households will be interviewed. Across 91 DHS surveys in all regions of the developing world, the average number of eligible women per household ranges from 0.73 to 1.37. The average across all of these countries is approximately one (0.97) eligible woman per household (ORC Macro 2003). Thus, on average, the number of households approximately equals the expected number of women of reproductive age. Therefore, for BP/CR surveys that include all women of reproductive age, the usual approach to constructing the sampling frame is appropriate.

However, logistically simple techniques used to identify *any* woman of reproductive age through systematic or random selection of households are not appropriate for BP/CR surveys that focus *only* on women who are currently pregnant or have recently given birth. Whereas researchers/evaluators can sometimes find an existing sampling frame for households, they are not likely to find an existing sampling frame for women who are currently pregnant or recently gave birth.

The following two approaches are suggested for the development of a sampling frame to identify multiple audiences:

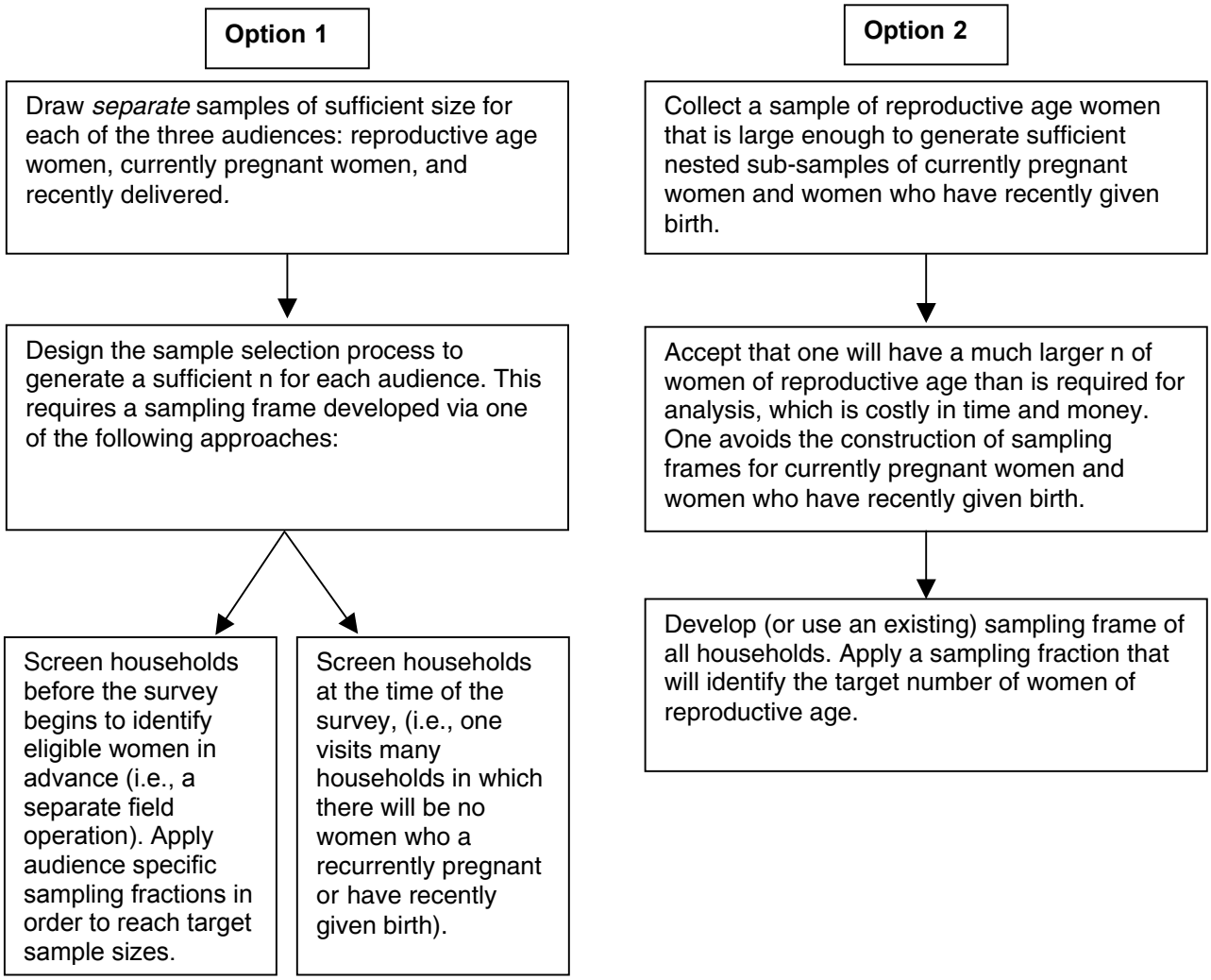
1. Field a complete listing operation within selected enumeration areas (EAs) identifying *in advance* households with individuals of interest (for example, women who are pregnant at the time of the listing operation or women who have given birth within the last 1 to 2 years). To do so requires that the listing team carefully explain the purpose of the study and why they need to know if there are women in the household who are currently pregnant or who have recently given birth. Once this list has been compiled, the sampling fraction can then be applied to this list in order to select individuals for interview.

2. Administer a brief household questionnaire that includes screening questions to identify women *in all households* of the enumeration area (EA) who are either currently pregnant or recently gave birth *at the time of the interview.*

This second approach is recommended only when the researcher plans to take *all* eligible women in each EA. By doing so, one avoids delegating the responsibility of selecting households to the interviewers, a highly discouraged practice. The first option is more flexible because it can be used when taking all households or a systematic selection of households with members of the intended respondents of interest. However, it is logistically more difficult because there can be only be a very short time period between the listing operation and interviewing, given the time-sensitive eligibility of the respondents being identified.

Figure 2-1 outlines options for achieving target sample sizes for surveys with multiple audiences.

Figure 2-1. How to Select Samples of Sufficient Size for Surveys with Multiple Audiences (Women of Reproductive Age, Currently Pregnant Women, and Women Who recently Gave Birth)



Fertility Level in the Target Population

The fertility level of a given country will influence the number of women who are currently pregnant or recently gave birth in a given population at the time of the survey. The researcher/evaluator uses estimates of the percentage of each group of respondents (currently pregnant women and women who recently gave birth) in order to estimate the number of each expected in the population or in a sample of women of reproductive age.

However, even in very high fertility settings, a survey of women of reproductive age will rarely yield a sub-sample of women who are currently pregnant or have recently given birth sufficiently large for statistical analysis. For example, a sample of 4,000 women of reproductive age in Yemen, which has a total fertility rate of 6.5, would generate only 452 currently pregnant women (i.e., 11% of women are currently pregnant) and 900 women who had recently given birth (with "recent birth" defined as a birth in the last year). Clearly, the above sample would not allow for analysis of change over time or of basic differentials such as urban/rural residence, education, age, or parity.

Estimating the number of women who have recently given birth in a population or in a sample of women of reproductive age is best done in two stages: one, estimate the number of live births to be expected, taking into account the time frame used to define "recent" birth; and two, adjust this total for the number of non-live births that can be expected via self-report in this same time period.

Because of the greater availability of indicators based on live births, researchers have a number of options available for estimating the number of live births within a geographic area. These include use of crude birth rates, general fertility rates (GFR), and age-specific fertility rates (ASFR). Applying any of these indicators to population data is straightforward. One concern, however, is the applicability of these readily available national- or regional-level fertility indicators to smaller geographic areas when safe motherhood programs are sub-regional.

Unlike the percentage of women who are currently pregnant, the GFR is readily available at the departmental level from national surveys or census data. The GFR is defined as follows:

$$\text{GFR} = \frac{\text{Number of births to women ages 15–49}}{\text{Number of women ages 15–49}} \times 1{,}000$$

When no data are available for the percentage of currently pregnant women, the results in **Table 2-2** can be used to estimate the approximate percentage of women of reproductive age expected to be currently pregnant for a given level of the GFR.

Table 2-2. Predicted Percentage of Women of Reproductive Age Who Are Pregnant for a Given Level of the General Fertility Rate[2]

GFR per 1,000	Approximate Percentage of Women Pregnant
60–80	2.5–3.6%
81–100	3.6–4.7%
101–120	4.7–5.8%
121–140	5.8–7.0%
141–160	7.0–8.1%
161–180	8.1–9.2%
181–200	9.2–10.3%
201–220	10.3–11.4%
221–240	11.4–12.5%
241–260	12.5–13.6%

The number of non-live births must be estimated based on the limited data available from developing countries. In four DHS surveys that collected complete pregnancy histories, 7–13% of all births were reported as non-live births, with stillbirths accounting for 2–3% of births in all four countries[3]. A publication from the World Health Organization (WHO) on the measurement of maternal mortality also estimated that, in countries with low abortion rates, the number of live births is within 10% of the number of total pregnancies (WHO 1985). There are too few data available to suggest how or whether these levels of pregnancy loss vary by characteristic of the population. Thus, increasing the number of live births by a factor of approximately 1.025 (for programs focusing on live birth and stillbirths) or by a factor of approximately 1.10 to 1.11 (for programs focusing on all pregnancy outcomes, including early losses)[4] may be the best one can hope for.

Duration of Exposure to the Intervention and Its Relation to the Definition of a Recent Birth

The duration of an intervention is often predetermined by the funding source (3 to 5-year program) or a ministry of health 5-year plan. At first glance, it is not obvious how the duration of an intervention affects sample design. However, it does so by determining how a "recent birth" is defined, as described below.

Newly developed programs often take 2 years or more from initiation of funding to full-scale functioning. Likewise, evaluation at the end of the project will take a minimum of 6 months. Hence,

[2] These estimates result from regressing the percentage of currently pregnant women on the GFR for 114 DHS surveys (ORC Macro 2003). The R^2 is 0.882 and the slope of the regression line is 0.055. A benefit of this approach is that it implicitly accounts for the under-reporting of pregnancies that can be expected from survey data since the model is based on self-reported pregnancy status from household-based surveys.

[3] The four DHS surveys that collected complete pregnancy histories were Ghana in 1988, the Philippines in 1993, and Nepal in 1996 and 2001.

[4] Countries in which induced abortion is known to be very high would require higher adjustments. For example, in Turkmenistan, Kazakhstan, and Armenia, non-live births accounted for 28%, 48%, and 63%, respectively, of all births (DHS final country reports).

the duration of the intervention period in a 5-year project is reduced from 60 to approximately 30 months. If one is interested in measuring the behaviors of women who have recently given birth and who may have been influenced by project interventions, the definition of "recent birth" must be consistent with the duration of possible exposure to the intervention. That is, the timeframe chosen for a recent birth cannot exceed the intervention period, lest "recent births" at followup have occurred *before* the intervention began. Scenarios A, B, and C in **Textbox 2-1** below describe the relationship between the duration of the exposure to the intervention and the definition of a woman who has had a recent birth.

It should be noted that the literature provides little guidance regarding the length of time required for an intervention to produce a significant change in individual-level behaviors to support safe motherhood. Habicht et al. (1999) state that 3 to 5 years are generally required to show impact for health and nutrition interventions. Ronsmans (2001) points to facility-based data suggesting that longer periods may be necessary for increasing women's use of emergency obstetric care. A consultative forum on the behavioral dimensions of maternal health and survival concluded that only modest changes in behavior can be expected over a 2- to 4-year period (MotherCare 2000).

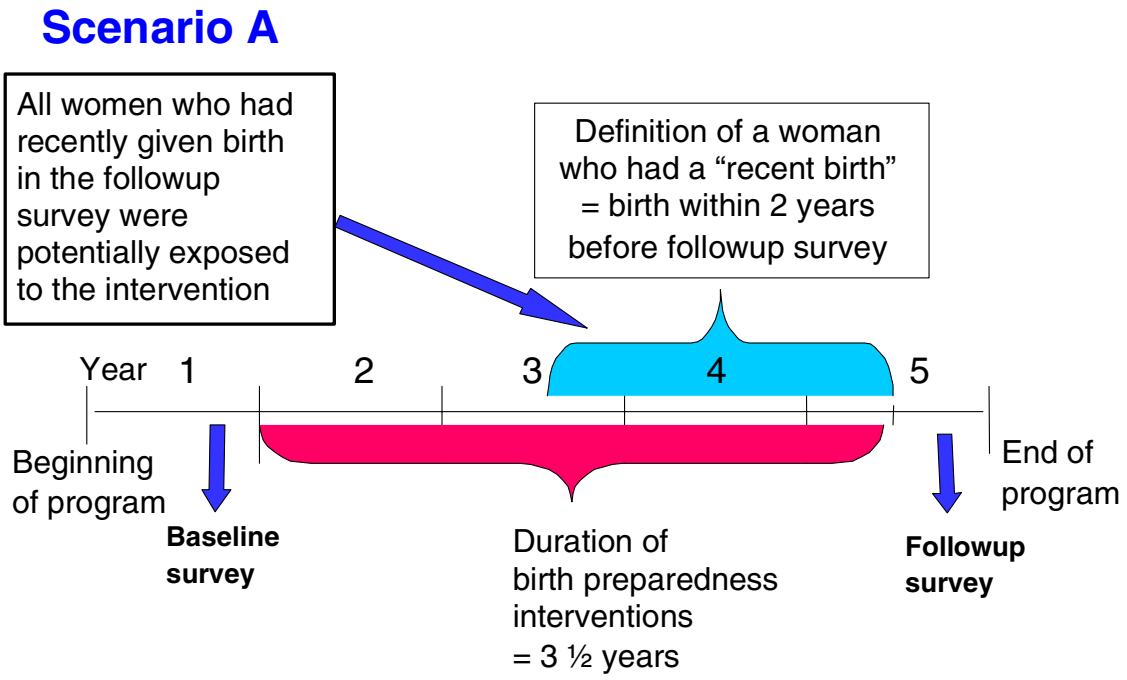
Likewise, there is neither consensus nor guidance in the existing literature as to the most appropriate definition for a "recent birth." Until reliability and validity studies on the indicators of BP/CR are conducted, the best definition for what should count as a recent birth may well vary by indicator and require an educated guess based on the behavior in question. For the purposes of this manual, we consider births in the last 1 or 2 years as the most appropriate for the definition.

Textbox 2-1. Three Scenarios Illustrating the Relationship between the Duration of Intervention and the Definition of "Recent Birth"

The three scenarios below describe the relationship between the duration of the intervention period and the definition of a woman who has recently given birth at the time of the followup survey. Figures for Scenarios A, B, and C illustrate these relationships. The definition of a woman who had a recent birth depends on (a) how long one thinks that women (or other audiences) will remember the occurrence of certain events or behaviors and (b) the number of months that the intervention was fully functioning before the beginning of the followup survey. For reasons of comparability the definition of "recent birth" should be the same for both the baseline and followup surveys in each scenario.

Scenario A
The Safe Motherhood program in Scenario A covers a 5-year period. The baseline survey is conducted during the last months of the first year of program preparation. The birth preparedness interventions are implemented for a period of 3.5 years. The followup survey is planned for the last 6 months of the 5-year program. Scenario A shows the intervention stopping after 3.5 years. However, whether the intervention stops or continues indefinitely is of no consequence to the implementation of the followup survey.

The followup survey includes questions regarding birth-related care and birth preparedness for all women who have had a birth in the 2 years preceding the survey. Because the intervention period is so long in Scenario A, this definition of recent birth allows for all of the women in the sample to have had the opportunity to be exposed to the intervention during their entire pregnancy.

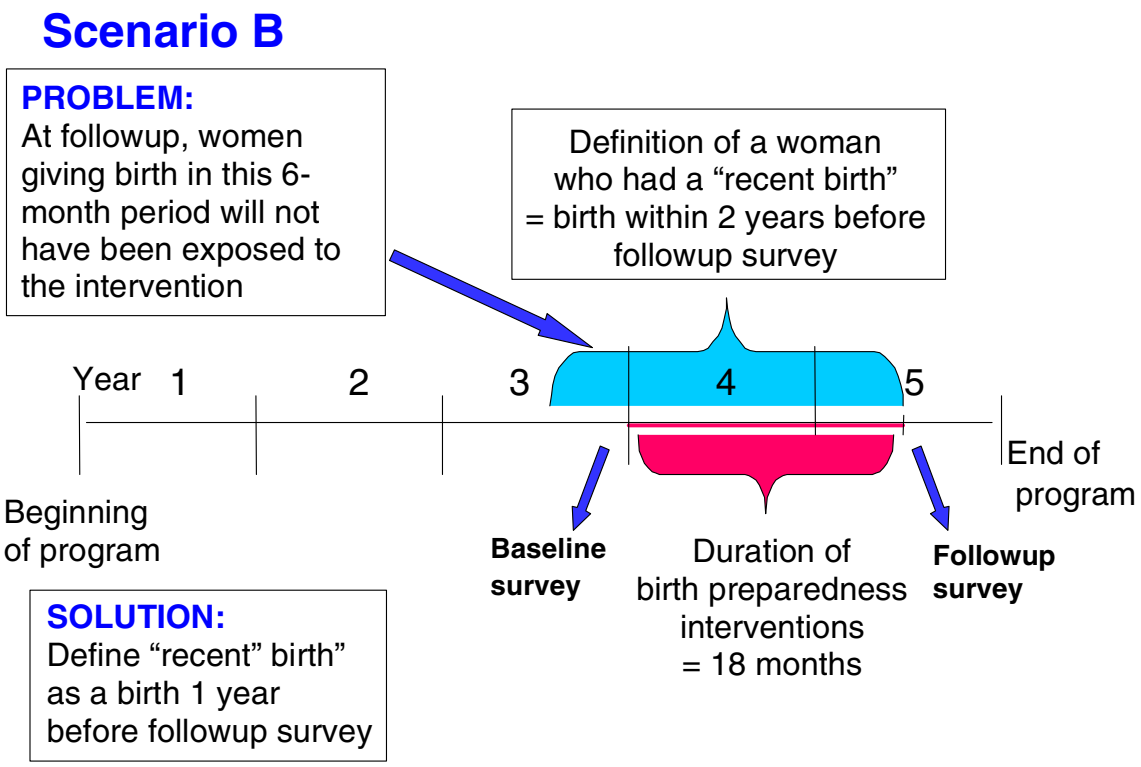


Textbox 2-1. Three Scenarios Illustrating the Relationship between the Duration of Intervention and the Definition of "Recent Birth" (continued)

Scenario B

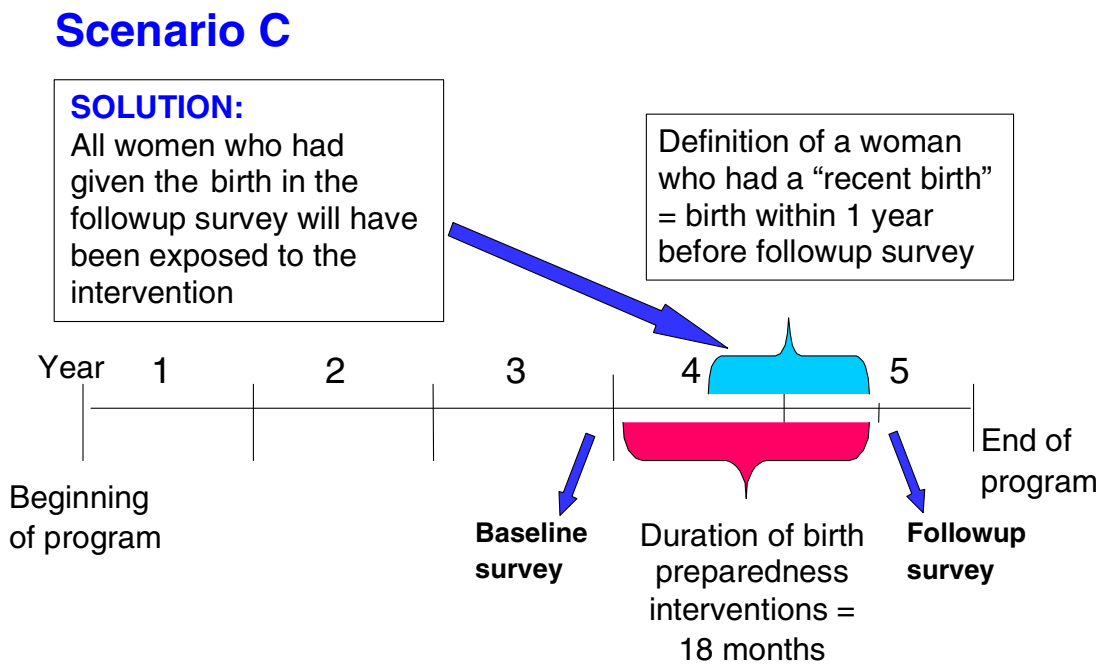
The Safe Motherhood Program in Scenario B also has a 5-year duration. In this scenario, however, the birth preparedness interventions do not begin until Year 3 of the program.

As shown in the figure below, due to the late start of program implementation, the duration of the birth preparedness intervention period before the followup survey must be substantially shortened to a maximum of 18 months. In this scenario, it is not possible to define recent birth as those occurring in the 2 years preceding the survey. Using a 2-year frame of reference would mean that the women who delivered 1.5 to 2 years before the followup survey would not have been exposed to the intervention.



Textbox 2-1. Three Scenarios Illustrating the Relationship between the Duration of Intervention and the Definition of "Recent Birth" (continued)

Scenario C
The solution to the problem in Scenario B is illustrated in Scenario C. Here, the intervention period starts at the beginning of Year 3 of the program and lasts for a period of 18 months (as in Scenario B). The followup survey is conducted among women who have given birth in the last year (12 months) before the survey. This adjustment results in all women in the followup survey potentially being exposed to the birth preparedness intervention period over its full duration. There are consequences, however, to this decision. By defining recent births as those occurred in the past year, one is reducing by one half the number of women eligible for interview in a sample of women of reproductive age. This will require either selecting more women for interview per enumeration area OR increasing the number of enumeration areas in the sample.



Number and Size of Enumeration Areas

The number of enumeration areas (EAs) needed in order to reach the desired sample size will be determined by the average size of the EAs. When EAs are small (for example, small villages), it will most likely be necessary to select every pregnant woman in the EA as a means of somewhat restricting the number of EAs to visit. In general, it is less expensive to interview more respondents per EA than to visit a larger number of EAs. However, the number of pregnant women and women who have recently given birth (or husbands/partners of these women) selected from each EA will determine the design effect for variables based on these data. Consequently, researchers who intend to conduct an in-depth analysis of data on BP/CR will need to balance analysis priorities with budgetary and logistical concerns regarding sample design. That is, researchers and program managers must decide what they "need to know," since the costs of learning what is "nice to know" may be too high.

Anticipated Response Rates

Response rates for surveys of women of reproductive age have traditionally been very high. Response rates among men are universally lower than for women, because men are more likely than women to be away from the household during the day. Data from 51 surveys conducted by DHS that included samples of both women and men (or husbands/partners) of reproductive age showed average response rates of 96% for women, as compared to 88% for men (ORC Macro 2003). Response rates for men in these samples were as low as 63%. Researchers, therefore, must take into account non-response if adequate documentation of husbands'/partners' behaviors is a priority.

Putting the Proposed Solutions into Practice: An Example

As mentioned before, the researcher will need to calculate the sample size for the survey based on a series of factors that are standard in survey research used for evaluation purposes. However, once the researcher calculates the sample size, he/she will then need to estimate the expected **number** of currently pregnant women, women who have recently given birth, and their spouses **per enumeration area** in order to determine the number of EAs to include in the sample. To arrive at the number of EAs needed, the researcher divides the desired sample size by the number of respondents of the desired profile per EA. As stated above, this assumes that one will take *every* eligible respondent (pregnant women, women who recently gave birth, etc.) in each EA.

In some cases, researchers may be interested in taking a fraction of all eligible respondents per EA, as opposed to taking all eligible respondents. They might choose to do this to reduce clustering in responses, assuming that women who live near one another may act similarly. If one were to choose to take, for example, one out of every two eligible respondents from each target population, one would simply need to double the number of EAs calculated above. The decision to adjust for clustering should be made by the sampling statistician, based on the objectives and the budget for the study.

Table 2-3 provides an example of how some of the solutions suggested in this section of the manual can be used to estimate the number of respondents from various target audiences in each EA. The notes below state the assumptions underlying this example and how the proposed solutions were applied, and also describe how each calculation was done.

Table 2-3. Expected Number (n) of Currently Pregnant Women or Women Who Recently Gave Birth and their Husbands/Partners, per Enumeration Area (Hypothetical Example Based on Stated Assumptions)

Row	Target Audiences	Estimated Number of Respondents
A	Average n of women of reproductive age per enumeration area	250
B	General Fertility Rate per 1,000 women aged 15–49	150
C	Predicted percentage of women currently pregnant	7.5%
D	Predicted n of recent (last year) births, adjusted for average women's response rate and for inclusion of stillbirths	36.9
E	Predicted n of husbands/partners of women who have recently given birth, adjusted for average men's response rate	32.5
F	Predicted n of currently pregnant women, adjusted for average women's response rate	18
G	Predicted n of husbands/partners of currently pregnant women, adjusted for average men's response rate	15.8

Notes for Table 2-3

Row A. In Row A, it is assumed that each EA includes a total population of 1,000. It is also assumed that women of reproductive age represent 25% of the population. Thus, as shown in row A, one can expect 250 women of reproductive age per EA.

Row B. Row B shows the General Fertility Rate (GFR). The GFR comes from a census report or a recent survey. It may or may not be specific to the geographic area in question. Usually, the most specific information that can be obtained from existing sources is used. In this manual the GFR is used for two purposes:

- to help estimate the percentage of currently pregnant women (if such percentage is not available from a survey—see notes on row C for details), and/or
- to help estimate the number of live births to expect from each EA. Once an estimate of the number of live births has been made, one adjusts it for stillbirths and arrives at an estimate of the total number of live and stillbirths to expect from one EA.

Row C. Row C illustrates the results of using **Table 2-2** to estimate the percentage of women who are currently pregnant. **Table 2-2** shows that GFRs ranging from 141–160 per 1,000 women are associated with measures of percentage of currently pregnant women ranging from 7.0% to 8.1% (based on DHS data). A GFR of 150 represents a population where 7.5% of women are expected to be currently pregnant. This number was arrived at using interpolation, as follows:

160 − 141 = 19 (total distance from bottom to top of GFR range)
150 − 141 = 9 (distance from your GFR to bottom of range)
8.1% − 7.0% = 1.1% (range within which estimate of currently pregnant women must exist from **Table 2-2**)
7.0% + [1.1 * (9/19)] = 7.5%

Row D. Row D is the estimated number of total births (live born and stillborn). This calculation needs to be done in two steps: First estimate the number of live births by multiplying the number of women expected in each EA (adjusted for response rate) by the GFR, as follows:

250 * (0.96) = 240 (number of women of reproductive age per EA after adjusting for the average women's response rate of 96%);

then multiply the expected number of women by the GFR:

240 * 0.150 = 36 (number of live births per EA).

Second, adjust the number of live births to include an estimate of the expected number of stillbirths. For this, an inflation factor of 1.025 is used:

36 * 1.025 = 36.9 (which represents the number of total births realistically expected in each EA).

Because "recent birth" is defined in this example as births occurred in the last year, the number of recent births is approximately equal to the number of women who recently gave birth. No adjustment for women with multiple births in the last year is necessary because very few women give

birth more than once a year and the birth of twins is irrelevant. Knowledge and behavior during pregnancy and childbirth are the two aspects of interest here.

Row E. The number in row E results from taking the expected number of recent births per EA (adjusted for an average men's response rate of 0.88), as follows:

36.9 * 0.88 = 32.5

Row F. The number in row F results from calculating the estimated percentage of currently pregnant women per EA and multiplying it by the average woman's response rate, as follows:

7.5% * 240 = 18

Row G. The number in row E results from taking the estimated number of currently pregnant women per EA and multiplying it by the average men's response rate, as follows:

18 * 0.88 = 15.8

In order to determine the number of EAs needed to obtain the desired number of women who gave birth in the last year, one needs to divide the calculated sample size by 36.9 (Row D). To determine the number of EAs needed for respondents of all desired profiles, one must then divide the calculated sample size for husbands/partners of women who gave birth in the last year by Row E, the sample size for currently pregnant women by Row F, and the sample size for husbands/partners of currently pregnant women by Row G. The number of EAs needed is equal to the largest of these four numbers.

The purpose of this section was to provide an overall discussion of particular issues concerning sampling derived from the nature of the questions to be addressed in any survey covering BP/CR. The authors did not intend to provide a comprehensive "how to" guide on sampling procedures. Groups who hope to implement a population-based survey on BP/CR are encouraged to consult statisticians or research agencies with experience in sampling methodology and use this as supplementary material.

FURTHER CONSIDERATIONS IN OBTAINING AND PRESENTING MEANINGFUL RESULTS

While the previous section addressed technical issues related to defining and sampling respondents for population-based surveys that safe motherhood teams may use to evaluate their programs, this section presents general recommendations for preparing to conduct evaluations and disseminate findings. These recommendations are based on a reading of the safe motherhood evaluation literature and on our own experience conducting safe motherhood behavior change activities in the field in 13 countries.

Set Realistic Program Goals

Although the goal of behavior change programs for safe motherhood is often to increase the percentage of births (or live births) with a skilled provider, there are settings where achieving measurable change in this indicator may be unlikely. This is particularly true in settings where home

birth is a well-established norm, for example where home births without a professional attendant account for greater than 50% of all births. In these settings, it may preferable to focus attention on changes in the stages of behavior change that may precede a change in birth practices at the individual level. Indicators show that increased proportions of the population are more aware of the risks associated with childbirth, knowledge of where to seek appropriate emergency services has increased, people are discussing preparation for birth more frequently and openly, and some positive changes in the birth preparedness behaviors have occurred. All these factors are suggestive of a program's positive influence (Moore 2000).

Design an Evaluation with Explanatory Power

This does not necessarily refer to statistical explanatory power. We realize that costs for in-depth quantitative analyses are generally unattainable. However, there are qualitative methods and less formal means of investigating why things happened in a certain way that may be helpful and feasible in your situation. For example, the ongoing monitoring and documentation of external influences on your program may prove very helpful during report preparation (for example, increases in funding, devaluation of currency, natural disasters, personnel changes, and additional collaborators). Ideally, at the end of your program, you would like to be able to report what changed and did not change and be able to offer some glimpse as to why this is so.

Present Program Results in a Manner from which Everybody Can Learn

Openly state what did and did not work as planned. A negative outcome should not be viewed as a failure. The safe motherhood community needs well documented program results, positive and negative, from which to learn and on which to base future programming.

Make Your Results Available to a Wide Audience

Once sponsorship obligations have been met regarding the production of reports, make your results immediately available over the web. There is 15 years of Safe Motherhood program experience in the world. Locating the reports in order to learn from these experiences has only recently become practical with increased access to the web.

Selection Criteria for Respondents

- "All women of reproductive age" is useful to measure knowledge and attitudes among population potentially at risk.
- "Currently pregnant women" or "women who recently gave birth" is useful to measure events of interest to intervention; focusing on this group reduces survey costs.

Issues with Data Collection

- In some societies, women are reluctant to admit to pregnancy (cultural norms); this may make it difficult to identify pregnant women.
- It is essential to define whether to collect data about the woman's "last pregnancy" or "last birth." Last pregnancy is more accurate but requires data processing that is more sophisticated.
- Collecting data on the last pregnancy/birth instead of all pregnancies/births in a given period leads to over-representation of higher parity women. However, the shorter the reference period, the smaller the bias.

PROTOTYPE
SAFE MOTHERHOOD
POPULATION-BASED
SURVEY QUESTIONNAIRE

CONFIDENTIAL. INFORMATION TO BE USED FOR RESEARCH PURPOSES ONLY.

PROTOTYPE SAFE MOTHERHOOD QUESTIONNAIRE—HOUSEHOLD

Questionnaire No.	
Household ID No.	

Time Interview Started: Hour: _____ Minute: _____
Time Interview Ended: Hour: _____ Minute: _____

Location Information	
Urban/Rural	
Name of Head of Household	

INTERVIEWER VISITS			
	1	**2**	**3**
DATE			
INTERVIEWER'S NAME			
RESULT*			
NEXT VISIT: DATE			
TIME			

*** RESULT CODES:**

1 = COMPLETED	**4 = DWELLING NOT FOUND**	**7 = REFUSED**
2 = HOUSEHOLD ABSENT	**5 = NO COMPETENT RESPONDENT AT HOME**	**8 = OTHER: (SPECIFY):** _____ _____
3 = TIME AND DATE SET FOR LATER	**6 = INCOMPLETE INTERVIEW**	

	NAME	**DATE**	**SIGNATURE**
Field-edited by:			
Office-edited by:			
Keyed by:			

Verbal Consent Form

Good morning/afternoon/evening. My name is _____.
(Interviewer)

I represent [NAME OF GROUP]. We are speaking with women and their families about the experience of being pregnant and of having children. The results of this survey will be used to help improve health programs for women.

You have been selected for the interview by means of a random or chance selection process, much like picking an orange out of a basket without looking. I would like to ask you a few questions if I may, but you can refuse to answer any question I ask. You may end the interview at any time. You can also refuse to participate in the study entirely. The interview will last approximately [TIME ESTIMATE]. The information we collect from you will not be shown to anyone outside of this project.

If you have any question about this study, you can contact our office in _____ at the address listed on the card given to you.

May I proceed with the questions? Yes/No

_____
Name of interviewer

Date _____

NOT VALID WITHOUT THE COMMITTEE OR IRB STAMP OF CERTIFICATION

Void One Year From Above Date
CHR No.

HOUSEHOLD CENSUS

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	AGE	SEX	PREGNANCY STATUS	ELIGIBLE?
	Please give me the names of the persons who usually live in your household, starting with the head of household.	What is the relationship of (NAME) to the head of household?	How old is (NAME)?	Is (NAME) male or female?	ASK ONLY IF FEMALE: Is (NAME) currently pregnant?	BETWEEN 15 AND 49, AND FEMALE
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
2		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
3		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
4		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
5		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
6		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
7		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
8		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
9		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N
10		☐☐	YEARS ☐☐	M F 1 2	Y N 1 2	Y N

Codes for "Relationship to Head of Household" (column 3):

01 = Head
02 = Wife or Husband
03 = Son or Daughter
04 = Son-in-Law or Daughter-in-Law
05 = Grandchild
06 = Father or Mother
07 = Parent-in-Law
08 = Brother or Sister
09 = Other Relative
10 = Adopted/Foster/Stepchild
11 = Not Related
98 = Don't Know

Now I would like to ask you some questions about your household.

Q. #	QUESTION	CODES	GO TO Q.
1	What is the main material of the floor? Record observation.	**NATURAL FLOOR** **EARTH/SAND ..... 11** **DUNG ..... 12** **RUDIMENTARY FLOOR** **WOOD PLANKS..... 21** **PALM/BAMBOO ..... 22** **FINISHED FLOOR** **PARQUET OR POLISHED WOOD..... 31** **VINYL OR ASPHALT STRIPS..... 32** **CERAMIC TILES..... 33** **CEMENT..... 34** **CARPET ..... 35** **OTHER..... 97** **(SPECIFY)**	
2	What is the main source of drinking water for members of your household?	**PIPED WATER** **PIPED INTO DWELLING ..... 11** **PIPED INTO YARD/PLOT..... 12** **PUBLIC TAP ..... 13** **WATER FROM OPEN WELL** **OPEN WELL IN YARD/PLOT ..... 21** **OPEN PUBLIC WELL ..... 22** **WATER FROM COVERED WELL** **PROTECTED WELL IN YARD/PLOT ..... 31** **PROTECTED PUBLIC WELL ..... 32** **SURFACE WATER** **SPRING..... 41** **RIVER/STREAM..... 42** **POND/LAKE..... 43** **DAM..... 44** **RAINWATER ..... 51** **TANKER TRUCK..... 61** **BOTTLED WATER ..... 71** **OTHER..... 97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
3	What kind of toilet facilities do you have in your home?	**FLUSH TOILET..... 11** **PIT TOILET/LATRINE** **TRADITIONAL PIT TOILET ..... 21** **VENTILATED IMPROVED PIT (VIP) LATRINE ..... 22** **NO FACILITY/BUSH/FIELD ..... 31** **OTHER _____ 97** **(SPECIFY)**	
4	What type of fuel do you mainly use for cooking in your household?	**ELECTRICITY..... 01** **LPG/NATURAL GAS..... 02** **BIOGAS..... 03** **KEROSENE..... 04** **CHARCOAL..... 06** **FIREWOOD, STRAW ..... 07** **DUNG..... 08** **OTHER _____ 97** **(SPECIFY)**	**→ go to 6**
5	Does your household have electricity?	**YES..... 1** **NO..... 2**	
6	Does your household own: A landline telephone? A refrigerator? A radio that is in working order? A television that is in working order?	**YES NO** **TELEPHONE—LANDLINE.....1..... 2** **REFRIGERATOR.....1..... 2** **RADIO.....1..... 2** **TELEVISION.....1..... 2**	
7	Does any member of your household own: A cell phone? A bicycle? A motorcycle or motor scooter? A car or truck? A tractor? An animal-drawn cart?	**YES NO** **CELL PHONE .....1..... 2** **BICYCLE .....1..... 2** **MOTORCYCLE/SCOOTER .....1..... 2** **CAR/TRUCK.....1..... 2** **TRACTOR.....1..... 2** **ANIMAL-DRAWN CART .....1..... 2**	

THANK THE RESPONDENT

CONFIDENTIAL. INFORMATION TO BE USED FOR RESEARCH PURPOSES ONLY.

PROTOTYPE SAFE MOTHERHOOD QUESTIONNAIRE—WOMAN

Questionnaire No.	
Household ID No.	

Time Interview Started: Hour: _____ Minute: _____
Time Interview Ended: Hour: _____ Minute: _____

Location Information	
Urban/Rural	
Name of Head of Household	

INTERVIEWER VISITS			
	1	**2**	**3**
DATE			
INTERVIEWER'S NAME			
RESULT*			
NEXT VISIT: DATE			
TIME			

*** RESULT CODES:**

1 = COMPLETED	**4 = DWELLING NOT FOUND**	**7 = REFUSED**
2 = HOUSEHOLD ABSENT	**5 = NO COMPETENT RESPONDENT AT HOME**	**8 = OTHER: (SPECIFY):**
3 = TIME AND DATE SET FOR LATER	**6 = INCOMPLETE INTERVIEW**	_____
		_____

	NAME	**DATE**	**SIGNATURE**
Field-edited by:			
Office-edited by:			
Keyed by:			

Verbal Consent Form

Good morning/afternoon/evening. My name is _____.
(Interviewer)

I represent [NAME OF GROUP]. We are speaking with women and their families about the experience of being pregnant and of having children. The results of this survey will be used to help improve health programs for women.

You have been selected for the interview by means of a random or chance selection process, much like picking an orange out of a basket without looking. I would like to ask you a few questions if I may, but you can refuse to answer any question I ask. You may end the interview at any time. You can also refuse to participate in the study entirely. The interview will last approximately [TIME ESTIMATE]. The information we collect from you will not be shown to anyone outside of this project.

If you have any question about this study, you can contact our office in _____ at the address listed on the card given to you.

May I proceed with the questions? Yes/No

_____
Name of interviewer

Date _____

NOT VALID WITHOUT THE COMMITTEE OR IRB STAMP OF CERTIFICATION

Void One Year From Above Date
CHR No.

SECTION 1. SOCIODEMOGRAPHIC INFORMATION

First, I would like to ask you some questions about yourself and the pregnancies you've had.

Q. #	QUESTION	CODES	GO TO Q.
101	In what month and year were you born?	**MONTH** ..... ☐☐ **DON'T KNOW MONTH**.....**98** **YEAR** ..... ☐☐☐☐ **DON'T KNOW YEAR**.....**9998**	
102	How old are you now? COMPARE AND CORRECT 101 AND/OR 102 IF INCONSISTENT.	**AGE IN COMPLETED YEARS** ..... ☐☐	**If under age 15 or over age 49, STOP.** Conclude interview using language from the interviewer 's guide.
103	CHECK THIS WOMAN'S LINE IN THE HOUSEHOLD QUESTIONNAIRE (HQ.). DOES AGE REPORTED THERE AND AGE REPORTED HERE MATCH? IF NOT, CORRECT ON HQ.	**AGE REPORTED IN HQ**..... ☐☐	
104	Have you ever been pregnant in the past?	**YES**.....**1** **NO**.....**2**	
105	Are you pregnant now?	**YES**.....**1** **NO**.....**2**	
106	Have you given birth in the last 24 months, either to a baby that was born alive or a baby that was born dead?	**YES**.....**1** **NO**.....**2**	
107	What is your ethnicity?	**ETHNICITY:** ..... ☐☐ **(Write code as given in country-specific list of ethnicities)** **OTHER** _____**97** **(SPECIFY)**	
108	What is your religion?	**RELIGION:** ..... ☐☐ **(Write code as given in country-specific list of religions)** **NO RELIGION**.....**08** **OTHER** _____**97** **(SPECIFY)**	
109	What is your marital status now? Are you single, married, widowed, divorced, or separated?	**SINGLE**.....**1** **MARRIED/IN UNION**.....**2** **WIDOWED**.....**3** **DIVORCED**.....**4** **SEPARATED**.....**5**	**→111**
110	Are you currently living with a partner?	**YES**.....**1** **NO**.....**2**	
111	Have you ever attended school?	**YES**.....**1** **NO**.....**2**	**→113**

Q. #	QUESTION	CODES	GO TO Q.
112	What is the highest grade you have completed?	**GRADE** ..... ☐☐ **DO NOT KNOW** **98**	
113	Can you read a letter or newspaper easily, with difficulty, or not at all?	**EASILY** ..... **1** **WITH DIFFICULTY** ..... **2** **NOT AT ALL** **3**	**→116**
114	Next, I would like to ask you to read a sentence off of a card. Please read as much of the sentence as you can. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	**CANNOT READ AT ALL** ..... **1** **ABLE TO READ PART OF SENTENCE** ... **2** **ABLE TO READ WHOLE SENTENCE** ..... **3** **NO CARD WITH REQUIRED LANGUAGE**_____ **4** **(SPECIFY LANGUAGE)**	
115	In addition to your housework, do you do any other work for which you are paid in cash or in kind?	**YES** ..... **1** **NO** **2**	

SECTION 2. BIRTHS AND STILLBIRTHS

Now I would like to ask you some more questions about the pregnancies you have had during your life, focusing on pregnancies that resulted in babies born alive and babies born dead. At this time, we will not be discussing miscarriages.

Q. #	QUESTION	CODES	GO TO Q.
201	CHECK 104: HAS BEEN PREGNANT? YES ☐ NO ☐ CHECK 105: IS PREGNANT NOW? YES ☐ NO ☐ ↓	NO TO BOTH ☐ ----------	**→Sec. 3**
		NO TO 105 ☐ ----------	**→204**
202	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS.	**MONTHS** ..... ☐☐	
203	Is this your first pregnancy?	**YES** ..... **1** **NO** **2**	**→Sec. 3**
204	Have any of your pregnancies resulted in a baby that was born dead (a stillbirth)?	**YES** ..... **1** **NO** **2**	**→206**
205	How many of these pregnancies resulted in a baby that was born dead?	**BABIES BORN DEAD** ..... ☐☐	
206	Have any of your pregnancies resulted in a baby that was born alive?	**YES** ..... **1** **NO** **2**	**→208**

Q. #	QUESTION	CODES	GO TO Q.
207	How many of these pregnancies resulted in a baby that was born alive? PROBE: Any baby who cried or showed signs of life but may have later died?	**BABIES BORN ALIVE** ..... ☐☐	
208	SUM ANSWERS TO 205 AND 207 AND ENTER TOTAL. IF NONE, ENTER '00'	**LIVE + STILL BIRTHS**..... ☐☐	
209	Did your most recent birth result in a baby that was born alive or dead (that is, a baby who never cried or showed any signs of life)? IF LIVE BIRTH: In what month and year did your most recent birth occur? IF STILLBIRTH: In what month and year did your last such birth occur?	**LIVE BIRTH** ..... **01** **MONTH**..... ☐☐ **YEAR**..... ☐☐ **STILLBIRTH** ..... **02** **MONTH**..... ☐☐ **YEAR**..... ☐☐	
210	Did your birth prior to this most recent birth result in a baby that was born alive or dead (that is, a baby who never cried or showed any signs of life)? IF LIVE BIRTH: In what month and year did your most recent birth occur? IF STILLBIRTH: In what month and year did your last such birth occur? IF ONLY ONE PRIOR BIRTH, CIRCLE 03.	**LIVE BIRTH** ..... **01** **MONTH**..... ☐☐ **YEAR**..... ☐☐ **STILLBIRTH** ..... **02** **MONTH**..... ☐☐ **YEAR**..... ☐☐ **ONLY ONE PRIOR BIRTH** **03**	

SECTION 3. KNOWLEDGE

Now I would like to ask you some questions about pregnancy and childbirth. Specifically, I am going to be asking you questions about three different phases that women go through when having a child. These phases are the period of being pregnant, the period of labor and birth, and the period immediately after the birth of the child.

Q. #	QUESTION	CODES	GO TO Q.
301	In your opinion, can unforeseen problems related to pregnancy occur during any pregnancy or childbirth that could endanger the life of a woman?	**YES**.....**01** **NO**.....**02** **DON'T KNOW**.....**98**	

Q. #	QUESTION	CODES	GO TO Q.
302	In your opinion, what are some serious health problems that can occur during pregnancy that could endanger the life of a pregnant woman? PROBE: Any others?	**BLEEDING .....01** **SEVERE HEADACHE .....02** **BLURRED VISION .....03** **CONVULSIONS.....04** **SWOLLEN HANDS/FACE.....05** **HIGH FEVER .....06** **LOSS OF CONSCIOUSNESS.....07** **DIFFICULTY BREATHING.....08** **SEVERE WEAKNESS.....09** **SEVERE ABDOMINAL PAIN .....10** **ACCELERATED/ REDUCED FETAL MOVEMENT.....11** **WATER BREAKS WITHOUT LABOR .....12** **OTHER _____ 97** **(SPECIFY)** **NONE.....00** **DON'T KNOW.....98**	 **→304** **→304**
303	In your opinion, could a woman die from [this problem] any of these problems?	**YES.....01** **NO.....02** **DON'T KNOW.....98**	
304	In your opinion, what are some serious health problems that can occur during labor and childbirth that could endanger the life of a pregnant woman? PROBE: Any others?	**SEVERE BLEEDING .....01** **SEVERE HEADACHE .....02** **CONVULSIONS.....03** **HIGH FEVER .....04** **LOSS OF CONSCIOUSNESS.....05** **LABOR LASTING >12 HOURS.....06** **PLACENTA NOT DELIVERED 30 MINUTES AFTER BABY.....07** **OTHER _____ 97** **(SPECIFY)** **NONE.....00** **DON'T KNOW.....98**	 **→306** **→306**
305	In your opinion, could a woman die from [this problem] any of these problems?	**YES.....01** **NO.....02** **DON'T KNOW.....98**	
306	In your opinion, what are some serious health problems that can occur during the first 2 days after birth that could endanger the life of the woman? PROBE: Any others?	**SEVERE BLEEDING .....01** **SEVERE HEADACHE .....02** **BLURRED VISION .....03** **CONVULSIONS.....04** **SWOLLEN HANDS/FACE.....05** **HIGH FEVER .....06** **MALODOROUS VAGINAL DISCHARGE 07** **LOSS OF CONSCIOUSNESS.....08** **DIFFICULTY BREATHING.....09** **SEVERE WEAKNESS.....10** **OTHER _____ 97** **(SPECIFY)** **NONE.....00** **DON'T KNOW.....98**	 **→308** **→308**
307	In your opinion, could a woman die from [this problem] any of these problems?	**YES.....01** **NO.....02** **DON'T KNOW.....98**	

Q. #	QUESTION	CODES	GO TO Q.
308	Now, I would like to ask you a few questions about the health of newborn babies. In your opinion, what are some serious health problems that can occur during the first 7 days after birth that could endanger the life of a newborn baby? PROBE: Any others?	**DIFFICULT OR FAST BREATHING.....01** **YELLOW SKIN/EYE COLOR (JAUNDICE)02** **POOR SUCKING OR FEEDING.....03** **PUS, BLEEDING, OR DISCHARGE FROM AROUND THE UMBILICAL CORD.....04** **BABY VERY SMALL.....05** **SKIN LESIONS OR BLISTERS.....06** **CONVULSIONS/SPASMS/ RIGIDITY .....07** **LETHARGY/ UNCONSCIOUSNESS .....08** **RED OR SWOLLEN EYES WITH PUS .....09** **OTHER _____ 97** **(SPECIFY)** **NONE.....98**	 **→310** **→310**
309	In your opinion, could a newborn baby die from [this problem] any of these problems?	**YES.....01** **NO.....02** **DON'T KNOW.....98**	
310	Could you name some types of basic care that can be provided to a newborn baby immediately after birth?	**EXCLUSIVE BREASTFEEDING .....01** **DRY AND WRAP.....02** **EYE CARE.....03** **CORD CARE .....04** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW.....98**	
311	Have you ever heard the term "birth preparedness"?	**YES.....1** **NO.....2**	
312	In your opinion, what are some things a woman can do to prepare for birth?	**IDENTIFY MODE OF TRANSPORT.....01** **SAVE MONEY .....02** **IDENTIFY BLOOD DONOR .....03** **IDENTIFY SKILLED PROVIDER.....04** **OTHER _____ 97** **(SPECIFY)**	
313	Does your community provide services to assist women in preparing for birth? For instance, are there: Transportation services for women? Ways to get money to help families pay for birth? Ways to get blood donated during pregnancy or complications? Any other services?	**YES NO DK** **TRANSPORT.....1 .....2 ..... 8** **FINANCIAL.....1 .....2 ..... 8** **BLOOD.....1 .....2 ..... 8** **OTHER _____ 1 .....2 ..... 8** **(SPECIFY)**	

SECTION 4. ATTITUDES AND PERCEPTIONS

Now I am going to read out a list of common perceptions about pregnancy, childbirth, and the period immediately after childbirth. I would like to know whether you strongly agree, agree, disagree, or strongly disagree with these statements. There is no right or wrong answer to any of these questions. We are only interested in hearing your opinion.

Q. #	QUESTION	CODES					GO TO Q.
401	A woman should plan ahead of time where she will give birth to her baby.	SA 01	A 02	D 03	SD 04	DK 98	
402	A woman should plan ahead of time how she will get to the place where she will give birth.	SA 01	A 02	D 03	SD 04	DK 98	
403	It is not necessary for a husband/partner to accompany his wife to antenatal care visits.	SA 01	A 02	D 03	SD 04	DK 98	
404	When women do not go to a health facility to give birth, it is mainly because it is too expensive.	SA 01	A 02	D 03	SD 04	DK 98	
405	When women do not go to a health facility to give birth, it is mainly because it is too difficult to get there.	SA 01	A 02	D 03	SD 04	DK 98	
406	When women do not go to a health facility to give birth, it is mainly because the staff there do not treat women respectfully.	SA 01	A 02	D 03	SD 04	DK 98	
407	It is not necessary for a husband/partner to accompany his wife when she is giving birth.	SA 01	A 02	D 03	SD 04	DK 98	
408	Giving birth is mostly a woman's matter. Husbands/partners have little to contribute.	SA 01	A 02	D 03	SD 04	DK 98	

Now I am going to read out a list of common perceptions about doctors, nurses, and traditional birth attendants. I would like to know if you agree with these statements, disagree with these statements, or if you don't know whether you agree or disagree with these statements. READ EACH QUESTION THROUGH ONCE, FIRST BEGINNING WITH "DOCTOR," THEN BEGINNING WITH "NURSE," THEN WITH "TBA."

Q. #	QUESTION	CODES			GO TO Q.
		DOCTORS	NURSES	TBAs	
409	In this community, do [DOCTORS/NURSES/TBAs] know what kind of care a woman needs during pregnancy, childbirth, and immediately after childbirth?	Y 01 N 02 DK 98	Y 01 N 02 DK 98	Y 01 N 02 DK 98	
410	In this community, do [DOCTORS/NURSES/TBAs] treat women with respect?	Y 01 N 02 DK 98	Y 01 N 02 DK 98	Y 01 N 02 DK 98	
411	In this community, do [DOCTORS/NURSES/TBAs] know what to do in case of complications?	Y 01 N 02 DK 98	Y 01 N 02 DK 98	Y 01 N 02 DK 98	

SECTION 5. PERCEPTIONS OF LOCAL FACILITIES

Now I am going to ask you some questions about the local health facilities in which a woman can give birth to a baby.

Q. #	QUESTION	CODES	GO TO Q.
501	Do you know of a place where a woman can go to give birth to a baby with assistance from a doctor, nurse, or midwife? IF YES: Where is that? RECORD ALL PLACES MENTIONED. IF MORE THAN ONE FACILITY MENTIONED: Which of these health facilities is the closest to here? _____ (NAME OF HEALTH FACILITY)	**HOME** **RESPONDENT'S HOME .....11** **TBA'S HOME .....12** **OTHER HOME.....13** **PUBLIC SECTOR** **GVT. HOSPITAL.....21** **GVT. HEALTH CENTER. .....22** **GVT. DISPENSARY .....23** **OTHER PUBLIC _____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL.....31** **MATERNITY/NURSING HOME.....32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)** **DOES NOT KNOW PLACE.....98**	**→Sec. 6** **→Sec. 6**
502	In your community, how would a woman go to this health facility? PROBE: What type of transportation would she mainly use to get to the health facility?	**AMBULANCE .....01** **PRIVATE CAR.....02** **TAXI/BUS .....03** **CART .....04** **MOTORBIKE .....05** **BOAT .....06** **ON FOOT.....07** **BICYCLE .....08** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW.....98**	
503	In general, how long would it take to reach this health facility? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS .....1** ☐☐ **MINUTES .....2** ☐☐ **DON'T KNOW.....98**	
504	In your opinion, how are the services in this facility? Would you say they are excellent, good, average, or poor?	**EXCELLENT.....01** **GOOD .....02** **AVERAGE .....03** **POOR.....04** **DON'T KNOW.....98**	

Q. #	QUESTION	CODES	GO TO Q.
505	Can you tell me why you have ranked the services as [CHECK 504] _____? PROBE: What else? RECORD ALL RESPONSES.	**DOCTOR ALWAYS THERE .....01** **FACILITY ALWAYS OPEN .....02** **STAFF RESPOND TO MY QUESTIONS.....03** **FACILITY ALWAYS HAS NECESSARY MEDICINES.....04** **NOT A LONG WAIT.....05** **STAFF TREAT WOMEN WITH RESPECT .....06** **OFTEN DOCTOR NOT THERE.....07** **OFTEN FACILITY IS CLOSED.....08** **STAFF DO NOT ANSWER MY QUESTIONS.....09** **FACILITY DOES NOT HAVE NECESSARY MEDICINES.....10** **LONG WAIT TO BE SEEN .....11** **STAFF TREAT WOMEN POORLY.....12** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW.....98**	

SECTION 6. PERSONAL EXPERIENCE RELATED TO LAST PREGNANCY

In the next three sets of questions, I am going to be asking about your experiences related to the three phases women go through when having a child that we discussed earlier: pregnancy, birth, and the period after birth. I'd like to begin by speaking with you about your last pregnancy that resulted in a baby (born alive or born dead).

Q. #	QUESTION	CODES	GO TO Q.
601	CHECK 106: HAS HAD A LIVE BIRTH OR STILLBIRTH IN THE LAST 24 MONTHS? YES ☐ ↓	NO ☐ ----------	**→Sec. 9**
602	Did you see anyone for antenatal care during this pregnancy?	**YES .....1** **NO 2**	**→ 608**
603	How many times in total did you receive antenatal care during your pregnancy?	**NO. OF TIMES .....** ☐☐ **DON'T KNOW/DON'T REMEMBER 98**	
604	How many months pregnant were you when you <u>first</u> received antenatal care for this pregnancy?	**MONTHS .....** ☐☐ **DON'T KNOW/DON'T REMEMBER 98**	

Q. #	QUESTION	CODES	GO TO Q.
605	Whom did you first see for a checkup on this pregnancy? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL** **DOCTOR.....01** **NURSE/MIDWIFE .....02** **CLINICAL OFFICER.....03** **OTHER PERSON** **TBA.....04** **COMMUNITY HEALTH WORKER .....05** **RELATIVE/FRIEND .....06** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW/DON'T REMEMBER 98**	
606	How many months pregnant were you when you last received antenatal care for this pregnancy?	**MONTHS.....** ☐☐ **DON'T KNOW/CAN'T REMEMBER 98**	
607	During this pregnancy, did a health worker advise you about any of the following at least once? Danger signs of serious health problems during pregnancy, childbirth, or soon after? Where to go if you had danger signs of serious health problems? Where you should give birth to your baby? Arrangements for transportation? Arrangements for funds/finances? Arrangements for a blood donor? Arrangements for a healthcare professional to deliver your child?	**YES NO DK** **DANGER SIGNS..... 01.....02.....98** **WHERE TO GO..... 01.....02.....98** **WHERE TO GIVE BIRTH..... 01.....02.....98** **TRANSPORT ..... 01.....02.....98** **MONEY ..... 01.....02.....98** **BLOOD DONOR ..... 01.....02.....98** **HEALTH PROFESSIONAL ..... 01.....02.....98**	
608	Did you speak with anyone outside of a health facility about danger signs of serious health problems during pregnancy, childbirth, or soon after? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **DANGER SIGNS..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER.....05**	
609	Did you speak with anyone outside of a health facility about where to go if you had danger signs of serious health problems? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **WHERE TO GO..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER 05**	

Q. #	QUESTION	CODES	GO TO Q.
610	Did you speak with anyone outside of a health facility about where you should give birth to your baby? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **WHERE TO GIVE BIRTH..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER 05**	
611	Did you speak with anyone outside of a health facility about arrangements for transport? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **TRANSPORT ..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER 05**	
612	Did you speak with anyone outside of a health facility about arrangements for funds/finances? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **MONEY ..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER 05**	
613	Did you speak with anyone outside of a health facility about arrangements for a blood donor? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **BLOOD DONOR ..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER 05**	
614	Did you speak with anyone outside of a health facility about arrangements for a healthcare professional to deliver your child? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **SKILLED PROVIDER..... 01.....02.....98** **HUSBAND .....01** **MOTHER-IN-LAW.....02** **OTHER FAMILY MEMBER.....03** **FRIEND/NEIGHBOR.....04** **COMMUNITY HEALTH WORKER 05**	
615	CHECK 602: RECEIVED ANTENATAL CARE? NO ☐ ↓	YES ☐ ----------	**→617**
616	Why did you not see anyone for antenatal care? (CIRCLE ALL RESPONSES GIVEN.)	**DID NOT KNOW WHERE TO GO.....01** **HEALTH FACILITY TOO FAR.....02** **TOO EXPENSIVE.....03** **NO ONE WAS THERE TO ACCOMPANY...04** **NO GOOD SERVICE.....05** **OTHER _____ 97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
617	During this pregnancy, did you experience any serious health problems related to the pregnancy?	**YES** .....01 **NO** .....02 **DON'T KNOW** 98	 **→Sec. 7** **→Sec. 7**
618	What problems did you experience? (CIRCLE ALL RESPONSES GIVEN.) THEN PROBE: Did you experience [ANY REMAINING COMPLICATIONS]?	**UNPROMPTED PROMPTED** **BLEEDING** .....01 .....01 **SEVERE HEADACHE** .....02 .....02 **BLURRED VISION** .....03 .....03 **CONVULSIONS** .....04 .....04 **SWOLLEN HANDS/FACE** .....05 .....05 **HIGH FEVER** .....06 .....06 **LOSS OF CONSCIOUSNESS** .....07 .....07 **DIFFICULTY BREATHING** .....08 .....08 **SEVERE WEAKNESS** .....09 .....09 **SEVERE ABDOMINAL PAIN** .....10 .....10 **ACCELERATED/REDUCED FETAL MOVEMENT** ...11 .....11 **WATER BREAKS WITHOUT LABOR** .....12 .....12 **OTHER** _____ 97 **(SPECIFY)** **DON'T KNOW** 98	
619	Which one of these problems was the most severe?	**BLEEDING** .....01 **SEVERE HEADACHE** .....02 **BLURRED VISION** .....03 **CONVULSIONS** .....04 **SWOLLEN HANDS/FACE** .....05 **HIGH FEVER** .....06 **LOSS OF CONSCIOUSNESS** .....07 **DIFFICULTY BREATHING** .....08 **SEVERE WEAKNESS** .....09 **SEVERE ABDOMINAL PAIN** .....10 **ACCELERATED/ REDUCED FETAL MOVEMENT** .....11 **WATER BREAKS WITHOUT LABOR** .....12 **OTHER** _____ 97 **(SPECIFY)**	
620	Did you seek assistance for this problem?	**YES** .....01 **NO** .....02 **DON'T KNOW** 98	**→ 622** **→Sec. 7**

Q. #	QUESTION	CODES	GO TO Q.
621	Why did you not seek assistance for this problem? Anything else? PROBE FOR OTHER REASONS AND RECORD ALL REASONS MENTIONED.	**RESP. DIDN'T THINK NECESSARY.....01** **HUSBAND/FAMILY DIDN'T THINK NECESSARY.....02** **FACILITY TOO FAR.....03** **NO TRANSPORT.....04** **NO CHILDCARE.....05** **TOO EXPENSIVE.....06** **SERVICES ARE POOR.....07** **USED HOME REMEDY.....08** **DID NOT KNOW WHERE TO GO.....09** **NO TIME TO GO.....10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW.....98**	
622	Who made the <u>final</u> decision about whether or not to seek assistance for this problem?	**NO ONE.....01** **RESPONDENT.....02** **RESPONDENT & HUSBAND.....03** **HUSBAND.....04** **RESP.'S MOTHER.....05** **RESP.'S FATHER.....06** **MOTHER-IN-LAW.....07** **FATHER-IN-LAW.....08** **SISTER/SISTER-IN-LAW.....09** **OTHER MEMBER OF RESP.'S FAM.....10** **OTHER MEMBER OF HUSB.'S FAM.....11** **FRIEND/NEIGHBOR.....12** **HEALTH PROFESSIONAL.....13** **TBA.....14** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW _____ 98**	
623	CHECK 620: SOUGHT ASSISTANCE? YES ☐ ↓	NO ☐ ---------- **→Sec. 7** DON'T KNOW ☐ ---------- **→Sec. 7**	
624	Did you go to a health facility for assistance? IF YES: Which facility did you go to <u>first</u>? _____ (NAME OF PLACE)	**NO, DID NOT GO.....11** **PUBLIC SECTOR** **GVT. HOSPITAL.....21** **GVT. HEALTH CENTER.....22** **GVT. DISPENSARY.....23** **OTHER PUBLIC _____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL.....31** **MATERNITY/NURSING HOME.....32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
625	Whom did you see for assistance for this problem? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL** **DOCTOR.....01** **NURSE/MIDWIFE .....02** **CLINICAL OFFICER.....03** **OTHER PERSON** **TBA.....04** **COMMUNITY HEALTH WORKER .....05** **RELATIVE/FRIEND .....06** **OTHER** _____ **97** **(SPECIFY)**	

SECTION 7. PERSONAL EXPERIENCE RELATED TO LAST BIRTH

Now I'd like to speak with you about the birth that resulted from the pregnancy we were just discussing.

Q. #	QUESTION	CODES	GO TO Q.
701	Where did you give birth to your last child? _____ (NAME OF PLACE)	**HOME** **RESPONDENT'S HOME..... 11** **TBA'S HOME..... 12** **OTHER HOME ..... 13** **PUBLIC SECTOR** **GVT. HOSPITAL..... 21** **GVT. HEALTH CENTER. ..... 22** **GVT. DISPENSARY..... 23** **OTHER PUBLIC** _____ **26** (**SPECIFY**) **PRIVATE SECTOR** **PVT. HOSPITAL ..... 31** **MATERNITY/NURSING HOME ..... 32** **OTHER PRIVATE** _____ **36** **(SPECIFY)** **OTHER** _____ **97** **(SPECIFY)**	
702	Did you plan to give birth at this place?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	
703	Prior to this birth, did you or your family make any arrangements for the birth of this child?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	 **→711** **→711**

Q. #	QUESTION	CODES	GO TO Q.
704	Which arrangements did you or your family make for the birth of this child? (CIRCLE ALL RESPONSES GIVEN.) THEN PROBE: Did you [ANY REMAINING ARRANGEMENTS]?	**UNPROMPTED PROMPTED** **IDENTIFY TRANSPORT .....01 ..... 01** **SAVE MONEY.....02 ..... 02** **IDENTIFY BLOOD DONOR ..... 03** **IDENTIFY SKILLED PROVIDER.....04 ..... 04** **OTHER _____ 97** **(SPECIFY)**	
705	CHECK 704: IDENTIFIED A MODE OF TRANSPORT? YES ☐ ↓	NO ☐ ----------	**→707**
706	Did you use the mode of transport that you identified?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	
707	CHECK 704: SAVED MONEY? YES ☐ ↓	NO ☐ ----------	**→709**
708	Did you use the money that you saved?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	
709	CHECK 704: IDENTIFIED A BLOOD DONOR? YES ☐ ↓	NO ☐ ----------	**→711**
710	Did you use the blood donor you identified?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	
711	Who made the <u>final</u> decision about where you would give birth?	**NO ONE..... 01** **RESPONDENT..... 02** **RESPONDENT & HUSBAND ..... 03** **HUSBAND..... 04** **RESP.'S MOTHER ..... 05** **RESP.'S FATHER ..... 06** **MOTHER-IN-LAW ..... 07** **FATHER-IN-LAW ..... 08** **SISTER/SISTER-IN-LAW..... 09** **OTHER MEMBER OF RESP.'S FAM..... 10** **OTHER MEMBER OF HUSB.'S FAM ..... 11** **FRIEND/NEIGHBOR ..... 12** **HEALTH PROFESSIONAL ..... 13** **TBA ..... 14** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	

Q. #	QUESTION	CODES	GO TO Q.
712	CHECK 701: GAVE BIRTH IN FACILITY? YES ☐ ↓	NO ☐ ----------	→721
713	Can you tell me the three top reasons why you gave birth in a health facility rather than elsewhere? PROBE: What else?	**1** _____ **2** _____ **3** _____	
714	How did you go to the health facility? PROBE: What type of transportation did you mainly use to get to the health facility?	**AMBULANCE** ..... **01** **PRIVATE CAR** ..... **02** **TAXI/BUS** ..... **03** **CART** ..... **04** **MOTORBIKE** ..... **05** **BOAT** ..... **06** **ON FOOT** ..... **07** **BICYCLE** ..... **08** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	
715	Who accompanied you to the place where you gave birth? PROBE FOR THE PERSON(S) ACCOMPANYING AND RECORD ALL PERSONS.	**NO ONE** ..... **01** **HUSBAND** ..... **02** **RESP.'S MOTHER** ..... **03** **RESP.'S FATHER** ..... **04** **MOTHER-IN-LAW** ..... **05** **FATHER-IN-LAW** ..... **06** **SISTER/SISTER-IN-LAW** ..... **07** **OTHER MEMBER OF RESP.'S FAM** ..... **08** **OTHER MEMBER OF HUSB.'S FAM** ..... **09** **FRIEND/NEIGHBOR** ..... **10** **HEALTH PROFESSIONAL** ..... **11** **TBA** ..... **12** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	
716	How long did it take to reach the health facility? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS** ..... **1** ☐☐ **MINUTES** ..... **2** ☐☐ **DON'T KNOW** **98**	
717	How long after reaching the health facility did it take for you to get services from the health personnel? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS** ..... **1** ☐☐ **MINUTES** ..... **2** ☐☐ **IMMEDIATELY** ..... **3** **DON'T KNOW** **98**	
718	In your opinion, how were the services in this facility? Would you say they were excellent, good, average or poor?	**EXCELLENT** ..... **01** **GOOD** ..... **02** **AVERAGE** ..... **03** **POOR** ..... **04** **DON'T KNOW** **98**	

Q. #	QUESTION	CODES	GO TO Q.
719	Can you tell me why you have ranked the services as _____? [CHECK 718] PROBE: What else?	**DOCTOR ALWAYS THERE..... 01** **FACILITY ALWAYS OPEN..... 02** **STAFFRESPOND TO MY QUESTIONS ..... 03** **FACILITY ALWAYS HAS NECESSARY MEDICINES..... 04** **NOT A LONG WAIT ..... 05** **STAFF TREAT WOMEN WITH RESPECT . 06** **OFTEN DOCTOR NOT THERE ..... 07** **OFTEN FACILITY IS CLOSED ..... 08** **STAFF DO NOT ANSWER MY QUESTIONS ..... 09** **FACILITY DOES NOT HAVE NECESSARY MEDICINES..... 10** **LONG WAIT TO BE SEEN..... 11** **STAFF TREAT WOMEN POORLY ..... 12** **OTHER _____ 97** **DON'T KNOW 98**	
720	CHECK 701: GAVE BIRTH IN FACILITY? NO ☐ ↓	YES ☐ ----------	**→722**
721	Can you tell me the three top reasons why you did not give birth in a health facility? PROBE: What else?	**RESP. DIDN'T THINK NECESSARY ..... 01** **HUSBAND/FAMILY DIDN'T THINK NECESSARY ..... 02** **FACILITY TOO FAR..... 03** **NO TRANSPORT ..... 04** **NO CHILDCARE ..... 05** **TOO EXPENSIVE..... 06** **SERVICES ARE POOR..... 07** **DID NOT KNOW WHERE TO GO..... 08** **NO TIME TO GO ..... 09** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
722	Who assisted with the birth? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	**HEALTH PROFESSIONAL** **DOCTOR..... 01** **NURSE/ MIDWIFE ..... 02** **CLINICAL OFFICER ..... 03** **OTHER PERSON** **TBA ..... 04** **COMMUNITY HEALTH WORKER..... 05** **RELATIVE/FRIEND ..... 06** **OTHER _____ 97** **(SPECIFY)**	
723	Would you have preferred that someone else assist with the birth instead of _____? [CHECK 722]	**YES..... 1** **NO ..... 2** **DON'T KNOW 8**	 **→725** **→725**

Q. #	QUESTION	CODES	GO TO Q.
724	Who would you have preferred to assist with the birth?	**HEALTH PROFESSIONAL** **DOCTOR ..... 01** **NURSE/ MIDWIFE ..... 02** **CLINICAL OFFICER ..... 03** **OTHER PERSON** **TBA ..... 04** **COMMUNITY HEALTH WORKER..... 05** **RELATIVE/FRIEND ..... 06** **OTHER _____ 97** **(SPECIFY)**	
725	Was the child born by cesarean section?	**YES..... 1** **NO 2**	
726	Was the child born by forceps or vacuum extraction?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	
727	During labor and birth, did you experience any serious health problems related to birth?	**YES..... 01** **NO ..... 02** **DON'T KNOW 98**	 **→Sec. 8** **→Sec. 8**
728	What problems did you experience? (CIRCLE ALL RESPONSES GIVEN.) THEN PROBE: Did you experience [ANY REMAINING COMPLICATIONS]?	**UNPROMPTED PROMPTED** **SEVERE BLEEDING.....01 ..... 01** **SEVERE HEADACHE.....02 ..... 02** **CONVULSIONS .....03 ..... 03** **HIGH FEVER.....04 ..... 04** **LOSS OF** **CONSCIOUSNESS .....05 ..... 05** **LABOR LASTING** **>12 HOURS.....06 ..... 06** **PLACENTA NOT** **DELIVERED 30 MINUTES** **AFTER BABY.....07 ..... 07** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
729	Which one of these problems was the most severe?	**SEVERE BLEEDING..... 01** **SEVERE HEADACHE..... 02** **CONVULSIONS ..... 03** **HIGH FEVER..... 04** **LOSS OF CONSCIOUSNESS..... 05** **LABOR LASTING >12 HOURS ..... 06** **PLACENTA NOT DELIVERED** **30 MINUTES AFTER BABY ..... 07** **OTHER _____ 97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
730	Where were you when you developed this problem?	**HOME** **RESPONDENT'S HOME..... 11** **TBA'S HOME..... 12** **OTHER HOME..... 13** **PUBLIC SECTOR** **GVT. HOSPITAL..... 21** **GVT. HEALTH CENTER..... 22** **GVT.DISPENSARY..... 23** **OTHER PUBLIC _____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL..... 31** **MATERNITY/NURSING HOME..... 32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)**	 **→741** **→741** **→741** **→741**
731	Did you seek assistance for this problem?	**YES..... 01** **NO..... 02** **DON'T KNOW..... 98**	**→733** **→Sec. 8**
732	Why did you not seek assistance for this problem? Anything else? PROBE FOR THE REASONS AND RECORD ALL REASONS MENTIONED.	**RESP. DIDN'T THINK NECESSARY..... 01** **HUSBAND/FAMILY DIDN'T THINK NECESSARY..... 02** **FACILITY TOO FAR..... 03** **NO TRANSPORT..... 04** **NO CHILDCARE..... 05** **TOO EXPENSIVE..... 06** **SERVICES ARE POOR..... 07** **USED HOME REMEDY..... 08** **DID NOT KNOW WHERE TO GO..... 09** **NO TIME TO GO..... 10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW..... 98**	

Q. #	QUESTION	CODES	GO TO Q.
733	Who made the final decision about whether or not you would go somewhere for assistance?	**NO ONE** ..... **01** **RESPONDENT** ..... **02** **RESPONDENT & HUSBAND** ..... **03** **HUSBAND** ..... **04** **RESP.'S MOTHER** ..... **05** **RESP.'S FATHER** ..... **06** **MOTHER-IN-LAW** ..... **07** **FATHER-IN-LAW** ..... **08** **SISTER/SISTER-IN-LAW** ..... **09** **OTHER MEMBER OF RESP.'S FAM** ..... **10** **OTHER MEMBER OF HUSB.'S FAM** ..... **11** **FRIEND/NEIGHBOR** ..... **12** **HEALTH PROFESSIONAL** ..... **13** **TBA** ..... **14** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	
734	How long did it take to make the decision about whether or not to go somewhere for assistance? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS** ..... **1** ☐☐ **MINUTES** ..... **2** ☐☐ **DON'T KNOW** **98**	
735	CHECK 731: SOUGHT ASSISTANCE? YES ☐ ↓	NO ☐ ---------- **→Sec. 8** DON'T KNOW ☐ ---------- **→Sec. 8**	
736	Did you go to a health facility for assistance? IF YES: Which facility did you go first? _____ (NAME OF PLACE)	**NO, DID NOT GO.** ..... **11** **PUBLIC SECTOR** **GVT. HOSPITAL.** ..... **21** **GVT. HEALTH CENTER.** ..... **22** **GVT. DISPENSARY.** ..... **23** **OTHER PUBLIC** _____ **26** (**SPECIFY**) **PRIVATE SECTOR** **PVT. HOSPITAL** ..... **31** **MATERNITY/NURSING HOME** ..... **32** **OTHER PRIVATE** _____ **36** **(SPECIFY)** **OTHER** _____ **97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
737	Who accompanied you to seek care? PROBE FOR THE PERSON(S) ACCOMPANYING AND RECORD ALL PERSONS.	**NO ONE ..... 01** **HUSBAND ..... 02** **RESP.'S MOTHER ..... 03** **RESP.'S FATHER ..... 04** **MOTHER-IN-LAW ..... 05** **FATHER-IN-LAW ..... 06** **SISTER/SISTER-IN-LAW ..... 07** **OTHER MEMBER OF RESP.'S FAM ..... 08** **OTHER MEMBER OF HUSB.'S FAM ..... 09** **FRIEND/NEIGHBOR ..... 10** **HEALTH PROFESSIONAL ..... 11** **TBA ..... 12** **OTHER _____ 97** **(SPECIFY)**	
738	How long did it take to find transport once a decision was made to seek care? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW 98**	
739	How long did it take to get there? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW 98**	
740	How long was the time between when you arrived at the facility and the time you were first examined by a healthcare provider? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **IMMEDIATELY ..... 3** **DON'T KNOW 98**	
741	Whom did you see for assistance for this health problem? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL** **DOCTOR ..... 01** **NURSE/ MIDWIFE ..... 02** **CLINICAL OFFICER ..... 03** **OTHER PERSON** **TBA ..... 04** **COMMUNITY HEALTH WORKER ..... 05** **RELATIVE/FRIEND ..... 06** **OTHER _____ 97** **(SPECIFY)**	

SECTION 8. PERSONAL EXPERIENCE RELATED TO LAST BIRTH (POSTPARTUM)

Now I'd like to speak with you about the period after the birth we were just discussing.

Q. #	QUESTION	CODES	GO TO Q.
801	After you gave birth, did someone check on your health?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	 **→806** **→807**
802	When did someone first check on your health after you gave birth?	**HOURS**..... **1** ☐☐ **DAYS**..... **2** ☐☐ **WEEKS** ..... **3** ☐☐ **DON'T KNOW** **98**	
803	Where did this first checkup take place? _____ (NAME OF PLACE)	**HOME** **RESPONDENT'S HOME** ..... **11** **TBA'S HOME** ..... **12** **OTHER HOME** ..... **13** **PUBLIC SECTOR** **GVT. HOSPITAL** ..... **21** **GVT. HEALTH CENTER** ..... **22** **GVT.DISPENSARY** ..... **23** **OTHER PUBLIC** _____ **26** (**SPECIFY**) **PRIVATE SECTOR** **PVT. HOSPITAL** ..... **31** **MATERNITY/NURSING HOME** ..... **32** **OTHER PRIVATE** _____ **36** **(SPECIFY)** **OTHER** _____ **97** **(SPECIFY)**	
804	Who checked on your health at that time? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS CHECKING.	**DOCTOR** ..... **01** **NURSE/ MIDWIFE** ..... **02** **CLINICAL OFFICER** ..... **03** **COMMUNITY HEALTH WORKER** ..... **04** **TBA** ..... **05** **RELATIVE/FRIEND** ..... **06** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	
805	CHECK 801: RECEIVED POSTPARTUM CARE? NO ☐ ↓	YES ☐ ---------- **→807** DON'T KNOW ☐ ---------- **→807**	
806	Why did no one check on your health after the birth of your child?	**1.** _____ **2.** _____ **3.** _____	

Q. #	QUESTION	CODES	GO TO Q.
807	During the 2 days after the birth of your child, did you experience any serious health problems related to the birth?	**YES ..... 01** **NO ..... 02** **DON'T KNOW 98**	 **→822** **→822**
808	What problems did you experience? (CIRCLE ALL RESPONSES GIVEN.) THEN PROBE: Did you experience [ANY REMAINING COMPLICATIONS]?	**UNPROMPTED PROMPTED** **SEVERE BLEEDING..... 01 ..... 01** **SEVERE HEADACHE..... 02 ..... 02** **BLURRED VISION..... 03 ..... 03** **CONVULSIONS ..... 04 ..... 04** **SWOLLEN HANDS/FACE ..... 05 ..... 05** **HIGH FEVER..... 06 ..... 06** **MALODOROUS VAGINAL DISCHARGE ..... 07 ..... 07** **LOSS OF CONSCIOUSNESS ... 08 ..... 08** **DIFFICULTY BREATHING ..... 09 ..... 09** **SEVERE WEAKNESS .... 10 ..... 10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
809	Which one of these problems was the most severe?	**SEVERE BLEEDING..... 01** **SEVERE HEADACHE..... 02** **BLURRED VISION..... 03** **CONVULSIONS ..... 04** **SWOLLEN HANDS/FACE ..... 05** **HIGH FEVER..... 06** **MALODOROUS VAGINAL DISCHARGE..... 07** **LOSS OF CONSCIOUSNESS ..... 08** **DIFFICULTY BREATHING ..... 09** **SEVERE WEAKNESS ..... 10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	

Q. #	QUESTION	CODES	GO TO Q.
810	Where were you when you developed this problem?	**HOME** **RESPONDENT'S HOME .....11** **TBA'S HOME.....12** **OTHER HOME .....13** **PUBLIC SECTOR** **GVT. HOSPITAL.....21** **GVT. HEALTH CENTER.....22** **GVT.DISPENSARY.....23** **OTHER PUBLIC _____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL .....31** **MATERNITY/NURSING HOME .....32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)**	 **→821** **→821** **→821** **→821**
811	Did you seek assistance for this problem?	**YES .....01** **NO .....02** **DON'T KNOW 98**	**→813** **→822**
812	Why did you not seek assistance for this problem? Anything else? PROBE FOR THE REASONS AND RECORD ALL REASONS MENTIONED.	**RESP. DIDN'T THINK NECESSARY.....01** **HUSBAND/FAMILY DIDN'T THINK NECESSARY .....02** **FACILITY TOO FAR .....03** **NO TRANSPORT.....04** **NO CHILDCARE .....05** **TOO EXPENSIVE.....06** **SERVICES ARE POOR .....07** **USED HOME REMEDY.....08** **DID NOT KNOW WHERE TO GO.....09** **NO TIME TO GO .....10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	

Q. #	QUESTION	CODES	GO TO Q.
813	Who made the final decision about whether or not you would go somewhere for assistance?	**NO ONE ..... 01** **RESPONDENT ..... 02** **RESPONDENT & HUSBAND ..... 03** **HUSBAND ..... 04** **RESP.'S MOTHER ..... 05** **RESP.'S FATHER ..... 06** **MOTHER-IN-LAW ..... 07** **FATHER-IN-LAW ..... 08** **SISTER/SISTER-IN-LAW ..... 09** **OTHER MEMBER OF RESP.'S FAM ..... 10** **OTHER MEMBER OF HUSB.'S FAM ..... 11** **FRIEND/NEIGHBOR ..... 12** **HEALTH PROFESSIONAL ..... 13** **TBA ..... 14** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
814	How long did it take to make the decision about whether or not to go somewhere for assistance? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW 98**	
815	CHECK 811: SOUGHT ASSISTANCE? YES ☐ ↓	NO ☐ ---------- **→822** DON'T KNOW ☐ ---------- **→822**	
816	Did you go to a health facility for assistance? IF YES: Which facility did you go first? _____ (NAME OF PLACE)	**NO, DID NOT GO. ..... 11** **PUBLIC SECTOR** **GVT. HOSPITAL. ..... 21** **GVT. HEALTH CENTER. ..... 22** **GVT. DISPENSARY. ..... 23** **OTHER PUBLIC _____ 26** (**SPECIFY**) **PRIVATE MEDICAL SECTOR** **PVT. HOSPITAL ..... 31** **MATERNITY/NURSING HOME ..... 32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
817	Who accompanied you to seek care? PROBE FOR THE PERSON(S) ACCOMPANYING AND RECORD ALL PERSONS.	**NO ONE ..... 01** **HUSBAND ..... 02** **RESP.'S MOTHER ..... 03** **RESP.'S FATHER ..... 04** **MOTHER-IN-LAW ..... 05** **FATHER-IN-LAW ..... 06** **SISTER/SISTER-IN-LAW ..... 07** **OTHER MEMBER OF RESP.'S FAM ..... 08** **OTHER MEMBER OF HUSB.'S FAM ..... 09** **FRIEND/NEIGHBOR ..... 10** **HEALTH PROFESSIONAL ..... 11** **TBA ..... 12** **OTHER _____ 98** **(SPECIFY)**	
818	How long did it take to find transport once a decision was made to seek care? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW 98**	
819	How long did it take to get there? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW 98**	
820	How long was the time between when you arrived at the facility and the time you were first examined by a healthcare provider? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **IMMEDIATELY ..... 3** ☐☐ **DON'T KNOW 98**	
821	Whom did you see for assistance for this health problem? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL** **DOCTOR ..... 01** **NURSE/ MIDWIFE ..... 02** **CLINICAL OFFICER ..... 03** **OTHER PERSON** **TBA ..... 04** **COMMUNITY HEALTH WORKER ..... 05** **RELATIVE/FRIEND ..... 06** **OTHER _____ 97** **(SPECIFY)**	
822	CHECK 209: MOST RECENT BIRTH WAS A LIVE BIRTH? YES ☐ ↓	NO ☐ ----------	**→Sec. 9**

Q. #	QUESTION	CODES	GO TO Q.
823	After you gave birth, did someone check on the health of your baby within the first 6 weeks after his/her birth? NOTE: IF THE BIRTH WAS A MULTIPLE BIRTH, ASK THE FOLLOWING SET OF QUESTIONS ABOUT THE LAST BABY TO BE BORN.	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	 →**828** →**829**
824	When did someone first check on the health of your baby after you gave birth?	**HOURS** .....**1** ☐☐ **DAYS** .....**2** ☐☐ **WEEKS** .....**3** ☐☐ **DON'T KNOW** **98**	
825	Where did this first checkup take place? _____ (NAME OF PLACE)	**HOME** **RESPONDENT'S HOME** ..... **11** **TBA'S HOME** ..... **12** **OTHER HOME** ..... **13** **PUBLIC SECTOR** **GVT. HOSPITAL** ..... **21** **GVT. HEALTH CENTER** ..... **22** **GVT.DISPENSARY** ..... **23** **OTHER PUBLIC**_____ **26** (**SPECIFY**) **PRIVATE SECTOR** **PVT. HOSPITAL** ..... **31** **MATERNITY/NURSING HOME** ..... **32** **OTHER PRIVATE** _____ **36** **(SPECIFY)** **OTHER** _____ **97** **(SPECIFY)**	
826	Who checked on the health of your baby at that time? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS CHECKING.	**DOCTOR** ..... **01** **NURSE/ MIDWIFE** ..... **02** **CLINICAL OFFICER** ..... **03** **COMMUNITY HEALTH WORKER** ..... **04** **TBA** ..... **05** **RELATIVE/FRIEND** ..... **06** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	
827	CHECK 823: RECEIVED NEWBORN CARE? NO ☐ ↓	YES ☐ ---------- →**829** DON'T KNOW ☐ ---------- →**829**	
828	Why did no one check on the health of your baby within the first 6 weeks after his/her birth?	**1.** _____ **2.** _____ **3.** _____	

Q. #	QUESTION	CODES	GO TO Q.
829	Did you ever breastfeed your baby?	**YES** ..... **1** **NO** **2**	 **→832**
830	How long after birth did you <u>first</u> put the baby to the breast?	**DURING THE FIRST HOUR AFTER BIRTH** ..... **01** **MORE THAN ONE HOUR** ..... **02** **DON'T KNOW** **98**	
831	Did you give the baby the <u>first liquid</u> (local term) that came from your breasts?	**YES** ..... **1** **NO** **2**	
832	During the <u>7 days</u> after the birth of your child, did he/she experience any serious health problems?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	 **→Sec. 9** **→Sec. 9**
833	What problems did he/she experience? (CIRCLE ALL RESPONSES GIVEN.) PROBE FOR THE TYPES OF PROBLEMS AND RECORD ALL PROBLEMS.	**DIFFICULTY OR FAST BREATHING** ..... **01** **YELLOW SKIN/EYE COLOR (JAUNDICE)** ..... **02** **POOR SUCKING OR FEEDING** ..... **03** **PUS, BLEEDING, OR DISCHARGE FROM AROUND THE UMBILICAL CORD** .... **04** **BABY VERY SMALL** ..... **05** **SKIN LESIONS OR BLISTERS** ..... **06** **CONVULSIONS/SPASMS/RIGIDITY** ..... **07** **LETHARGY/UNCONSCIOUSNESS** ..... **08** **RED OR SWOLLEN EYES WITH PUS** ... **09** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	
834	Which one of these problems was the most severe?	**DIFFICULTY OR FAST BREATHING** ..... **01** **YELLOW SKIN/EYE COLOR (JAUNDICE)** ..... **02** **POOR SUCKING OR FEEDING** ..... **03** **PUS, BLEEDING, OR DISCHARGE FROM AROUND THE UMBILICAL CORD** .... **04** **BABY VERY SMALL** ..... **05** **SKIN LESIONS OR BLISTERS** ..... **06** **CONVULSIONS/SPASMS/RIGIDITY** ..... **07** **LETHARGY/UNCONSCIOUSNESS** ..... **08** **RED OR SWOLLEN EYES WITH PUS** ... **09** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	

Q. #	QUESTION	CODES	GO TO Q.
835	Where were you and the baby when he/she developed this problem?	**HOME** **RESPONDENT'S HOME ..... 11** **TBA'S HOME ..... 12** **OTHER HOME..... 13** **PUBLIC SECTOR** **GVT. HOSPITAL..... 21** **GVT. HEALTH CENTER ..... 22** **GVT.DISPENSARY ..... 23** **OTHER PUBLIC_____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL..... 31** **MATERNITY/NURSING HOME..... 32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)**	 **→846** **→846** **→846** **→846**
836	Did you seek assistance for this problem?	**YES..... 01** **NO..... 02** **DON'T KNOW..... 98**	**→838** **→Sec. 9**
837	Why did you not seek assistance for this problem? Anything else? PROBE FOR THE REASONS AND RECORD ALL REASONS MENTIONED.	**RESP. DIDN'T THINK NECESSARY ..... 01** **HUSBAND/FAMILY DIDN'T THINK NECESSARY ..... 02** **FACILITY TOO FAR..... 03** **NO TRANSPORT..... 04** **NO CHILDCARE..... 05** **TOO EXPENSIVE ..... 06** **SERVICES ARE POOR..... 07** **USED HOME REMEDY ..... 08** **DID NOT KNOW WHERE TO GO ..... 09** **NO TIME TO GO..... 10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW..... 98**	

Q. #	QUESTION	CODES	GO TO Q.
838	Who made the final decision about whether or not to take the baby somewhere for assistance?	**NO ONE ..... 01** **RESPONDENT ..... 02** **RESPONDENT & HUSBAND ..... 03** **HUSBAND ..... 04** **RESP.'S MOTHER ..... 05** **RESP.'S FATHER ..... 06** **MOTHER-IN-LAW ..... 07** **FATHER-IN-LAW ..... 08** **SISTER/SISTER-IN-LAW ..... 09** **OTHER MEMBER OF RESP.'S FAM ..... 10** **OTHER MEMBER OF HUSB.'S FAM ..... 11** **FRIEND/NEIGHBOR ..... 12** **HEALTH PROFESSIONAL ..... 13** **TBA ..... 14** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW 98**	
839	How long did it take to make the decision about whether or not to go somewhere for assistance? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW 98**	
840	CHECK 836: SOUGHT ASSISTANCE? YES ☐ ↓	NO ☐ ----------	**→Sec. 9**
		DON'T KNOW ☐ ----------	**→Sec. 9**
841	Was the baby taken to a health facility for this assistance? IF YES: Which facility was the baby taken first? _____ (NAME OF PLACE)	**NO, DID NOT GO ..... 11** **PUBLIC SECTOR** **GVT. HOSPITAL ..... 21** **GVT. HEALTH CENTER. ..... 22** **GVT. DISPENSARY. ..... 23** **OTHER PUBLIC**_____ **26** (**SPECIFY**) **PRIVATE MEDICAL SECTOR** **PVT. HOSPITAL ..... 31** **MATERNITY/NURSING HOME ..... 32** **OTHER PRIVATE** _____ **36** **(SPECIFY)** **OTHER** _____ **97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
842	Who took the baby to seek care? PROBE FOR THE PERSON(S) ACCOMPANYING AND RECORD ALL PERSONS.	**RESPONDENT ..... 01** **HUSBAND ..... 02** **RESP.'S MOTHER..... 03** **RESP.'S FATHER..... 04** **MOTHER-IN-LAW..... 05** **FATHER-IN-LAW..... 06** **SISTER/SISTER-IN-LAW ..... 07** **OTHER MEMBER OF RESP.'S FAM..... 08** **OTHER MEMBER OF HUSB.'S FAM..... 09** **FRIEND/NEIGHBOR..... 10** **HEALTH PROFESSIONAL ..... 11** **TBA..... 12** **OTHER _____ 97** **(SPECIFY)**	
843	How long did it take to find transport once a decision was made to seek care? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW.....98**	
844	How long did it take to get there? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **DON'T KNOW.....98**	
845	How long was the time between when your baby arrived at the facility and the time your baby was first examined by a healthcare provider? IF LESS THAN 2 HOURS, RECORD IN MINUTES. OTHERWISE, RECORD IN HOURS.	**HOURS ..... 1** ☐☐ **MINUTES ..... 2** ☐☐ **IMMEDIATELY..... 3** ☐☐ **DON'T KNOW.....98**	
846	Whom did your baby see for assistance for this health problem? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL** **DOCTOR ..... 01** **NURSE/ MIDWIFE..... 02** **CLINICAL OFFICER..... 03** **OTHER PERSON** **TBA..... 04** **COMMUNITY HEALTH WORKER ..... 05** **RELATIVE/FRIEND ..... 06** **OTHER _____ 97** **(SPECIFY)**	

SECTION 9. PERSONAL EXPERIENCE WITH CURRENT PREGNANCY

Q. #	QUESTION	CODES	GO TO Q.
901	CHECK 105: CURRENTLY PREGNANT? YES ☐ ↓	NO ☐ ----------	→Sec. 10
902	Now I'd like to ask you some questions about your current pregnancy. Have you seen anyone for antenatal care during your current pregnancy?	**YES** ..... **1** **NO** **2**	→908
903	How many times in total have you received antenatal care during this pregnancy?	**TIMES** ..... ☐☐ **DON'T KNOW** **98**	
904	How many months pregnant were you when you <u>first</u> received antenatal care for this pregnancy?	**MONTHS** ..... ☐☐ **DON'T KNOW/DON'T REMEMBER** **98**	
905	Whom did you <u>first</u> see for a checkup on your current pregnancy? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL** **DOCTOR** ..... **01** **NURSE/MIDWIFE** ..... **02** **CLINICAL OFFICER** ..... **03** **OTHER PERSON** **TBA** ..... **04** **COMMUNITY HEALTH WORKER** ..... **05** **RELATIVE/FRIEND** ..... **06** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW/DON'T REMEMBER** **98**	
906	How many antenatal visits do you plan to go to during this pregnancy?	**NO. OF TIMES** ..... ☐☐ **DON'T KNOW** **98**	
907	During this pregnancy, has a health worker advised you about any of the following at least once? Danger signs of serious health problems during pregnancy, childbirth, or soon after? Where to go if you had danger signs of serious health problems? Where you should give birth to your baby? Arrangements for transportation? Arrangements for funds/finances? Arrangements for a blood donor? Arrangements for a healthcare professional to deliver your child?	**YES NO DK** **DANGER SIGNS** ..... **01** ..... **02** ..... **98** **WHERE TO GO** ..... **01** ..... **02** ..... **98** **WHERE DELIVER** ..... **01** ..... **02** ..... **98** **TRANSPORT** ..... **01** ..... **02** ..... **98** **MONEY** ..... **01** ..... **02** ..... **98** **BLOOD DONOR** ..... **01** ..... **02** ..... **98** **HEALTH PROF** ..... **01** ..... **02** **98**	

Q. #	QUESTION	CODES	GO TO Q.
908	Did you speak with anyone outside of a health facility about danger signs of serious health problems during pregnancy, childbirth, or soon after? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	YES NO DK **DANGER SIGNS** ..... 01 ..... 02 ..... 98 **MOTHER-IN-LAW** ..... 02 **OTHER FAMILY MEMBER** ..... 03 **FRIEND/NEIGHBOR** ..... 04 **COMMUNITY HEALTH WORKER** 05	
909	Did you speak with anyone outside of a health facility about where to go if you had danger signs of serious health problems? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	YES NO DK **WHERE TO GO** ..... 01 ..... 02 ..... 98 **HUSBAND** ..... 01 **MOTHER-IN-LAW** ..... 02 **OTHER FAMILY MEMBER** ..... 03 **FRIEND/NEIGHBOR** ..... 04 **COMMUNITY HEALTH WORKER** 05	
910	Did you speak with anyone outside of a health facility about where you should give birth to your baby? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	YES NO DK **WHERE TO GIVE BIRTH** 01 ..... 02 ..... 98 **HUSBAND** ..... 01 **MOTHER-IN-LAW** ..... 02 **OTHER FAMILY MEMBER** ..... 03 **FRIEND/NEIGHBOR** ..... 04 **COMMUNITY HEALTH WORKER** 05	
911	Did you speak with anyone outside of a health facility about arrangements for transportation? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	YES NO DK **TRANSPORT** ..... 01 ..... 02 ..... 98 **HUSBAND** ..... 01 **MOTHER-IN-LAW** ..... 02 **OTHER FAMILY MEMBER** ..... 03 **FRIEND/NEIGHBOR** ..... 04 **COMMUNITY HEALTH WORKER** 05	
912	Did you speak with anyone outside of a health facility about arrangements for funds/finances? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	YES NO DK **MONEY** ..... 01 ..... 02 ..... 98 **HUSBAND** ..... 01 **MOTHER-IN-LAW** ..... 02 **OTHER FAMILY MEMBER** ..... 03 **FRIEND/NEIGHBOR** ..... 04 **COMMUNITY HEALTH WORKER** 05	
913	Did you speak with anyone outside of a health facility about arrangements for a blood donor? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	YES NO DK **BLOOD DONER** ..... 01 ..... 02 ..... 98 **HUSBAND** ..... 01 **MOTHER-IN-LAW** ..... 02 **OTHER FAMILY MEMBER** ..... 03 **FRIEND/NEIGHBOR** ..... 04 **COMMUNITY HEALTH WORKER** 05	

Q. #	QUESTION	CODES	GO TO Q.
914	Did you speak with anyone outside of a health facility about arrangements for a healthcare professional to deliver your child? IF YES: Whom did you speak with? RECORD ALL RESPONSES.	**YES NO DK** **SKILLED PROVIDER ..... 01 ..... 02 ..... 98** **HUSBAND ..... 01** **MOTHER-IN-LAW ..... 02** **OTHER FAMILY MEMBER ..... 03** **FRIEND/NEIGHBOR ..... 04** **COMMUNITY HEALTH WORKER 05**	
915	CHECK 902: RECEIVED ANTENATAL CARE? NO ☐ ↓	YES ☐ ----------	**→917**
916	Why have you not seen anyone for antenatal care? (CIRCLE ALL RESPONSES GIVEN.)	**DO NOT KNOW WHERE TO GO ..... 01** **HEALTH FACILITY TOO FAR ..... 02** **TOO EXPENSIVE ..... 03** **NO ONE WAS THERE TO ACCOMPANY ..... 04** **NO GOOD SERVICE ..... 05** **OTHER _____ 97** **(SPECIFY)**	
917	Have you or your family made any arrangements for the birth of this child?	**YES ..... 01** **NO ..... 02** **DON'T KNOW 98**	 **→919** **→919**
918	Which arrangements have you or your family made for the birth of this child? (CIRCLE ALL RESPONSES GIVEN.) THEN PROBE: Did you [ANY REMAINING ARRANGEMENTS]?	**UNPROMPTED PROMPTED** **IDENTIFY TRANSPORT ..... 01 ..... 01** **SAVE MONEY ..... 02 ..... 02** **IDENTIFY BLOOD DONOR ..... 03 ..... 03** **IDENTIFY SKILLED PROVIDER ..... 04 ..... 04** **OTHER _____ 97** **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
919	Where do you plan to give birth to this baby?	**HOME** **RESPONDENT'S HOME..... 11** **TBA'S HOME..... 12** **OTHER HOME..... 13** **PUBLIC SECTOR** **GVT. HOSPITAL. ..... 21** **GVT. HEALTH CENTER. ..... 22** **GVT. DISPENSARY. ..... 23** **OTHER PUBLIC _____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL..... 31** **MATERNITY/ NURSING HOME..... 32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	**→921**
920	Who made the final decision about where you will give birth?	**NO ONE..... 01** **RESPONDENT..... 02** **RESPONDENT & HUSBAND ..... 03** **HUSBAND..... 04** **RESP.'S MOTHER ..... 05** **RESP.'S FATHER ..... 06** **MOTHER-IN-LAW ..... 07** **FATHER-IN-LAW ..... 08** **SISTER/SISTER-IN-LAW..... 09** **OTHER MEMBER OF RESP.'S FAM..... 10** **OTHER MEMBER OF HUSB.'S FAM ..... 11** **FRIEND/NEIGHBOR ..... 12** **HEALTH PROFESSIONAL ..... 13** **TBA ..... 14** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
921	Who do you expect will assist you with the birth? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS MENTIONED.	**HEALTH PROFESSIONAL** **DOCTOR..... 01** **NURSE/ MIDWIFE..... 02** **CLINICAL OFFICER ..... 03** **OTHER PERSON** **TBA..... 04** **COMMUNITY HEALTH WORKER..... 05** **RELATIVE/FRIEND..... 06** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	**→923**

Q. #	QUESTION	CODES	GO TO Q.
922	Who made the final decision about who will assist you with the birth of this baby?	**NO ONE ..... 01** **RESPONDENT ..... 02** **RESPONDENT & HUSBAND ..... 03** **HUSBAND ..... 04** **RESP.'S MOTHER ..... 05** **RESP.'S FATHER ..... 06** **MOTHER-IN-LAW ..... 07** **FATHER-IN-LAW ..... 08** **SISTER/SISTER-IN-LAW ..... 09** **OTHER MEMBER OF RESP.'S FAM..... 10** **OTHER MEMBER OF HUSB.'S FAM ..... 11** **FRIEND/NEIGHBOR ..... 12** **HEALTH PROFESSIONAL ..... 13** **TBA ..... 14** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
923	Would you prefer that someone else assist with the birth instead of _____? [CHECK 921]	**YES ..... 01** **NO ..... 02** **DON'T KNOW 98**	 **→925** **→925**
924	Who would you prefer to assist with the birth?	**HEALTH PROFESSIONAL** **DOCTOR ..... 01** **NURSE/ MIDWIFE..... 02** **CLINICAL OFFICER ..... 03** **OTHER PERSON** **TBA ..... 04** **COMMUNITY HEALTH WORKER..... 05** **RELATIVE/FRIEND..... 06** **OTHER _____ 97** **(SPECIFY)**	
925	After you give birth, are you planning to have someone check on your health?	**YES..... 1** **NO 2**	 **→Sec. 10**
926	Where do you plan to go to have someone check on your health after you give birth?	**TBA ..... 11** **TRADITIONAL HEALERS ..... 12** **PUBLIC SECTOR** **GVT. HOSPITAL. ..... 21** **GVT. HEALTH CENTER. ..... 22** **GVT. DISPENSARY. ..... 23** **OTHER PUBLIC _____ 26** **(SPECIFY)** **PRIVATE SECTOR** **PVT. HOSPITAL ..... 31** **MATERNITY/ NURSING HOME ..... 32** **OTHER PRIVATE _____ 36** **(SPECIFY)** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	

SECTION 10. MEDIA

Thank you for the information you've provided thus far about pregnancy and birth. In the last two sections of the questionnaire, I am going to ask you about the types of media you use—for instance, reading the newspaper, listening to the radio, and watching TV—and how frequently you use them. Additionally, we will talk about information you may have received through media or through other venues about pregnancy and preparing for birth.

Q. #	QUESTION	CODES	GO TO Q.
1001	CHECK 114: ABLE TO READ? YES ☐ ↓	CANNOT READ AT ALL ☐ ----------	→1004
1002	Do you ever read newspapers or magazines?	**YES** ..... 1 **NO** 2	 →1004
1003	How often do you read a newspaper or magazine? Almost every day, at least once a week, or less than once a week?	**ALMOST EVERY DAY** ..... 01 **AT LEAST ONCE A WEEK** ..... 02 **LESS THAN ONCE A WEEK** ..... 03 **OTHER** _____ 97 **(SPECIFY)**	
1004	Do you ever listen to the radio?	**YES** ..... 1 **NO** 2	 →1009
1005	How often do you listen to the radio? Almost every day, at least once a week, or less than once a week?	**ALMOST EVERY DAY** ..... 01 **AT LEAST ONCE A WEEK** ..... 02 **LESS THAN ONCE A WEEK** ..... 03 **OTHER** _____ 97 **(SPECIFY)**	
1006	At what times of day are you most likely to be listening to the radio on a weekday?	**MORNING** ..... 1 **MIDDAY** ..... 2 **AFTERNOON** ..... 3 **NIGHT** ..... 4 **NO PARTICULAR TIME** ..... 5 **ALL DAY** 6	
1007	At what times of day are you most likely to be listening to the radio on a weekend?	**MORNING** ..... 1 **MIDDAY** ..... 2 **AFTERNOON** ..... 3 **NIGHT** ..... 4 **NO PARTICULAR TIME** ..... 5 **ALL DAY** 6	
1008	Can you tell me which radio stations you listen to most often?	**A** _____ **B** _____ **C** _____	
1009	Do you ever watch television?	**YES** ..... 1 **NO** 2	 →1014
1010	How often do you watch television? Almost every day, at least once a week, or less than once a week?	**ALMOST EVERY DAY** ..... 01 **AT LEAST ONCE A WEEK** ..... 02 **LESS THAN ONCE A WEEK** ..... 03 **OTHER** _____ 97 **(SPECIFY)**	

Q. #	QUESTION	CODES	GO TO Q.
1011	At what times of day are you most likely to be watching television on a weekday?	**MORNING ..... 1** **MIDDAY ..... 2** **AFTERNOON ..... 3** **NIGHT ..... 4** **NO PARTICULAR TIME ..... 5** **ALL DAY 6**	
1012	At what times of day are you most likely to be watching television on a weekend?	**MORNING ..... 1** **MIDDAY ..... 2** **AFTERNOON ..... 3** **NIGHT ..... 4** **NO PARTICULAR TIME ..... 5** **ALL DAY 6**	
1013	Can you tell me which television channels you watch most often?	**A** _____ **B** _____ **C** _____	
1014	Which sources of information would be appropriate for delivering messages on preparing for birth to you? (CIRCLE ALL RESPONSES GIVEN.) PROBE: Any other sources?	**RADIO ..... 01** **TV ..... 02** **CINEMA ..... 03** **NEWSPAPER/MAGAZINE ..... 04** **POSTERS/PAMPHLETS ..... 05** **FRIENDS/NEIGHBORS ..... 06** **HOSPITAL ..... 07** **TBA ..... 08** **TRADITIONAL HEALERS ..... 09** **FLIPCHART ..... 10** **CALENDARS ..... 11** **PICTORIAL CARDS W/DRAWINGS ..... 12** **PICTORIAL CARDS W/PHOTOGRAPHS .. 13** **BOOKLETS ..... 14** **BROCHURES ..... 15** **STREET DRAMA ..... 16** **OTHER** _____ **97** **(SPECIFY)**	
1015	Of the above mentioned sources, which one do you prefer the most? (RANK THE TOP THREE SOURCES.)	**RADIO ..... 01** **TV ..... 02** **CINEMA ..... 03** **NEWSPAPER/MAGAZINE ..... 04** **POSTERS/PAMPHLETS ..... 05** **FRIENDS/NEIGHBORS ..... 06** **HOSPITAL ..... 07** **TBA ..... 08** **TRADITIONAL HEALERS ..... 09** **FLIPCHART ..... 10** **CALENDARS ..... 11** **PICTORIAL CARDS W/DRAWINGS ..... 12** **PICTORIAL CARDS W/PHOTOGRAPHS .. 13** **BOOKLETS ..... 14** **BROCHURES ..... 15** **STREET DRAMA ..... 16** **OTHER** _____ **97** **(SPECIFY)**	

SECTION 11. EXPOSURE TO MEDIA INTERVENTIONS

Now I would like to ask you a few questions about messages related to pregnancy that you may have heard through the media.

Q. #	QUESTION	CODES	GO TO Q.
1101	Have you seen, heard or read any information related to birth preparedness in the past six months?	**YES** ..... **01** **NO** ..... **02** **DON'T REMEMBER** **98**	 **→ Sec. 12** **→ Sec. 12**
1102	From which source(s) did you see, hear, or read about birth preparedness? (CIRCLE ALL RESPONSES GIVEN.) PROBE: Any other sources?	**RADIO** ..... **01** **TV** ..... **02** **WRITTEN SOURCES** ..... **03** **INTERPERSONAL SOURCES** ..... **04** **OTHER** _____ **97** **(SPECIFY)** **DON'T REMEMBER** **98**	
1103	Can you give me some examples of messages related to birth preparedness that you heard, saw, or read? PROBE: Where did you hear about that? PROBE: Any other messages?	**Source / Message** — **Radio** — **TV** — **Written** — **People** — **Other** **Transport**: Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 **Money**: Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 **Blood**: Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 **Skilled Provider**: Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 **Other** _____ _____: Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2 — Y N / 1 2	
1104	Did you discuss these messages with anyone?	**YES** ..... **01** **NO** ..... **02** **DON'T REMEMBER** **98**	 **→ 1106** **→ 1106**
1105	With whom did you discuss these messages? (CIRCLE ALL RESPONSES GIVEN.) PROBE: Anyone else?	**HUSBAND** ..... **01** **MOTHER** ..... **02** **MOTHER-IN-LAW** ..... **03** **SISTER** ..... **04** **SISTER-IN-LAW** ..... **05** **FRIENDS** ..... **06** **NEIGHBORS** ..... **07** **COMMUNITY HEALTH WORKER** ..... **08** **TBA** ..... **09** **TRADITIONAL HEALER** ..... **10** **OTHER** _____ **97** **(SPECIFY)** **DON'T REMEMBER** **98**	
1106	Did you do anything or take any action related to birth preparedness after hearing the information?	**YES** ..... **01** **NO** ..... **02** **DON'T REMEMBER** **98**	 **→Sec. 12** **→Sec. 12**

Q. #	QUESTION	CODES	GO TO Q.
1107	What action(s) did you take? (CIRCLE ALL RESPONSES GIVEN.) PROBE: Anything else?	**ARRANGE TRANSPORTATION ..... 01** **ARRANGE MONEY ..... 02** **ARRANGE BLOOD DONOR ..... 03** **ARRANGE SKILLED PROVIDER ..... 04** **OTHER _____ 97** **(SPECIFY)** **DON'T REMEMBER 98**	

SECTION 12. PARTICIPATION IN COMMUNITY INTERVENTIONS

Now I would like to ask you a few questions about messages related to pregnancy that you may have heard through community events or community members.

Q. #	QUESTION	CODES	GO TO Q.
1201	Have you participated in any community activities related to birth preparedness in the past six months?	**YES ..... 01** **NO ..... 02** **DON'T REMEMBER 98**	 **→End interview** **→End interview**
1202	Through which activities did you hear about birth preparedness? (CIRCLE ALL RESPONSES GIVEN.) PROBE: Any other sources?	**STREET DRAMA ..... 01** **COMMUNITY MEETINGS ..... 02** **MOTHER'S GROUPS ..... 03** **LITERACY GROUPS ..... 04** **OTHER _____ 97** **(SPECIFY)** **DON'T REMEMBER 98**	
1203	Can you give me some examples of messages related to birth preparedness that you learned about through these activities? PROBE: Where did you learn about that? PROBE: Any other messages?	**Source / Message** — **Drama** — **Meeting** — **Mother's Group** — **Literacy** — **Other** **Transport** — Y N / 1 2 (each) **Money** — Y N / 1 2 (each) **Blood** — Y N / 1 2 (each) **Skilled Provider** — Y N / 1 2 (each) **Other** _____ _____ — Y N / 1 2 (each)	
1204	Did you later discuss what you learned with anyone?	**YES ..... 01** **NO ..... 02** **DON'T REMEMBER 98**	 **→ 1206** **→ 1206**

Q. #	QUESTION	CODES	GO TO Q.
1205	With whom did you discuss these topics? (CIRCLE ALL RESPONSES GIVEN.)	**HUSBAND** ..... **01** **MOTHER** ..... **02** **MOTHER-IN-LAW** ..... **03** **SISTER** ..... **04** **SISTER-IN-LAW** ..... **05** **FRIENDS** ..... **06** **NEIGHBORS** ..... **07** **COMMUNITY HEALTH WORKER** ..... **08** **TBA** ..... **09** **TRADITIONAL HEALER** ..... **10** **OTHER** _____ **97** **(SPECIFY)** **DON'T REMEMBER** **98**	
1206	Did you do anything or take any action related to birth preparedness after learning about these topics?	**YES** ..... **01** **NO** ..... **02** **DON'T REMEMBER** **98**	
1207	What action(s) did you take? (CIRCLE ALL RESPONSES GIVEN.) PROBE: Anything else?	**ARRANGE TRANSPORTATION** ..... **01** **ARRANGE MONEY** ..... **02** **ARRANGE BLOOD DONOR** ..... **03** **ARRANGE SKILLED PROVIDER** ..... **04** **OTHER** _____ **97** **(SPECIFY)** **DON'T REMEMBER** **98**	

THANK THE RESPONDENT

GUIDE FOR THE RESEARCHER

GUIDE FOR THE RESEARCHER

INTRODUCTION

The purpose of this guide is to provide to the individuals supervising questionnaire implementation and to local researchers information as to why each question was included in the survey, modification suggestions under various circumstances, as well as optional questions.

PROTOTYPE HOUSEHOLD SAFE MOTHERHOOD QUESTIONNAIRE

Consent Form

The local implementers can use the given consent form as an example. Based on their circumstances, they may tailor the language and the interview duration.

Household Census and Eligibility for Woman's Questionnaire

The implementers should pay special attention to how long the household census takes during pretesting. If the Household Census takes too long, the implementers may want to consider asking the respondent only about women between the ages of 15 and 49 living in the household.

The interviewer should list all household members. The respondent will decide whom to consider a "usual" resident. For all listed individuals, the Household Census collects information on relationship to head of household, age, sex, and pregnancy. An important use of this information is to identify women eligible for the Prototype Woman's Safe Motherhood Questionnaire. Interviewers can use the information on children in the household to identify children less than 2 years of age.

The data on the relationship of each household member to the head of household provide a picture of the household structure and composition. The analyst can use data on age and sex to assess the degree to which the sample represents the population. The questionnaire does not collect young children's age in months here, but in Section 2 (Births and Stillbirths) of the Prototype Woman's Safe Motherhood Questionnaire.

Optional Question:

"In addition, are there any other people who may not be your family members, such as domestic servants, lodgers, or friends who usually live here?"

Household Socioeconomic Questions (Questions 1 to 7)

Floor material

Q. 1

The main floor material provides information about the household's living standard or socioeconomic status.

Water and toilet facilities

Q. 2 and Q. 3

The questions on water and toilet facilities relate to infant and child outcome determinants and are relevant for cross-national comparative analyses. The main interest in the question on the toilet facility type is in the hygienic conditions offered by the facility.

Dwelling characteristics and household possessions

Q. 4 to Q. 7

As in the question about floor material, the questions about dwelling characteristics and household possessions provide information about the household's standard of living or socioeconomic status. Such information is presumably reported more reliably and thus more useful than a simple question on household income. These socioeconomic status questions are setting-specific; thus, the researcher should modify the list of household possessions based on the country where the survey is being conducted.

PROTOTYPE WOMAN'S SAFE MOTHERHOOD QUESTIONNAIRE

Section 1. Sociodemographic Information (Questions 101 to 115)

Q. 101 to Q. 103

These questions ask for both the respondent's birth date (month and year) and age (in years). If possible, the interviewer should reconcile the birth date and age on the Prototype Woman's Questionnaire with the age as reported on the Prototype Household Questionnaire. Reconciliation in the field is preferable to leaving inconsistencies that the analyst must eventually resolve.

Q. 104 to Q. 106

These questions serve as filters later in the questionnaire. For example, the only respondents who should answer the questions in Sections 6, 7, and 8 are those women who have had a live birth or a stillbirth in the last 2 years. (Refer to **page 2-5** for an explanation of the importance of the short period for past birth and the importance of including stillbirths.) The only respondents who should answer the questions in Section 9 (Personal Experience with Current Pregnancy) are those who are currently pregnant.

Q. 107 and Q. 108

These questions are useful in countries with religious and/or ethnic diversity. Considerable evidence shows that normative attitudes associated with religious values and ethnic identity influence reproductive behavior. This information is of potential programmatic value in identifying groups that have special needs.

Local implementers can complete the study region ethnicities and religions list. The researchers should include these questions if differences in birth experiences across different ethnicities and religions may exist. Furthermore, if they use Question 107, they must translate the term "ethnicity" to a term understood by the target population.

Q. 109 and Q. 110

These questions classify the respondent's marital status. The concept "married" includes women in both formal and informal unions. Marital status and living with a partner may have bearing on decision-making concerning pregnancy and birth. Decision-making surrounding pregnancy and birthing is a complex process, but in almost all settings, women rely heavily on their family, especially husbands/partners and mother-in-laws, for advice (MotherCare 2000a and 2000b).

Q. 111 to Q. 114

Education is one of the main factors that influences fertility, infant, and child mortality, and healthcare. Additionally, literacy rates within the sample may have implications in intervention development.

For Question 114, each card should have four simple sentences appropriate to the country (e.g., "Parents love their children," "Farming is hard work," "The child is reading a book," "Children work hard at school"). Cards should be prepared in every language in which respondents are likely to be literate.

Q. 115

The interest in women's employment and earnings derives both from the recognition of these topics as important aspects of women's status and their relevance to various population and health outcomes. This question may be an indicator of greater independence from other decision-making forces. Women with cash income may also have more flexibility with which to pay pregnancy- and birth-related costs.

Optional Question:

If it seems awkward to ask respondents if they are paid for their work, but not about the type of work they do, then the implementers can add a question about type of work with precoded responses.

Section 2. Births and Stillbirths (Questions 201 to 210)

Q. 201 to Q. 210

Questions 201 to 210 dovetail with the series of filters in Section 1. These lifetime fertility preliminary questions aim at determining the total number of births and infant/child deaths in the woman's history. Experience indicates that women underreport certain types of events in reproductive histories, particularly children that die in early infancy. Thus, this prototype questionnaire includes a specific probe to assist in capturing those events.

Questions 202 and 203 collect information about current pregnancy. Questions 204 to 208 collect information about past pregnancy outcomes (focused on live and stillbirths, not on miscarriages or abortion). Questions 209 and 210 gather information about the last two births to see if one or both of these births took place in the last 24 months. The most recent birth (209) will be the focus of Sections 6, 7, and 8.

Optional Questions:

- The interviewer should probe on any discrepancies between number of pregnancies and live births (indicating miscarriages).

- A complete birth history is not included because of the added complexity for interviewers and data analysts. If the program designer wants to collect a complete birth history, he/she can use the questions below. If this history is to be included in the questionnaire, it is possible to enter not all, but only pertinent data. The detailed birth history matrix below provides additional information about children born in the last 2 years, including the birth date (214), twinning or multiplicity (212), sex (213), and death (215). This information may be particularly useful for organizations interested in newborn health.

211	212	213	214	215	216
What was the name given to your (first/next) baby?	Did (NAME) have a twin?	Is (NAME) a boy or a girl?	In what month and year was (NAME) born?	Is (NAME) still alive?	Were there any other births, including stillbirths* between (NAME OF PREVIOUS BABY) and (NAME)?
01	**Single 1** **Multiple 2**	**Boy 1** **Girl 2**	**Month:** **Year:**	**Yes 1** **No 2**	
02	**Single 1** **Multiple 2**	**Boy 1** **Girl 2**	**Month:** **Year:**	**Yes 1** **No 2**	**Yes 1** **No 2**
03	**Single 1** **Multiple 2**	**Boy 1** **Girl 2**	**Month:** **Year:**	**Yes 1** **No 2**	**Yes 1** **No 2**
04	**Single 1** **Multiple 2**	**Boy 1** **Girl 2**	**Month:** **Year:**	**Yes 1** **No 2**	**Yes 1** **No 2**
05	**Single 1** **Multiple 2**	**Boy 1** **Girl 2**	**Month:** **Year:**	**Yes 1** **No 2**	**Yes 1** **No 2**
217	ENTER THE NUMBER OF BIRTHS IN THE LAST 24 MONTHS. IF NONE, RECORD '0'.		**BIRTHS IN LAST 24 MONTHS**	☐☐	

***** If letting a woman decide what is a stillbirth may create problems, the birth history should ask the gestational age of any babies that are now dead.

Section 3. Knowledge (Questions 301 to 313)

Q. 301 to Q. 307

Knowledge of danger signs during each stage of childbearing (pregnancy, labor/birth, and postpartum) may help women recognize and get care for a life-threatening problem more quickly. Danger signs are symptoms that the woman or her family can recognize. They are not clinical diagnoses of obstetric complications. Danger signs have three characteristics: how commonly they occur, how severe/dangerous they are to the woman or newborn, and how easy they are to recognize by people without any clinical background. Danger signs indicate the woman needs immediate care. Knowledge of danger signs of an obstetric complication is only one aspect of problem recognition at the individual level. Knowledge about the severity of an apparent obstetric complication (i.e., knowing when to act) and knowledge about the appropriate life-saving action for each complication are also important. Moreover, adequate knowledge does not guarantee that an individual will recognize the danger signs in practice. Cultural beliefs about the etiology of an illness strongly influence the decision to seek care. These beliefs may more powerfully influence an individual's plan than will her recent knowledge of the appropriate action to take (MotherCare 2000a and 2000b).

Q. 308 and Q. 309

Increased knowledge of danger signs in the newborn may help women get care for their babies more quickly. Because most babies are born at home or are discharged from hospitals within the first 24 hours after birth, increasing community awareness of the danger signs of newborn complications is critical for improving newborn survival. More babies die during the first week of life than at any other time in childhood, and those who become ill shortly after birth may deteriorate and die very rapidly. This emphasizes the need to seek timely care for newborn babies. One may not recognize the warning signs of newborn illness because they are often much less pronounced than those in an older child or adult. Community members, nevertheless, can learn to recognize signs and symptoms of newborn illness (Bang et al. 1999).

Q. 310

Knowledge of basic care for the baby may help prevent/avoid the baby's future health problems. This question asks about basic care that can be provided either by family, friends, traditional birth attendants, or by a skilled provider. Details on how to define exclusive breastfeeding, drying and wrapping of the newborn, eye care, and care of the umbilical cord can be found in the instructions specific to this question in the Guide for the Interviewer. Interviewers need training to prepare them decide whether what a respondent will say matches the descriptions of each kind of basic care closely enough to circle the corresponding response. Interviewers may need to probe the respondents to explain what they mean when they say, "take care of the cord," for example.

Q. 311 to Q. 313

At the individual level, "birth preparedness" includes aspects like learning to recognize danger signs that may indicate life-threatening complications for the mother and baby, identifying a skilled provider and a place to give birth, saving money, and arranging for transportation. At the community level, preparations include organizing community-level systems that a woman and her family can access to provide money, transport, or a blood donor to assist in reaching and receiving care. Exposure of the term "birth preparedness" will give an indication of the extent to which women recognize the concept. Question 312 gathers information about how women in the community prepare for birth. If clarification is needed, this question can also be reworded as, "In your opinion, what can a woman do to prepare for an emergency related to childbirth or postpartum?"

Question 313 asks about women's awareness of birth preparedness-related services in the community. During data analysis, responses to this question should be linked to the community level information provided by the Community-Level Index about the existence of transportation, financial, blood, and other services in the community in which the respondent lives. For respondents who live in communities that do not offer any of these services, whether they know (or not know) about them is not meaningful information. However, for the sake of simplicity, all women should be asked this question during the interview.

Section 4. Attitudes and Perceptions (Questions 401 to 411)

When the implementers translate the term "perceptions," make sure that the target audience understands its meaning.

Q. 401 to Q. 408

Attitudes towards birth planning, husband's/partner's role, and local health facilities have design implications for safe motherhood interventions. Additionally, these attitudinal measures may serve as an important intervention evaluation tool. In some settings, a pretest assessment should measure if it is more appropriate to use a three-point scale. Respondents may have trouble understanding negative statements like the one in Question 403. At times, it can be difficult to measure attitudes through single item questions. If that is the case, some of the related questions could be combined in an index (after doing a factor analysis). For example, to measure male involvement, Questions 403, 407, and 408 could be combined in an index. This questionnaire does not include many related items; therefore some of these questions stand alone.

Q. 409 to Q. 411

Attitudes towards different types of healthcare providers in the community may help explain women's preference in terms of a birth assistant and indicate important intervention points. The provider's knowledge and competence influence the actual quality of care, thus affecting the first phase of delay, deciding to seek care, and the third phase of delay, receiving adequate and appropriate treatment (Thaddeus and Maine 1994).

Optional Questions:

409o		Planning ahead of time where a woman will give birth to her baby can lead to misfortune.	**SA** **1**	**A** **2**	**D** **3**	**SD** **4**	**DK** **8**	
410o		Planning ahead of time how a woman will get to the place where she will give birth can lead to misfortune.	**SA** **1**	**A** **2**	**D** **3**	**SD** **4**	**DK** **8**	
411o		All women should go outside the home for childbirth and postpartum care.	**SA** **1**	**A** **2**	**D** **3**	**SD** **4**	**DK** **8**	

Section 5. Perceptions of Local Facilities (Questions 501 to 505)

Q. 501 to Q. 503

These questions gather information about the local health facility of which a woman knows (501) transportation that could be used to get to there (502), and how long it would take to get there (503).

Q. 504 and Q. 505

Women's perceptions of local facilities may have greater impact on their willingness to use them for reproductive health services than the actual distance and quality of the facility. Responses will vary based on local site and cultural context.

Section 6. Personal Experience Related to Last Pregnancy (Questions 601 to 625)

Q. 601 to Q. 606

Sections 6, 7, and 8 pertain to the pregnancy, intrapartum, and postpartum period of the same birth. The questions in Section 6 inquire about the pregnancy that resulted in the woman's *most recent* birth. If the most recent birth was a stillbirth, then the questions in this section refer to the pregnancy that resulted in that stillbirth.

To detect problems associated with pregnancy and childbirth, all women should receive routine antenatal (ANC) checkups. Risk factor screening during ANC is no longer as appropriate as before, but women who attend four ANC visits with evidence-based interventions can have just as good outcomes as women who attend more visits (Gay et al. 2003). Some interventions known to be effective include, but are not limited to: prevention, detection and treatment of anemia, detection of hypertension, treatment of eclampsia, and infection prevention (Bergsjø 2001; Rooney 1992). Although ANC cannot prevent the major complications of childbirth, certain ANC interventions can reduce the number of poor maternal outcomes. High quality ANC, however, cannot be a substitute for essential obstetric care (EOC) (Gay et al. 2003). The WHO recommends attending four ANC visits, with the first visit occurring during the first trimester. National policies vary regarding the suggested healthcare provider and number of visits. Questions 602 to 606 ascertain whether or not women received ANC (602), the number of ANC visits (603), the healthcare provider seen (605), and the pregnancy stage at the first and last checkup (604, 606).

Q. 607

It is known that much of what is routinely done during an ANC visit cannot prevent maternal deaths, the majority of which happen around the baby's birth. Therefore, teaching pregnant women the danger signs associated with pregnancy and childbirth, as well as the appropriate actions to take, are essential components of ANC. Question 607 measures whether women received this advice.

Q. 608 to Q. 614

Once a woman has received or gathered information about how to prepare for birth or in case of complications, she may discuss this information with others. The act of speaking to others about these topics is often a precursor to taking the desired action. The type of person that the woman speaks with about these topics may have an impact on the secondary audience intentions of the program.

Q. 615 and Q. 616

These questions provide an opportunity to explore why women did not receive ANC for their last pregnancy.

Q. 617 to Q. 619

These questions establish whether the woman experienced any problems during her most recent pregnancy. It is important to note that this question should not be used to calculate the percentage of pregnancies that had complications. First, problems perceived by the woman are not necessarily true obstetric complications. Furthermore, many women who experienced obstetric complications may not have recognized a problem. Second, it may be very difficult for women to recall such information up to 2 years after the event. The woman needs to decide first what she considers a "serious health problem related to the pregnancy" (617). In Question 618, the woman then tells the interviewer the problems of such kind that she experienced and the interviewer codes her response or notes it as "other". Question 619 asks which problem was the most severe to establish which one will be discussed in the question progression that follows. The implementers should pay attention to the proper translation of "most severe." If the woman believes she had "a serious health problem related to the pregnancy," regardless of what it is, the interviewer asks her the question progression about what she did in response.

Q. 620 to Q. 622

Whether or not women seek assistance for the serious health problems they experience has significant implications for safe motherhood. Thus, understanding why women did not seek assistance for severe problems during pregnancy may illuminate the important barriers.

Question 622 provides information on whether women themselves are involved in the decision-making process on whether they should access medical care. This is important for both women's empowerment and health. If women are not themselves the decision-makers, the speed with which they receive care may be adversely affected.

Q. 623 to Q. 625

The level of service and skill sought in the case of serious problems during pregnancy also has maternal health outcome implications. The type of place (i.e., health facility or not) and type of healthcare provider the woman sought are indicators of the services and skills available to her.

Section 7. Personal Experience Related to Last Birth (Questions 701 to 741)

As a reminder, the questions in Section 7 inquire about the birth resulting from the pregnancy discussed in Section 6.

Q. 701

Experts now recognize access to a skilled provider at birth as critical to the reduction of maternal mortality. Adequate care during pregnancy, birth, and the postpartum period is difficult to measure because it includes environmental factors such as the availability of supplies and equipment. Many national programs in the past sought to reduce maternal mortality by training traditional birth attendants, but most of them now acknowledge that provision of EOC by a skilled provider is necessary. Question 701 ascertains where all women who have given birth in the last 2 years did.

Q. 702 to Q. 710

The theory underlying birth preparedness and complication readiness (BP/CR) states that making preparations during the antenatal period will reduce delays that can lead to death. These preparations include planning and making arrangements ahead of time for a place of birth (702), transportation (704), funds (704), a blood donor (704), and a healthcare professional to be present (704). Questions 705 through 710 determine if the women actually used these arrangements. Only a few women who arranged a blood donor will ever need to use one since hemorrhage, although very serious, is relatively rare. This question may be most useful when combined with questions about perceived bleeding.

Q. 711

Question 711 provides information on whether women themselves are the decision-makers on whether they should access medical care. This is important for both women's empowerment and health. If women are not themselves the decision-makers, the speed with which they receive care may be adversely affected. Program designers may find it helpful to know who the main decision-makers are for planning births to be able to identify the target audiences for their interventions.

Q. 712 to Q. 719

The interviewer asks these questions to women who had their most recent birth in a health facility. Information is gathered on the health facility as to why the women chose to give birth there (713), the type of transportation (714), who accompanied them (715), delays in getting there (716), delays in getting services (717), her opinion on the services (718), and the reasons for this opinion (719). This information gives an estimation of the proportion of women giving birth in health facilities and some indication of why they are choosing to give birth there. These questions also help examine the delays in the surveyed community. According to the Three Delay Model (Thaddeus and Maine 1994), most maternal deaths result from delays in receiving needed medical care. These delays can be categorized in three types: delays in seeking care, delays in reaching care, and delays in receiving adequate care once at a point of service.

Q. 720 and Q. 721

The questionnaire asks women who did not give birth in a health facility why they did not. These reasons may reveal important intervention points.

Q. 722 to Q. 724

The purpose of these questions is to provide information on women's use of childbirth care services. Many argue that increasing the proportion of births with a skilled provider is the single most critical intervention for reducing maternal mortality. Moreover, the proportion of births with a skilled provider is a benchmark indicator for monitoring progress towards the goals established by the International Conference on Population and Development (ICPD) (WHO 1999b). The questionnaire asks all women about who assisted with the birth (722), if they would have preferred someone else (723), and if so, who they would have preferred (724). Comparing these preferences with the opinions about providers gathered in Questions 409 to 411 provides insight into why women prefer a certain type of healthcare provider.

Q. 725 and Q. 726

Question 725 asks whether a birth was by cesarean section. Cesarean section rates are a good access to EOC indicators. Differentials in these rates by geographic region or by socioeconomic characteristics of the woman can identify underserved populations. Abnormally high rates may also indicate overuse of cesarean section. The implementers must pay special attention to the translation of "cesarean section," depending on the intention. For example, some women may consider any operation in which the healthcare providers cut open the stomach as a cesarean section, which may be acceptable if the researcher desires knowledge about *any* dangerous obtrusive surgeries.

Q. 727 to Q. 729

These questions establish whether the woman experienced any problems during her most recent birth. It is important to note that this question should not be used to calculate the percentage of births that had complications. First, problems perceived by the woman are not necessarily true obstetric complications. Furthermore, many women who experienced obstetric complications may not have recognized a problem. Second, it may be very difficult for women to recall such information up to 2 years after the event. The woman needs to decide first what she considers a "serious health problem related to the birth" (727). In Question 728, the interviewer then codes, or notes as "other," the woman's responses to what these problems are. Question 729 asks which problem was the most severe to establish which one will be discussed in the question progression

that follows. The implementers should pay attention to the proper translation of "most severe." If the woman believes she had "a serious health problem related to the birth," regardless of what it is, the interviewer asks her the question progression about what she did in response.

Q. 730

Knowledge of where a woman experienced any severe problems during childbirth is particularly important, since women who gave birth in a health facility are highly likely to have been there when they developed the problem. If so, there is no need to ask the questions about decision-making or delays in seeking healthcare. Thus, the questionnaire assumes that women who were in a government or private hospital, a maternity/nursing home, or another private facility when they experienced the problem were able to get care there. They therefore skip to the end of Section 7 and only answer the question about who assisted them with the problem (741).

Q. 731 to Q. 733

Whether or not women seek assistance for the serious health problems they experience has significant implications for safe motherhood. Thus, understanding why women did not seek assistance for problems during childbirth may illuminate the existing barriers.

Question 733 provides information on whether women themselves are the decision-makers on whether they should access medical care. This is important for both women's empowerment and health. If women are not themselves the decision-makers, the speed with which they receive care may be adversely affected.

Q. 734 to Q. 741

The level of service and skill sought in the case of severe problems during childbirth also has maternal health outcome implications. The type of place (i.e., health facility or not) and type of healthcare provider the woman sought out are indicators of the services and skills available to her. The questionnaire also assesses delays in seeking care, as they may provide important structural information.

Section 8. Personal Experience Related to Last Birth—Postpartum (Questions 801 to 846)

As a reminder, the questions in Section 8 refer to the postpartum period following the birth discussed in Section 7.

Q. 801 to Q. 804

A large proportion of maternal deaths occur during the 48 hours before and after birth. In spite of the high risk associated with the immediate postpartum period, particularly from sepsis and hemorrhage, experts know very little about health practices during this period. Programs have recently given increased attention to the importance of a postpartum visit, recommending that all women receive care from a healthcare provider within 48 hours of birth. Question 801 ascertains whether the woman had a visit with a healthcare provider after her last birth. This visit could be in response to a problem, or just for a routine checkup. Questions 802 to 804 inquire into the timing of the first postnatal visit with a healthcare provider (802), the type of provider (804), and the location of the visit (803). These questions measure the success of the country program at instituting postnatal health checks.

Q. 805 and Q. 806

These questions provide an opportunity to explore why women did not receive postpartum care after this birth.

Q. 807 to Q. 809

These questions establish whether the woman experienced a problem during the 48-hour period following her most recent birth. It is important to note that these questions should not be used to calculate the percentage of women who had postpartum complications. First, problems perceived by the woman are not necessarily true obstetric complications. Furthermore, many women who experienced obstetric complications may not have recognized a problem. Second, it may be very difficult for women to recall such information up to 2 years after the event. The woman needs to decide first what she considers a "serious health problem related to the birth" (807). In Question 808, the interviewer then codes, or notes as "other," the women's responses to what these problems are. Question 809 asks which problem was the most severe to establish which one will be discussed in the question progression that follows. The implementers should pay attention to the proper translation of "most severe." If the woman believes she had "a serious health problem related to the birth," regardless of what it is, the interviewer asks her the question progression about what she did in response.

Q. 810

Knowledge of where a woman experienced a postpartum problem is important, since women who gave birth in a health facility are highly likely to have been there when they developed the problem. If so, there is no need to ask questions about decision-making and delays in seeking healthcare. Thus, the questionnaire assumes that women who were in a government or private hospital, a maternity/nursing home, or another private facility when they experienced the problem were able to get care there. They therefore skip to the end of Section 8 and only answer the question about who assisted them with the problem (821).

Q. 811 to Q. 814

Whether or not women seek assistance for the serious health problems they experience has significant implications for safe motherhood. Thus, understanding why women did not seek assistance for problems during the postpartum period may illuminate the existing barriers.

Question 813 provides information on whether women themselves are the decision-makers on whether they should access medical care. This is important for both women's empowerment and health. If women are not themselves the decision-makers, the speed with which they receive care may be adversely affected.

Q. 816 to Q. 821

The level of service and skill sought in the case of postpartum problems also has maternal health outcome implications. The type of place (i.e., health facility or not) and type of healthcare provider the woman sought out are indicators of the services and skills available to her. The questionnaire also assesses delays in seeking care, as they may provide important structural information.

Q. 823 to Q. 828

These questions are similar to Questions 801 to 806 earlier in this section, but refer to care given to the newborn within the first 6 weeks after birth. This care could be for either a routine checkup or a problem. If the woman's most recent birth was a multiple birth, ask this set of questions about the *last* baby that was born.

Q. 829 to Q. 831

These questions refer to breastfeeding. Question 831 asks whether the mother gave the first liquid that came from her breasts, known as colostrum, to the baby. This liquid may have a special name in the local language.

Q. 832 to Q. 846

These questions are similar to Questions 807 to 821 earlier in this section, but refer to problems and care given to the newborn during the first 7 days after birth.

Optional Questions: (Based on questionnaires developed by the Saving Newborn Lives Initiative, lead by Save the Children, USA)

- Was breastfeeding exclusive (during the first week only)?
- Cord care:
  - What instrument was used to cut the cord?
  - Did the healthcare provider apply anything on the cord?
    - If yes, what?
- Warming:
  - Immediately after the birth, where was the baby put?
  - Was (NAME) wiped/dried before the placenta was delivered?
  - How long after birth was (NAME) bathed?

Section 9. Personal Experience with Current Pregnancy (Questions 901 to 926)

Q. 901

The interviewer asks the questions in this section only to women who are pregnant during the interview.

Q. 902 to Q. 906

To detect problems associated with pregnancy and childbirth, all women should receive routine antenatal checkups. Risk factor screening during ANC is no longer as appropriate as before, but women who attend four ANC visits with evidence-based interventions can have just as good outcomes as women who attend more visits (Gay et al. 2003). Some interventions known to be effective include, but are not limited to: prevention, detection and treatment of anemia, detection of hypertension, treatment of eclampsia, and infection prevention (Bergsjø 2001; Rooney 1992). Although ANC cannot prevent the major complications of childbirth, certain ANC interventions can reduce the number of poor maternal outcomes. High quality ANC, however, cannot be a substitute for EOC (Gay et al. 2003). The WHO recommends attending four ANC visits, with the first visit occurring during the first trimester. National policies vary on the suggested healthcare provider and number of visits. Questions 902 to 905 ascertain whether or not women received ANC

(902), the number of ANC visits (903), the healthcare provider seen (905), the pregnancy stage at the first checkup (904), and how many ANC visits in total the woman plans to have during her pregnancy (906).

Q. 907

It is known that much of what is routinely done during an ANC visit cannot prevent maternal deaths, the majority of which happen around the baby's birth. Therefore, teaching pregnant women the danger signs associated with pregnancy and childbirth, as well as the appropriate actions to take, are essential components of ANC. Question 907 measures whether women received this advice.

Q. 908 to Q. 914

Once a woman has received or gathered information about how to prepare for birth or what to do in case of complications, she may discuss this information with others. The act of speaking to others about these topics is considered a precursor to taking the desired action. The type of person that the woman speaks with about these topics may have an impact on the secondary audience intentions of the program.

Q. 915 and Q. 916

These questions provide an opportunity to explore why women have not received ANC for the current pregnancy.

Q. 917 to Q. 919

The theory underlying BP/CR states that making preparations during the antenatal period will reduce delays that can lead to death. These preparations include planning and making arrangements ahead of time for a birth (917), the place of birth (919), transportation (918), funds (918), a blood donor (918), and a healthcare professional to be present (918). All of them may be correlated with improved maternal and newborn outcomes.

Q. 920

Question 920 provides information on whether women themselves are the decision-makers on whether they should access medical care. This is important for both women's empowerment and health. If women are not themselves the decision-makers, the speed with which they receive care may be adversely affected. Program designers may find the knowledge of who made the final decision on the location for birth critical to identifying the target audiences for their interventions.

Q. 921 to Q. 924

The purpose of these questions is to provide information on women's expectations of childbirth care services. Many argue that increasing the proportion of births with a skilled provider is the single most critical intervention for reducing maternal mortality. Moreover, the proportion of births with a skilled provider is a benchmark indicator for monitoring progress towards the ICPD goals (WHO 1999). The questionnaire asks currently pregnant women who they expect will assist with the birth (921), who made that decision (922), if they would prefer that someone else assist (923), and if so, who they would prefer (924). Comparing these preferences with the opinions about healthcare providers gathered in Questions 409 to 411 provides insight into why women prefer a certain type of healthcare provider.

Q. 925 and Q. 926

A large proportion of maternal deaths occur during the 48 hours before and after birth. In spite of the high risk associated with the immediate postpartum period, particularly from sepsis and hemorrhage, experts know very little about health practices during this period. Programs have recently given increased attention to the importance of a postpartum visit and recommend that all women have their health checked by a healthcare provider within 48 hours of birth. Information on whether currently pregnant women plan to receive postpartum care helps estimate the degree to which women plan and consider postpartum care as part of the pregnancy process.

Section 10. Media (Questions 1001 to 1015)

This section is relevant if the program intends to evaluate an intervention with a strong mass media component. If so, these questions should also be included in a baseline survey.

Q. 1001

The questionnaire will not ask women who reported not being able to read at all in Section 1 (Sociodemographic Information) any questions about reading newspapers and magazines.

Q. 1002 to Q. 1013

These questions provide an index of women's exposure to mass media through press, radio, and television. Exposure to these media forms may be an indicator of exposure to modern ideas and local mass-media-based interventions. Questions about preferred times and channels of mass media exposure will be especially helpful as formative mass media intervention research.

Q. 1014 and Q. 1015

Directly asking women about which information sources for delivering birth preparedness messages are most appropriate (1014) and which they prefer (1015) may reveal important information channels to use in program interventions.

Section 11. Exposure to Media Interventions (Questions 1101 to 1107)

Q. 1101 and Q. 1102

These questions establish the woman's exposure level to birth preparedness information through mass media channels. The researcher should present "healthy pregnancy" as an alternative to the term "birth preparedness."

Q. 1103

This matrix allows program planners to associate specific messages to which women report exposure with specific channels. This association may give a sense of which types of messages and channels have been most successful in reaching the target population. For evaluation purposes, an important comparison is the matrix data collected before and following the intervention.

Q. 1104 and Q. 1105

The act of speaking to others about messages heard through mass media interventions is often a precursor to taking the desired action. The type of person with whom the woman discusses these topics may have an impact on the secondary audience intentions of the program.

Q. 1106 and Q. 1107

Acting as a result of the message, particularly the action recommended by the message, is the most important indicator of an intervention's success.

Optional Questions: (Not optional for program evaluation purposes)

1108		Have you ever listened to the "[SPECIFIC PROGRAM NAME]" radio drama?	**YES** ..... **1** **NO** **2**	**→1110**
1109		How long have you been listening to the "[SPECIFIC PROGRAM NAME]" radio drama?	**MONTHS**..... ☐☐	
1110		How many episodes of "[SPECIFIC PROGRAM NAME]" have you heard so far?	**NO. OF EPISODES** ..... ☐☐ **DON'T KNOW**..... **98**	
1111		In the past month, how many times have you listened to "[SPECIFIC PROGRAM NAME]"?	**NO. OF TIMES (0-10)** ..... ☐☐ **DON'T KNOW**..... **98**	

Section 12. Participation in Community Interventions (Questions 1201 to 1207)

This section is relevant if the program intends to evaluate an intervention with a community-based component. If so, these questions should also be included in a baseline survey.

Q. 1201 and Q. 1202

These questions establish the woman's level of participation in community activities related to birth preparedness. The researcher should present "healthy pregnancy" as an alternative to the term "birth preparedness."

Q. 1203

This matrix allows program planners to associate specific messages that women report having learned about with specific activities. This association may give a sense of which types of messages and activities have been most successful thus far in reaching the target population. For evaluation purposes, an important comparison is the matrix data collected before and following the intervention. Extensive training for the interviewer may be necessary to learn the correct use of the matrix.

Q. 1204 and Q. 1205

The act of speaking to others about messages heard through community-based interventions is often a precursor to taking the desired action. The type of person with whom the woman discusses these topics may have an impact on the secondary audience intentions of the program.

Q. 1206 and Q. 1207

Acting as a result of the message, particularly the action recommended by the message, is the most important indicator of an intervention's success.

GUIDE FOR THE INTERVIEWER

GUIDE FOR THE INTERVIEWER*

INTRODUCTION

This guide provides directions to the interviewer on how to conduct an interview and how to fill out the Prototype Household and Woman's Safe Motherhood Questionnaires, and clarifies some possible points of confusion.

INTRODUCTION TO THE SURVEY

The Safe Motherhood Survey is a sample survey designed to provide information on women's health and issues related to pregnancy and childbirth. The survey will involve interviewing a randomly selected group of both married and unmarried women who are between the ages of 15 and 49. These women will be asked questions about their background, their attitudes towards and experiences with pregnancy and childbirth, and other information that will be helpful to policymakers and administrators who are working to improve women's health.

This course is meant to train you as an interviewer for the survey. After the training course, interviewers will be working in teams and go to different districts to interview women in their houses. This is called fieldwork.

You should study this manual and learn its contents since this will reduce the amount of time needed for training and will improve your performance as an interviewer.

Survey Objectives

- Generate data on community attitudes, values, beliefs, and practices relating to women's use of health services for pregnancy, childbirth, and the postpartum period.
- Guide the design of programs and interventions by generating reliable data on the challenges, obstacles, and opportunities that need to be addressed if utilization of maternity care is to be increased.
- Evaluate the impact of interventions by assessing whether knowledge, beliefs, and behaviors have changed.

The Sample

There are several ways to gather information about people. One way is to contact every person or nearly every person and ask them questions about what you need to know. Talking to everyone is called a complete enumeration, and a national census is a good example of this type of information gathering. This is very costly because it takes a lot of people to talk to everyone. However, in cases such as a national census, it is necessary to have a complete enumeration despite the cost.

Another way to collect information is through a sample survey. When it is not necessary to know exact total numbers, a sample survey can collect information about people much more quickly and less expensively. Most often, we do not use whole numbers in making our decisions, but we think in

---

* *Adapted from:* ORC Macro. 2002a. *Interviewer's Manual for Use with Model "A" Questionnaire for High Contraceptive Prevalence Countries*. MEASURE DHS+ Basic Documentation No. 3. ORC Macro: Calverton, MD **and** Kenya Skilled Care Initiative (SCI) Survey Interviewer's Manual.

terms of percentages instead. For example, hearing that 800 people support a certain candidate in an election means very little to most of us. However, if we read that 55% of voters support that candidate, we can judge that the candidate will probably win the election. The sample survey provides us with answers that are expressed in averages, proportions, or percentages, such as the proportion of children who are immunized against a certain disease or the proportion of women who do not want to have any more children. The sampling procedure allows us to collect data on a small number of people and draw conclusions that are valid for a whole country or district. The main reasons for using a sample survey instead of a complete enumeration are to reduce the time and cost of collecting information.

The accuracy of a sample survey depends, among other things, on the size of the sample. For example, if you only chose a sample of 100 people from a population of 100,000, the results of the sample would probably bear little resemblance to the total. On the other hand, a scientific sample of 3,000 would yield results that are more accurate. Therefore, the size of a sample is determined by how accurately the results must reflect the whole population being studied. This is determined by statistical methods that we will not try to discuss in the training sessions. What you should know, however, is that the sample size is predetermined by the survey organizers according to the level of accuracy they need for the results. Consequently, it is critical to a survey that fieldworkers try their hardest to complete all assigned interviews to ensure that the correct number of people are included in the survey.

The accuracy of a sample survey also depends on another major factor, the absence of bias that would affect the proportions found through the sample. To control or prevent bias from creeping into the results, the selection of people included in the sample must be absolutely random. This means that every person in the total population to be studied has the same opportunity to be selected in the sample. This is why it is so important to make callbacks to reach those people who are not at home, since they may be different from people who are at home.

Certain households will be scientifically selected to be included in this survey sample. Each of these households will be visited and enumerated using the Prototype Household Safe Motherhood Questionnaire. Women age 15–49 will be interviewed using the Prototype Woman's Safe Motherhood Questionnaire.

Prior to interviewing, the survey teams will prepare a list of all households in enumeration areas (pre-selected areas sometimes also called clusters). This listing process will involve locating the boundaries of the cluster using maps provided by the Bureau of Statistics, updating the maps as necessary, and obtaining information in each household like the name of the head of household and the number of current residents. Once the list of households in the cluster has been compiled, the team supervisor will scientifically select a subset of these households for interview. The supervisor will then assign interviewers to the selected households.

Survey Questionnaires

There are two prototype questionnaires that will be used in the Safe Motherhood Survey: the Household Questionnaire and the Woman's Questionnaire.

The households that will be scientifically selected to be included in the survey sample will be visited and enumerated using the Prototype Household Safe Motherhood Questionnaire. The Household Questionnaire consists of a cover sheet to identify the household and a form on which to list all

members of the household. (Members of the household are persons who usually live in the household.) You will collect some information about each person, such as name, sex, and age. The Household Questionnaire also collects information on housing characteristics such as type of water, sanitation facilities, quality of flooring, and ownership of durable goods.

You will also identify which women are eligible (qualified) to be interviewed with the Woman's Questionnaire. All women (both married and unmarried) listed in the Household Questionnaire between the ages of 15 and 49 are eligible to be interviewed. After all of the eligible women in a household have been identified, you will use the Prototype Woman's Safe Motherhood Questionnaire to interview those women you are assigned.

The Prototype Woman's Safe Motherhood Questionnaire collects information on the following topics:

- **Sociodemographic Information.** Questions on age, marital status, education, employment status, religion, and ethnic group are included to provide information on characteristics likely to influence women's behavior.
- **Births and Stillbirths.** Data are collected on women's current pregnancy status and the dates of their recent live births and stillbirths. This section identifies women who are eligible to respond to questions in the subsequent sections.
- **Knowledge.** Questions on women's knowledge about safe motherhood practices.
- **Attitudes and Perceptions.** Questions on women's opinions about safe motherhood practices.
- **Perceptions of Local Facilities.** Questions on women's opinions about local health facilities in which a woman can give birth to a baby.
- **Personal Experience Related to Last Pregnancy.** These detailed questions inquire about women's recent experiences with antenatal care (ANC). A series of questions is also included on experience with and treatment of complications.
- **Personal Experience Related to Last Birth.** These detailed questions inquire about women's recent experiences with childbirth. A series of questions is also included on experience with and treatment of complications.
- **Personal Experience Related to Last Birth (Postpartum).** These detailed questions inquire about women's recent experiences with postpartum care. A series of questions is also included on experience with and treatment of complications.
- **Personal Experience with Current Pregnancy.** These questions are directed at women who are currently pregnant and ask about their ANC and planning for the birth.
- **Media.** Questions about the types of media women use and how frequently they use them.
- **Exposure to Media Interventions.** Questions about messages related to pregnancy that women may have heard through the media.
- **Participation in Community Interventions**. Questions about messages related to pregnancy that women may have heard through community events or community members.

Interviewer's Role

The interviewer occupies the central position in the survey because she collects information from respondents. Therefore, the success of the survey depends on the quality of **each** interviewer's work. All interviewers should be female to make the respondent more comfortable.

In general, the responsibilities of a survey interviewer include the following:

- Locating the structures and households in the sample that are assigned to her, and completing the Prototype Household Safe Motherhood Questionnaire
- Identifying all eligible women in those households
- Interviewing all eligible women in the households assigned to her using the Prototype Woman's Safe Motherhood Questionnaire
- Checking completed interviews to make sure that all questions were asked and the responses neatly and legibly recorded
- Returning to households to interview those women she could not contact during initial visits

These tasks will be described in further detail throughout this manual and during training.

Training of Interviewers

Although some people are more adept at interviewing than others, one can become a good interviewer through experience. Your training will consist of a combination of classroom training and practical experience. Before each training session, you should study this manual carefully along with the questionnaires, writing down any questions you have. Ask questions at any time to avoid mistakes during actual interviews. Interviewers can learn a lot from each other by asking questions and talking about situations encountered in practice and actual interview situations.

During training, the questionnaire sections, questions, and instructions will be discussed in detail. You will see and hear demonstration interviews conducted in front of the class as examples of the interviewing process. You will also have a homework assignment for the evenings during this part of your training. You will practice reading the questionnaire aloud to another person several times so that you may become comfortable with reading the questions aloud. This is a very important assignment to prepare you for the next phase of training.

Another means of training is role-playing, in which you practice by interviewing another trainee. One person will be the interviewer and one will be the respondent. Later on, you will be assigned to groups according to language and will practice interviewing in your language.

A later phase of training will include field practice interviewing in which you will actually interview household respondents and eligible women. You will be required to check and edit the questionnaires just as you would do in the actual fieldwork assignments.

You will be given tests to see how well you are progressing during your formal training period. They will test your familiarity and understanding of the questionnaire and the survey process. At the end of the training course, the interviewers will be selected.

Your training as an interviewer does not end when the formal training period is completed. Each time a supervisor meets with you to discuss your work in the field, your training continues. The formal training period merely provides you with the basic knowledge and information about the survey, questionnaires, etc. Continued observation and supervision during the fieldwork completes the training process. This is particularly important during the first few days of working in the field. As you run into situations you did not cover in training, it will be helpful to discuss them with your team. Other interviewers may be encountering similar problems, so you can all share each other's experiences and benefit from them.

Supervision of Interviewers

Training is a continuous process. Observation and supervision throughout the fieldwork are part of the training and data collection process. Your team supervisor and the field editor will play very important roles in continuing your training and in ensuring the quality of the survey data. They will:

- Observe some of your interviews to ensure that you are conducting yourself well, asking the questions in the right manner, and interpreting the answers correctly.
- Spot check some of the addresses selected for interviewing to be sure that you interviewed the correct households and the correct women.
- Review each questionnaire to be sure it is complete and consistent.
- Uncover and take action on apparent omission of stillbirths and births the respondent has had or improper recording of dates of birth and stillbirths.
- Meet with each member of the team on a daily basis to discuss performance and give out future work assignments.
- Help you solve any problems that you might have with finding the assigned households, understanding the concepts in the questionnaires, or dealing with difficult respondents.

The survey director may release from service any interviewer who is not performing at the level necessary to produce the high-quality data required to make the survey a success.

Survey Regulations

During the next few weeks, your presence, interest, participation, and cooperation are absolutely vital. We will try to do all that we can during this time to provide you with the necessary information, training, tools, and support for you to accomplish this very important task. For the workload to be equally divided and the support equally shared, the following survey regulations have been established and will be strictly enforced:

1. Every position on the survey staff is vital to the success of the survey. If you are chosen to be on a team and accept the position, your presence is required for each day of fieldwork.

2. Except for illnesses, any person who is absent from duty during any part of the training or any part of the fieldwork period (whether it is a whole day or part of a day) without prior approval from his/her supervisor may be dismissed from the survey team.

3. There is a great deal of work to be done over the next few weeks, so arriving late to the training sessions will not be tolerated.

4. The selection of the survey team members is competitive; it is based on performance, ability, and testing results during the training. Therefore, any person found offering assistance to or receiving assistance from another person during tests will be dismissed from the survey team.

5. You are representing your organization. Throughout the survey training and the fieldwork period, your conduct must be professional and your behavior must be congenial in dealing with the public. We must always be aware of the fact that we are only able to do our work with the good will and cooperation of the people we interview. Therefore, any team member who is consistently aggressive, abrupt, or disrespectful to the people in the field may be dismissed from the survey team.

6. For the survey to succeed, each team must work closely together, sharing in the difficulties and cooperating and supporting each other. We will attempt to make team assignments in a way that enhances the cooperation and good will of the team. However, any team member who in the judgment of the survey director creates a disruptive influence on the team may be asked to transfer to another team or may be dismissed from the survey team.

7. It is critical that the data gathered during fieldwork be both accurate and valid. To control for inaccurate or invalid data, spot checks will be conducted. Interviewers may be dismissed at any time during the fieldwork if their performance is not considered adequate for the high quality this survey demands.

8. Vehicles and gasoline are provided for the survey for official use only. Any person using the vehicle for an unauthorized personal reason will be dismissed from the survey team.

9. Survey data are confidential. They should not be discussed with anyone, including your fellow interviewers. Under no circumstances should confidential information be passed on to third parties. Persons breaking these rules, and therefore the confidence placed in them by the respondent, will be dismissed.

CONDUCTING AN INTERVIEW

Successful interviewing is an art and should not be treated as a mechanical process. Each interview is a new source of information, so make it interesting and pleasant. The art of interviewing develops with practice but there are certain basic principles that are followed by every successful interviewer. In this section you will find a number of general guidelines on how to build rapport with a respondent and conduct a successful interview.

Building Rapport with the Respondent

The field supervisor will assign an interviewer to make the first contact with a household selected for the survey. Any capable adult member of the household is a suitable respondent for the household interview (this person may or may not be a woman age 15–49). If at least one eligible woman is identified in the Prototype Household Safe Motherhood Questionnaire, the interviewer will complete the Prototype Woman's Safe Motherhood Questionnaire with the eligible woman identified. As an interviewer, your first responsibility is to establish rapport with the respondent.

At the beginning of an interview, you and the respondent are strangers to each other. The respondent's first impression of you will influence his/her willingness to cooperate with the survey.

Be sure that your manner is friendly as you introduce yourself. Before you start to work in an area, your supervisor will have informed the local leaders, who will in turn inform selected households in the area, that you will be coming to interview them.

1. Make a good first impression.

When first approaching the respondent, do your best to make her feel at ease. With a few well-chosen words, you can put the respondent in the right frame of mind for the interview. Open the interview with a smile and greeting such as "good afternoon" and then proceed with your introduction.

2. Always have a positive approach.

Never adopt an apologetic manner, and do not use words such as "Are you too busy?" Such questions invite refusal before you start. Rather, tell the respondent, "I would like to ask you a few questions" or "I would like to talk with you for a few moments."

3. Stress confidentiality of responses when necessary.

If the respondent is hesitant about responding to the interview or asks what the data will be used for, explain that the information you collect will remain confidential, no individual names will be used for any purpose, and all information will be grouped together to write a report. Also, you should never mention other interviews or show completed questionnaires to other interviewers or supervisors in front of a respondent or any other person.

4. Answer any questions from the respondent frankly.

Before agreeing to be interviewed, the respondent may ask you some questions about the survey or how she was selected. Be direct and pleasant when you answer. However, if she asks questions about safe motherhood practices or health facilities, tell her that you will try to answer her questions after you have finished the interview.

The respondent may also be concerned about the length of the interview. If she asks, tell her that the woman's interview usually takes about 45 minutes. If the respondent for the Household Questionnaire is a man or an older woman (over age 50), you can tell the respondent that the interview usually takes less than 15 minutes, since that person will answer only the Household Questionnaire. Indicate your willingness to return at another time if it is inconvenient for the respondent to answer questions then.

5. Interview the respondent alone.

The presence of a third person during an interview can prevent you from getting frank, honest answers from a respondent. It is, therefore, very important that the woman's interview be conducted privately and that all questions be answered by the respondent herself.

If other people are present, explain to the respondent that some of the questions are private and ask to interview her in the best place for talking alone. Sometimes asking for privacy will make others

more curious, so they will want to listen; you will have to be creative. Establishing privacy from the beginning will allow the respondent to be more attentive to your questions.

If it is impossible to get privacy, you may have to carry out the interview with the other people present. However, try to separate yourself and the respondent from the others as much as possible. Extra effort should be made to gain privacy if the other person is the respondent's spouse. If there is more than one eligible woman in the household, you must not interview one in the presence of the other.

Tips for Conducting the Interview

1. Be neutral throughout the interview.

Most people are polite and will tend to give answers that they think you want to hear. It is therefore very important that you remain absolutely neutral as you ask the questions. Never, either by the expression on your face or by the tone of your voice, allow the respondent to think that she has given the "right" or "wrong" answer to the question. Never appear to approve or disapprove of any of the respondent's replies.

The questions are all carefully worded to be neutral. They do not suggest that one answer is more likely than, or preferable to, another answer. If you fail to read the complete question, you may destroy that neutrality. For this reason, it is important to read the whole question as it is written.

If the respondent gives an ambiguous answer, try to probe in a neutral way, asking questions such as the following:

"Can you explain a little more?"
"I did not quite hear you. Could you please tell me again?"
"There is no hurry. Take a moment to think about it."

2. Never suggest answers to the respondent.

If a respondent's answer is not relevant to a question, do not prompt her by saying something like "I suppose you mean that... Is that right?" In many cases, she will agree with your interpretation of her answer, even when that is not what she meant. Rather, you should probe in such a manner that the respondent herself comes up with the relevant answer. You should never read out the list of coded answers to the respondent, even if she has trouble answering.

3. Do not change the wording or sequence of questions.

The wording of the questions and their sequence in the questionnaires must be maintained. If the respondent has not understood the question, you should repeat the question slowly and clearly. If she still does not understand, you may reword the question, being careful not to alter the meaning of the original question. Provide only the minimum information required to get an appropriate response.

4. Handle hesitant respondents tactfully.

There will be situations where the respondent simply says, "I don't know," gives an irrelevant answer, acts very bored or detached, or contradicts something she has already said. In these cases, you must try to re-interest her in the conversation. For example, if you sense that she is shy or afraid, try to remove her shyness or fear before asking the next question. Spend a few moments talking about things unrelated to the interview (for example, her town or village, the weather, her daily activities, etc.).

If the woman is giving irrelevant or elaborate answers, do not stop her abruptly or rudely, but listen to what she has to say. Then try to steer her gently back to the original question. A good atmosphere must be maintained throughout the interview. The best atmosphere for an interview is one in which the respondent sees the interviewer as a friendly, sympathetic, and responsive person who does not intimidate her and to whom she can say anything without feeling shy or embarrassed. As indicated earlier, the major problem in controlling the interview may be one of privacy. This problem can be prevented if you are able to obtain a private area in which to conduct the interview.

If the respondent is reluctant or unwilling to answer a question, try to overcome her reluctance, explaining once again that the same question is being asked of women all over the country and that the answers will all be merged together. If she still refuses, simply write REFUSED next to the question and proceed as if nothing had happened. If you have successfully completed the interview, you may try to obtain the missing information at the end, but do not push too hard for an answer. Remember that the respondent cannot be forced to give an answer.

5. Do not form expectations.

You must not form expectations of the ability and knowledge of the respondent. Do not assume women from rural areas or those who are less educated or illiterate do not know about safe motherhood or pregnancy and childbirth issues.

On the other hand, remember that differences between you and the respondent can influence the interview. The respondent, believing that you are different from her, may be afraid or mistrustful. You should always behave and speak in such a way that she is put at ease and is comfortable talking to you.

6. Do not hurry the interview.

Ask the questions slowly to ensure the respondent understands what she is being asked. After you have asked a question, pause and give her time to think. If the respondent feels hurried or is not allowed to formulate her own opinion, she may respond with "I don't know" or give an inaccurate answer. If you feel the respondent is answering without thinking just to speed up the interview, say to the respondent, "There is no hurry. Your opinion is very important, so consider your answers carefully."

Language of the Interview

There may be times when you will have to use an interpreter or modify the wording of the questions to fit local dialects and culture. It is very important not to change the meaning of the question when you rephrase it or interpret it into another language.

Of course, one of the first things you will do when you approach a household to do an interview is to determine the language or languages that are spoken there. We will be arranging the field teams in such a way that you will be working in an area where your language is spoken, so there should be few cases in which respondents do not speak your language. In such cases, you might be able to find another language that both you and the respondent speak, and you will be able to conduct the interview in that language.

However, in some cases, it will not be possible for you to find a language that both you and the respondent speak. In this case, try to find out whether the respondent speaks a language that another member of your team or the team supervisor speaks. If so, tell your supervisor so that he/she can arrange for that person to conduct the interview.

If the respondent does not speak a language that any of your team members speak, you will need to rely on a third person to translate for you. Since the interview involves some sensitive topics, it is best if you can find another woman or man to act as an interpreter. Try to avoid using the respondent's spouse as an interpreter. Children are also unsuitable interpreters. Remember, try to avoid using interpreters if at all possible since this not only jeopardizes the quality of the interview but will also mean that the interview will take nearly twice as long to conduct.

FIELD PROCEDURES

Fieldwork for the survey will proceed according to a timetable, and the survey will be successful only if each member of the interviewing team understands and follows correct field procedures. The following sections review these procedures and describe the proper procedures for receiving work assignments and keeping records of selected households.

Preparatory Activities

Each day, your supervisor will brief you on your day's work and explain how to locate the households assigned to you. When you receive your work assignment, review it and ask any questions you might have; remember that your supervisor will not always be available to answer questions when the work begins. You should be sure that:

- You have a Prototype Household Safe Motherhood Questionnaire for each household you are assigned;
- You fill in the identification information on the cover page of each Household Questionnaire;
- You know the location of the selected households you are to interview, and have sufficient materials (maps, written directions, etc.) to locate them;
- You understand any special instructions from your supervisor about contacting the households you are assigned;
- You have several blank Prototype Woman's Safe Motherhood Questionnaires.

Allocate a Woman's Questionnaire for each eligible woman identified in the household. Fill in the identification information on the cover sheet of a Woman's Questionnaire for each eligible woman identified in the Household Census.

If after completing the interviews, you find that there are two women eligible for the individual interview, you will return the completed Household Questionnaire to your supervisor with two Woman's Questionnaires placed inside.

Contacting Households

1. Locating sample households.

Prior to interviewing in the cluster or enumeration area, the team will:

- Prepare up-to-date maps to indicate the location of structures,
- Record address information for each structure or describe their location (for areas lacking street names or numbers on structures),
- Write numbers on structures, and
- Make a list of the names of the heads of all the households living in the structures.

A **structure** is a freestanding building that can have one or more rooms in which people live; it may be an apartment building, a house, or a thatched hut, for instance. Within a structure, there may be one or more dwelling (or housing) units. For instance, there would be one dwelling unit in a thatched hut, but there may be 50 dwelling units in an apartment building or five dwelling units in a compound. A **dwelling unit** is a room or group of rooms occupied by one or more households. It may be distinguished from the next dwelling unit by a separate entrance. Within a dwelling unit, there may be one or more households. For example, a compound may have five households living in it, and each household may live in its own dwelling unit.

After the listing for a cluster is complete, the team supervisor will select households to be interviewed. Specific households will be selected for interviews, and you should not have any trouble in locating the households assigned to you if you use the structure number and the name of the head of the household to guide you. The structure number is usually written above the door of the house, but sometimes it may be on the wall. Although the supervisor of your team will be with you in the field, it is important that you also know how to locate the structures in the sample.

2. Problems in contacting a household.

In some cases, you will have problems locating the households that were selected because the people may have moved or the listing teams may have made an error. Here are examples of some problems you may find and how to solve them:

- **The selected household has moved away and the dwelling is vacant**. If a household has moved out of the dwelling where it was listed and no one is living in the dwelling, you should consider the household absent and record Code '2' (HOUSEHOLD ABSENT) for RESULT on the cover sheet of the Household Questionnaire.
- **The household has moved away and a new one is now living in the same dwelling**. In this case, interview the new household.
- **The structure number and the name of the head of household do not match with what you find in the field**. Say, for example, that you have been assigned a household headed by Sola Ogedengbe that is listed as living in structure number SM-003. But when you go to SM-003, you

find that Mary Kehinde heads the household living there. Consider whichever household is living in SM-003 as the selected household. In this case, you would interview the household headed by Mary Kehinde.

- **The household selected does not live in the structure that was listed**. If, for example, you are assigned a household headed by Vincent Okigbo located in SM-007 and you find that Vincent Okigbo actually lives in another structure, interview the household living in SM-007. In other words, if there is a discrepancy between the structure number and the name of the head of household, interview whoever is living in the structure assigned to you. Inform your supervisor about any such situations you find.
- **The listing shows only one household in the dwelling, but two households are living there now**. In this case, interview both households, and make a note on the cover page of the household that was not on the listing. Your supervisor will assign this household a number, which you should enter on the Household Questionnaire. However, if the listing shows two households, only one of which was selected, and you find three households there now, only interview the one that had been selected and ignore the other two. In either case, inform your supervisor of the situation.
- **The head of the household has changed**. In some cases, the person listed as the head of household may have moved away or died since the listing. If this is the case, interview the household that is living there.
- **The house is all closed up and the neighbors say the people are on the farm (or away visiting, etc.) and will be back in several days or weeks**. Enter Code '2' (HOUSEHOLD ABSENT) for RESULT. The house should be revisited at least two more times to make sure that the household members have not returned.
- **The house is all closed up and the neighbors say that no one lives there; the household has moved away permanently**. Enter Code '2' (HOUSEHOLD ABSENT) for RESULT.
- **A household is supposed to live in a structure that, when visited, is found to be a shop and no one lives there**. Check very carefully to see whether anyone is living there. If not, enter Code '2' (HOUSEHOLD ABSENT) for RESULT.
- **A selected structure is not found in the cluster, and residents tell you it was destroyed in a recent fire**. Enter Code '4' (DWELLING NOT FOUND) for RESULT.
- **No one is home and neighbors tell you the family has gone to the market**. Enter Code '5' (NO COMPETENT RESPONDENT AT HOME) for RESULT, and return to the household at a time when the family will be back (later in the day or the next day).

Remember that the usefulness of the survey sample in representing the entire district depends on the interviewers locating and visiting all the households they are assigned.

3. Identifying eligible respondents.

To be "eligible" means to "qualify" for something. An eligible respondent is someone who is qualified to be included in our survey. You will use the Prototype Household Safe Motherhood Questionnaire to identify who is eligible to be interviewed with the Prototype Woman's Safe Motherhood Questionnaire.

All women ages 15–49 that are members of the household are considered eligible in the survey. It is very important that you do not miss an eligible respondent when you fill in the Household Census.

In some households, there will be no eligible respondents (i.e., there will be no usual household members who are women between the ages of 15 and 49). For these households, you will have a completed Household Questionnaire, with no accompanying Woman's Questionnaire.

Problems in Obtaining Women's Interviews

The following are examples of the kinds of problems the interviewer may experience in obtaining an interview with an eligible woman:

- Eligible respondent not available

If the eligible respondent is not at home when you visit, enter Code '5' (NO COMPETENT RESPONDENT AT HOME) for RESULT of the visit on the cover sheet of the Prototype Woman's Safe Motherhood Questionnaire and ask a neighbor or family member when the respondent will return. You should contact the household at least three times, trying to make each visit at a different time of day. Under no circumstances is it acceptable to conduct all three visits on the same day and then stop attempting to contact the respondent.

- Respondent refuses to be interviewed

The respondent's availability and willingness to be interviewed will depend in large part on the initial impression you make when you meet her. Introduce yourself and explain the purpose of the visit. Read the introduction printed on the Verbal Consent Form. If the respondent is unwilling to be interviewed, it may be that the present time is inconvenient. Ask whether another time would be more convenient and make an appointment. If the respondent still refuses to be interviewed, enter Code '7' (REFUSED) for RESULT of the visit on the cover sheet and report it to your supervisor.

- Interview not completed

A respondent may be called away during the interview or may not want to answer all the questions at the time you visit. If an interview is incomplete for any reason, you should try to arrange an appointment to see the respondent again as soon as possible to obtain the missing information. Make sure that you record on the cover sheet of the questionnaire that the interview is incomplete by entering Code '6' (INCOMPLETE INTERVIEW) for RESULT and indicate the time you agreed on for a revisit. You should also report the problem to your supervisor.

- Respondent incapacitated

There may be cases in which you cannot interview a respondent because she is too sick, is mentally unable to understand your questions, or deaf, etc. In these cases, record Code '5' (NO COMPETENT RESPONDENT AT HOME) for RESULT on the cover sheet of the questionnaire.

Making Callbacks

Because each household has been carefully selected, you must make every effort to conduct interviews with the households assigned to you and with the eligible women identified. Sometimes a household member will not be available at the time you first visit. You need to make at least three

different visits when trying to obtain a household interview and at least three different visits when trying to obtain a woman's interview.

At the beginning of each day, you should examine the cover sheets of your questionnaires to see whether you made any appointments for revisiting a household or eligible respondent. If no appointments were made, make your callbacks to a household or respondent at a different time of day than the earlier visits. For example, if the initial visits were made in the early afternoon, you should try to arrange your schedule so you make a callback in the morning or late afternoon. Scheduling callbacks at different times is important in reducing the rate of non-response (i.e., the number of cases in which you fail to contact a household or complete a women's interview).

Checking Completed Questionnaires

It is the responsibility of the interviewer to review each questionnaire when the interview is finished. This review should be done before you leave the household so that you can be sure every appropriate question was asked, that all answers are clear and reasonable, and that your handwriting is legible. Also verify that you have followed the skip instructions correctly (last column of the questionnaire). You can make minor corrections yourself, but the respondent should clarify any serious errors. Simply explain to the respondent that you made an error and ask the question again.

Do not recopy the questionnaires. As long as the answers are clear and readable, it is not necessary for the questionnaire itself to be neat. Every time you transcribe the answers to a new questionnaire, you increase the potential for errors. For this reason you are not allowed to use work sheets to collect information. Record ALL information on the questionnaires that you have been provided. Any calculations you make should be written in the margins or on the back of the questionnaires.

Anything out of the ordinary should be explained either in the margins near the relevant question or in the comments section at the end. These comments are very helpful to the supervisor and field editor in checking questionnaires. Comments are also read in the office and used to resolve problems encountered during data entry.

Returning Work Assignments

At the end of fieldwork each day, check that you have filled out the cover sheet of a Prototype Household Safe Motherhood Questionnaire for each household assigned to you, whether or not you managed to complete an interview. You should inform your supervisor about any problems you experienced in locating a household or completing a Household Questionnaire and in conducting an interview with an eligible respondent. For these difficult cases, at least three visits will be made to a household during the survey in an effort to obtain a completed interview.

All completed Prototype Household Safe Motherhood Questionnaires with the accompanying Woman's Questionnaires are placed inside and envelope and returned to your supervisor. Make sure you have filled in the final result and date of all interviews you completed and the date you returned the questionnaires to the supervisor. He/she will give the completed Household Questionnaires and Woman's Questionnaires to the editor, as appropriate.

Data Quality

It is the editor's responsibility to review both the Prototype Household Safe Motherhood Questionnaires and the Prototype Woman's Safe Motherhood Questionnaires from a sample enumeration area or cluster while the interviewing team is still in the cluster. It is especially important for the editor to conduct thorough edits of questionnaires at the initial stages of fieldwork. The supervisor may assist in editing questionnaires during the first 2 or 3 weeks of fieldwork. The editor will then discuss with each interviewer the errors found in the collection of data. It may sometimes be necessary to send an interviewer back to a respondent in order to correct some data error.

An important task of the editor will be to ensure that interviewers do not omit births and/or stillbirths or misrecord dates of these. If omission or misrecording of dates of births and/or stillbirths is detected, the supervisor will take disciplinary action.

Supplies Required for Fieldwork

Before leaving for the field, you should make sure you have adequate supplies for the day's work. These supplies include the following:

- A sufficient supply of questionnaires
- Guide for the Interviewer
- Card for literacy question
- Identification documents
- A clipboard
- Blue ballpoint pens
- A briefcase or bag in which to carry the questionnaires
- Any personal items you will need to be comfortable, given the circumstances and the area in which you are working

GENERAL PROCEDURES FOR COMPLETING THE QUESTIONNAIRES

To collect the information needed, you must understand how to ask each question, what information the question is attempting to collect, and how to handle problems that might arise during the interview. You must also know how to correctly record the answers the respondent gives and how to follow special instructions in the questionnaire.

Asking Questions

It is very important that you ask each question exactly as it is written in the questionnaire. When asking a question, make sure you speak slowly and clearly so that the respondent will have no difficulty hearing or understanding the question. In some cases, you may have to ask additional questions to obtain a complete answer from a respondent (we call this probing). If you do this, you must be careful that your probes are "neutral" and that they do not suggest an answer to the respondent.

Recording Responses

All interviewers will use pens with blue ink to complete all questionnaires.

Questions with precoded responses

For some questions, we can predict the types of answers a respondent will give. The responses to these questions are listed in the questionnaire. To record a respondent's answer, you simply circle the number (code) that corresponds to the reply. Make sure that each circle surrounds only a single number.

Most questions with responses listed require you to circle ONLY ONE of the responses. However, some questions require you to circle multiple responses. If you are supposed to circle more than one response, there will be an instruction along with the question to record all responses given.

In some cases, precoded responses will include an 'OTHER' category. The 'OTHER' code should be circled when the respondent's answer is different from any of the precoded responses listed for the question. Before using the 'OTHER' code, you should make sure the answer does not fit in any of the other categories. When you circle the code 'OTHER' for a particular question, you must always write the respondent's answer in the space provided.

Recording responses that are not precoded

For some questions, you will have to choose the correct box in which to record the response and only fill in one row. Whenever the boxes are preceded by codes, you are to fill in boxes for ONLY ONE row. You must circle the code that identifies the row you have chosen and fill in the response for that row. If the response has fewer digits than the number of boxes provided, you fill in leading zeroes.

There are other cases where you must write down the response in the respondent's own words. Try to record those answers exactly as they are given.

Marking filters

Filters require you to look back at the answer to a previous response and mark an "X" in the box, and then follow various skip instructions. Note that all instructions for the interviewer are printed in CAPITAL LETTERS, whereas the questions to be asked to the respondent are printed in lower case letters.

Correcting Mistakes

It is very important that you record all answers neatly. For precoded responses, make sure to circle the code for the correct response carefully. For open-ended responses, the reply should be written legibly so that it can be easily read. If you made a mistake in entering a respondent's answer or she changes her reply, be sure that you cross out the incorrect answer and enter the right one. Do not try to erase an answer. Just put two lines through the incorrect response. Remember that if there are two responses for a particular question, it may not be possible later, when the data are being coded, to determine which the correct answer is. Before leaving the household, check the completed questionnaire for skip patterns, omissions, handwriting, or clarification.

PROTOTYPE HOUSEHOLD SAFE MOTHERHOOD QUESTIONNAIRE

Cover Page

Before you go to a selected household, fill in the Questionnaire Number and the Household ID Number. At the start of the interview, fill in the time in the designated space at the top of the page. Write the name of the place in which you are working. Also, record whether the place is urban or rural. Then write the name of the head of the household that you are going to interview. The rest of the cover page will be filled in at the end of the interview.

Informed Consent

The household survey questions should be asked of anyone who opens the door when you visit the house. Before you can begin the interview, you must obtain the respondent's informed consent for participation in the survey. Read the Verbal Consent Form exactly as it is written. This form explains the purpose of the survey and the voluntary nature of the respondent's participation, and seeks her cooperation. After reading the form, you (not the respondent) must sign in the space provided to affirm that you have read the statement to the respondent. Then circle 'YES' if the woman agrees to be interviewed and proceed with the first question. If the woman does not agree to be interviewed, circle 'NO', thank the respondent, and end the interview. Then record Code '7' (REFUSED) for RESULT on the cover sheet.

Household Census

Column (1): Line Number

This is the Line Number used to identify each person listed in the census.

Column (2): Usual Residents and Visitors

The first step in completing the Prototype Household Safe Motherhood Questionnaire is to get a complete list of all persons who usually live in the household and any visitors. You will always list the head of the household first. The decision of who is considered a "usual" resident will be left to the respondent.

As your respondent lists the names, write them down, one in each row, in column (2) of the questionnaire. Begin with the head of the household, i.e., the person who is considered responsible for the household. This person may be appointed based on age (older), sex (generally, but not necessarily, male), economic status (main provider), or some other reason, but the person who is listed as the head of the household has to be someone who usually lives in the household. It is up to the respondent to define who is the head. There generally should not be a problem with this.

Since there is not much room on the form, you may not be able to write the full names for each person, so, if the last name is the same for several people, you can use ditto marks.

For each person, the relationship to the head of the household and the sex should be recorded before asking the name of the next person.

Column (3): Relationship to Head of Household

Record the relationship of the person listed to the head of the household. Use the codes at the bottom of the page. Be particularly careful in doing this if the respondent is not the head of the household.

Column (4): Age

If you have difficulty obtaining the ages of household members, use the methods described for Question 102 in the Prototype Woman's Safe Motherhood Questionnaire to probe for the correct age. You have to obtain each person's age in completed years, that is, the age at the time of the last birthday. If the age is under one year, enter '0' in the box. Use an event calendar with this question if necessary.

Column (5): Sex

Circle '1' for males and '2' for females.

Column (6): Pregnancy Status

Circle '1' if the woman is pregnant and '2' if she is not.

Column (7): Eligibility

Look at columns (4) and (5) and circle 'Y' for all females between the ages of 15 and 49, otherwise circle 'N'.

Questions

Q. 1: Floor Material

This is not a question that you will have to ask the respondent since you will usually be able to see for yourself what kind of floor the house has. However, ask if you are not sure. If there is more than one kind of flooring material, record the main type of material (the material that covers the largest amount of floor space).

Q. 2: Household Drinking Water

The purpose of this question is to assess the cleanliness of household drinking water. If drinking water is obtained from several sources, probe to determine the source from which the household obtains the majority of its drinking water. If the source varies by season, record the main source used at the time of interview.

Q. 3: Toilet Facilities

As with Question 2, the purpose of this question is to obtain a measure of the sanitation level of the household, since water supply and toilet facilities are important for disease control and health improvement. A FLUSH toilet is one in which water carries the waste down pipes, whether the water is piped into the toilet or poured in by buckets. A ventilated improved pit (VIP) is a latrine that has been improved by the addition of some kind of construction (usually a pipe) that provides a

route for fumes to escape, other than the hole itself. A traditional PIT TOILET is not ventilated. If the respondent answers that they use the bush, the fields, or a cleared corner of the compound, record NO FACILITY/BUSH/FIELD.

Note that the question asks what toilet facilities most members of the household use, not what facilities the household owns. If the household owns a latrine, but most members use the field, circle '31' for NO FACILITY/BUSH/FIELD.

Q. 4: Fuel for Cooking

Information on the type of fuel used for cooking is collected as another measure of the socioeconomic status of the household. The use of some cooking fuels can also have adverse health consequences. Remember that this question asks about fuel for cooking; not fuel for heating or lighting. BIOGAS includes gases produced by fermenting manure in an enclosed pit. If the household uses more than one fuel for cooking, find out the fuel used most often. If any fuel other than the precoded ones is reported as being the main fuel used for cooking, circle '97' for OTHER and specify the type of fuel in the space provided.

Q. 5 and Q. 6: Household Items

The answers to these questions on ownership of certain items will be used as a rough measure of the socioeconomic status of the household. Read out the item and circle the answer given after each item. If the respondent reports that a household item such as a radio is broken, try to find out how long it has been broken and whether it will be fixed. If the item appears to be out of use only temporarily, circle '1' for YES. Otherwise, circle '2' for NO. Be sure to circle either '1' or '2' for each item. Do not leave any blank.

Q. 7: Ownership of Transportation

As another rough measure of socioeconomic status, we also ask whether any member of the household owns a cell phone, bicycle, motorcycle, or car. Follow the same procedure as in Question 5 in asking about these items. A small child's bicycle is primarily a toy and should not be recorded here.

Return to Cover Page

After you have contacted the household, you will need to write in the result of your visit under INTERVIEWER VISITS. The spaces under (2) and (3) are for recording the results of any callbacks that you may have to make if you cannot contact the household on your first visit. Remember that you must make at least three different attempts to try to obtain an interview with a household.

Descriptions of result codes:

1 = Completed
Enter this code when you have completed the household interview.

2 = Household Absent
This code is to be used only in cases in which no one is home at the first visit and the neighbors say that no one will return for several days or weeks. Since the neighbors may be mistaken, you should

make callbacks to the household to check that no one has returned. In cases in which no one is home and you cannot find out whether they are gone for a few hours or a few weeks, enter Code '5'.

3 = Time and Date Set for Later
If you contact a household but, for some reason, it is not convenient for them to be interviewed then, schedule a callback interview and enter Code '3' on the cover sheet for RESULT of that visit. If there were some extreme circumstances such that the interview is never conducted, you would enter Code '4' for the final result code.

4 = Dwelling Not Found
You should make a thorough search, asking people in the area whether they are familiar with the address or the name of the household head. If you are still unable to locate the structure, you should enter Code '8' as the result for the visit to that household and inform your supervisor.

5 = No Competent Respondent at Home
This code is to be used in cases where the dwelling is occupied, but no one is home. If no one is home when you visit, or if there is only a child or an adult member who is ill, deaf, or mentally incompetent, enter Code '5' as the result of the visit. Try to find out from a neighbor or from the children when a competent adult will be present and include this information in the visit record.

6 = Incomplete Interview
A respondent may be called away during the interview or may not want to answer all the questions at the time you visit. If an interview is incomplete for any reason, you should try to arrange an appointment to see the respondent again as soon as possible to obtain the missing information. Be sure that you record on the cover sheet of the questionnaire that the interview is incomplete by entering Code '6'.

7 = Refused
If the individual with whom you first talk is unwilling to cooperate, ask to speak with another member of the household, such as the household head. Suggest that you can return at another time if it would be more convenient. If the individual still refuses to cooperate, enter Code '7' and report the problem to your supervisor.

8 = Other
There may be times that you cannot interview a household and the above categories do not describe the reason. Examples would be floods or quarantines.

Bottom of Cover Page

At the bottom of the cover page, there is a space for the field editor, office editor, and data entry person to fill in their names.

PROTOTYPE WOMAN'S SAFE MOTHERHOOD QUESTIONNAIRE

Cover Page

The identification information on the Woman's Questionnaire is similar to the identification information on the Household Questionnaire. However, two additional items need to be recorded on the cover page of the Woman's Questionnaire. You must write the eligible woman's name

(NAME OF RESPONDENT) and the line number she was assigned in Column 1 of the Household Census (1).

Informed Consent

The informed consent (Verbal Consent Form) on the Woman's Questionnaire is similar to the informed consent on the Household Questionnaire.

Section 1. Sociodemographic Information

Q. 101: Month and Year of Birth

Questions 101 and 102 must be asked independently of the information on the Prototype Household Safe Motherhood Questionnaire. Even if you already asked the respondent her age when you were completing the Household Questionnaire, you must ask again for her date of birth on the Woman's Questionnaire.

If the respondent knows her date of birth, write it in the appropriate boxes for MONTH and YEAR. You will need to convert the month into numbers. For this, January is '01', February is '02', March is '03', and so on.

If she does not know her month of birth, circle '98' for DON'T KNOW MONTH and ask her for the year of her birth. If she knows the year, write it in the boxes for YEAR. Try under all circumstances to obtain at least the year of birth. If the respondent is unable to provide this information, ask whether she has any documentation such as an identification card, horoscope, or a birth or baptismal certificate that might give her date of birth. Only when it is absolutely impossible to even estimate the year of birth should you circle '9998' for DON'T KNOW YEAR.

Q. 102: Age

In countries that use calendars other than the Gregorian calendar, a conversion chart from one calendar to the other should be included.

You must obtain the respondent's age in completed years, that is, her age at her last birthday. You can record an age for the woman in one of four ways, depending on the type of information you get from the respondent:

1. The woman knows her age.

2. The woman does not know her age, but year of birth is reported in Question 101.

   You may compute her age. If the woman has had her birthday in the current year, subtract the year of birth from the current year. If the woman has not yet had her birthday in the current year, subtract the year of birth from last year. If the woman does not keep track of the time within a year when her birthday falls, it is sufficient to subtract year of birth from the current year.

3. The woman does not know her age, and year of birth is not reported in Question 101.

   You will have to probe to try to estimate her age. There are several ways to probe for age:

- Ask the respondent how old she was when she got married or had her first child, and then try to estimate how long ago she got married or had her first child. For example, if she says she was 19 years old when she had her first child and that the child is now 12 years old, she is probably 31 years old.
- You might be able to relate her age to that of someone else in the household whose age is more reliably known.
- Try to determine how old she was at the time of an important event such as war, flood, earthquake, and change in political regime, and add her age at that time to the number of years that have passed since the event.

4. The woman does not know her age and probing did not help.

   You will have to estimate her age.

Consistency Check: Date of Birth and Age

You must now check the consistency of the reported year of birth (101) and age (102). The woman's age plus her year of birth must equal the year in which she last had a birthday. Do not perform the check until after you have asked Questions 101 and 102.

Finally, before moving on to the next question, verify that the woman is indeed eligible. If the she is younger than 15 or older than 49, you have to end the interview. Do this tactfully by asking two or three more questions and then thank the respondent for her cooperation.

Q. 104: Ever Pregnant

This question serves to learn whether the woman has ever been pregnant. Ask her whether she has ever experienced a pregnancy, no matter the outcome of that pregnancy. Probe to ensure that she has considered any possible pregnancy, including a current pregnancy. If the answer is YES, circle '1'. If the answer is NO, circle '2'.

Q. 105: Current Pregnancy Status

This question serves to learn whether the respondent has ever been pregnant. Ask whether the woman is pregnant at this moment. If the answer is YES, circle '1'. If the answer is NO, circle '2'.

Q. 106: Recent Births

This question serves to learn whether the respondent has recently given birth. Ask whether the woman has had a live birth or stillbirth in the last 24 months. Sometimes women will overlook stillbirths or assume that you are only interested in a birth that resulted in a live baby. It is very important that the woman understand she should say yes if she had a stillbirth in the last 24 months, even if she did not have a birth that resulted in a live baby. If the answer is YES, circle '1'. If the answer is NO, circle '2'.

Q. 107: Ethnicity

Record the woman's response using one of the precoded answers (from the country-specific list of ethnicities). If she reports an ethnic group that is not listed, circle '97' for OTHER and write her answer in the space provided.

Q. 108: Religion

This question determines the woman's religion. If she says that she does not practice any religion or that she is not a member of any religious denomination, then circle '08' for NO RELIGION. If she says that she practices a religion that is not listed, circle '97' for OTHER and write the religion she reports in the space provided.

Q. 109 and Q. 110: Marital Status and Co-Residence

The options here are single, married/in union, widowed, divorced, or separated. Record the respondent's status at the time of the interview. Casual sexual encounters are not included here. For a woman who is not currently married and not currently living with a partner but who was formerly in a union, record her current marital status at the time of the interview. Since she was in a union at one time, but is not on the day that you are interviewing her, she will be widowed, divorced, or separated.

For Question 109, ask whether her partner actually lives with her or whether he lives elsewhere. If the woman's partner usually lives with her but is away temporarily, record YES. For example, if a woman went to live with her boyfriend and his family and has stayed for several years, they would be considered as "living together," whether or not they have any children. On the other hand, if a woman has a boyfriend but has never lived with him, she would be considered single.

Q. 111 and Q. 112: Ever Attended School and Highest Grade Completed

The term "school" means formal schooling, which includes primary, secondary, post-secondary schooling, and any other intermediate levels of schooling in the formal school system, adapted according to the education system in each country. This definition of school does not include Bible school or Koranic school or short courses like typing or sewing. However, it does include technical or vocational training beyond the primary-school level, such as long-term courses in mechanics or secretarial work.

For Question 112, record only the number of grades that the respondent successfully completed in school.

Q. 113 and Q. 114: Literacy

Women who say that they can read either 'EASILY' or 'WITH DIFFICULTY' are asked the subsequent question, whereas those who cannot read skip the following question about reading. Based on your knowledge of the respondent, choose the card with the language in which the respondent is likely to be able to read if she is literate. Show the first sentence on the card to the respondent. Give the respondent enough time to read the sentence; do not rush her. Record whether the respondent was not able to read the sentence at all, was able to read only parts of the sentence, or was able to read the whole sentence. If the respondent asks for the sentences in another language and you were provided a card with sentences in that language, show the respondent the appropriate card. If there is no card with sentences in the language requested, circle '4' and specify the language in the space provided.

Q. 115: Employment

In this question, we are not asking about housework but about other work a woman may do. It often happens that women who sell things, or work on the family farm, will not consider what they

do as work, especially if they do not get paid in cash for the work. If the respondent does not understand what we mean by 'work for which you are paid in cash or in kind,' tell her: "As you know, some women take up jobs for which they are paid in cash or in kind. Others sell things, have a small business, or work on the family or in the family business. Are you currently doing any of these things, or any other work?"

Section 2. Births and Stillbirths

Q. 202 and Q. 203: Months of Pregnancy

For a woman who is currently pregnant, ask how many months pregnant she is. If the woman does not know how many months she has been pregnant, probe to get an estimate. We are interested in completed months of pregnancy. To make sure that you are getting completed months of pregnancy, probe with a question like, "Are you in your X^{th} month of pregnancy?" or "Have you completed your X^{th} month of pregnancy?" Record the answer, writing a zero in the first box, if she has completed nine or fewer months of pregnancy. For example, record '03' for three completed months.

Q. 204 to Q. 208: Live Births and Stillbirths

It is important that you understand which events to include in this section. We want to record the respondent's last natural live births or stillbirths. A live birth is a birth in which the baby was born alive and showed signs of life by crying, breathing, or moving, even if the baby survived for only a few minutes. These births should be recorded even if the baby no longer stays in the household and even if he/she is no longer alive. A baby who was born dead at the end of a pregnancy is a stillbirth. If a pregnancy ended early, it was a miscarriage or abortion. Only live births and stillbirths should be recorded, not miscarriages or abortions. You must not record adopted children or children of the husband/partner to whom the respondent herself did not give birth. Twins count as one pregnancy.

Q. 209 and Q. 210: Timing of Most Recent Birth

Only live births and stillbirths are included here. Do not include miscarriages or abortions. Write the month and year of the birth or stillbirth. If the respondent gives you a year of birth, but does not know the month of birth, probe to try to estimate the month. For example, if she says her daughter was born in 1999 but she doesn't know which month, ask her whether she was pregnant in the dry or wet season, at Christmas or Easter time, during the month of Ramadan, or during some other significant event/season of the year. Convert months to numbers, as explained for Question 202 above.

If the respondent cannot recall the year when the birth or stillbirth occurred, you need to probe carefully. Ask her if she has any documents, such as a birth certificate or immunization record, to see whether a date of birth was recorded. Before entering a date from these documents, check with the respondent to determine whether she believes the date is accurate. If there is no birth certificate or other document for the child, see whether the respondent knows a firm birth date for any other child in the household and relate it to that. For example, if she knows the second child was born in 1985 and the first child was just a year old at that time, enter "1984." You must enter a month and year for all children, even if it is just your best estimate.

Section 3. Knowledge

Q. 301 to Q. 303: Knowledge of Danger Signs during Pregnancy

Question 301 is asked to determine whether the respondent thinks that serious health problems can arise from pregnancy and childbirth. If the respondent does not know, circle '98' for DON'T KNOW.

Question 302 asks women to list the specific danger signs during pregnancy. Note that more than one answer can be given and all responses mentioned should be recorded. If an answer does not seem to fit into one of the categories, ask her what she means and record her answer appropriately. If a danger sign other than the precoded ones is reported, circle '97' for OTHER and specify the danger sign in the space provided.

Question 303 is asked to determine whether the respondent thinks that serious health problems during pregnancy can result in death. For women who know of danger signs in Question 302, ask whether she thinks that any of these problems can kill a woman experiencing them.

Q. 304 and Q. 305: Knowledge of Danger Signs during Labor and Childbirth

Question 304 asks women to list the specific danger signs during labor and childbirth. Note that more than one answer can be given and all responses mentioned should be recorded. If an answer does not seem to fit into one of the categories, ask her what she means and record her answer appropriately. If a danger sign other than the precoded ones is reported, circle '97' for OTHER and specify the danger sign in the space provided.

Question 305 is asked to determine whether the respondent thinks that serious health problems during labor and childbirth can result in death. For women who know of danger signs in Question 304, ask whether they think that any of these problems can kill a woman experiencing them.

Q. 306 and Q. 307: Knowledge of Danger Signs during Postpartum

Question 306 asks women to list the specific danger signs postpartum, that is, the first 48 hours after birth. Note that more than one answer can be given and all responses mentioned should be recorded. If an answer does not seem to fit into one of the categories, ask her what she means and record her answer appropriately. If a danger sign other than the precoded ones is reported, circle '97' for OTHER and specify the danger sign in the space provided.

Question 307 is asked to determine whether the respondent thinks that serious health problems postpartum can result in death. For women who know of danger signs in Question 306, ask whether they think that any of these problems can kill a woman experiencing them.

Q. 308 to Q. 310: Knowledge of Newborn Danger Signs and Newborn Care

Question 308 asks women to list the specific health problems of babies during the first 7 days after birth. Note that more than one answer can be given and all responses mentioned should be recorded. If an answer does not seem to fit into one of the categories, ask her what she means and record her answer appropriately.

Question 309 is asked to determine whether the respondent thinks that serious health problems in a newborn can result in death. For women who know of danger signs in Question 308, ask whether they think that any of these problems can kill a baby experiencing them.

Question 310 asks women to list the specific ways to care for a newborn baby immediately after birth. Note that more than one answer can be given and all responses mentioned should be recorded. Exclusive breastfeeding means that the baby only receives milk from his/her mother's breast. If a baby receives water or any other food or liquid, this is not exclusive breastfeeding. The main purpose of drying and wrapping the baby immediately after birth is to prevent the baby from getting too cold. Drying means wiping the baby with a clean dry cloth. It should NOT include bathing the baby in water.

Eye care for newborn babies immediately after birth includes putting antibiotic drops in the eyes within 2 hours following birth to prevent infection. This is something that a healthcare provider must do. Parents do not get these drops for their babies, but they should know that a healthcare provider should do it. The most important element of umbilical cord care is to keep the cord clean and dry. This means that after the cord is cut, nothing should be put on it. If the cord gets dirty, it should be washed off with water that has been boiled for at least ten minutes and cooled, and left clean and dry again. Leaving the cord outside the diaper as much as possible until it falls off also helps to keep it clean and dry.

Interviewers will have to decide whether what the respondent says matches the descriptions of each kind of basic care closely enough to circle the corresponding response. They may need to probe the respondents to explain what they mean when they say, "take care of the cord," for example.

Q. 311: Recognition of Key Term "Birth Preparedness"

This question allows us to verify whether a respondent has heard of birth preparedness. If there is a local term for birth preparedness, use the local term in addition to the words "birth preparedness." Record whether the woman has ever heard the term "birth preparedness" as it relates to making preparations to seek care from a skilled health provider during childbirth or an emergency during late pregnancy, labor and childbirth, or the early postpartum period.

Q. 312: Planning for Obstetric Emergencies

This question assesses the woman's opinion on making preparations (beforehand) in case she experiences an obstetric emergency. For this question, record the woman's response for all of the precoded answers that she mentions. Do not read the response categories out loud. Note that more than one answer can be given and all responses mentioned should be recorded. If an answer does not seem to fit into one of the categories, ask her what she means and record her answer appropriately. If a response other than the precoded ones is reported, circle '97' for OTHER and write her answer in the space provided.

Q. 313: Knowledge of Community Birth Preparedness

Whereas Question 312 is open ended and asks the respondent to spontaneously mention ways to prepare for birth, these questions prompt the respondent about specific ways in which a community can prepare for a birth.

Section 4. Attitudes and Perceptions

Q. 401 to Q. 411: Knowledge, Attitudes, Perceptions about Childbirth and Healthcare Workers

These questions are concerned with the woman's own opinions, regardless of whether she is currently pregnant or has ever been pregnant. Ask her whether she mostly agrees or disagrees with the statement read and how strongly. Do not reword the statements; read each one slowly and clearly, and repeat if necessary. Make certain that the woman understands that her answer should capture the response that most closely corresponds with her knowledge or opinion. She does not have to entirely agree or disagree with the statement read to her to be able to answer. If she says that she does not know, probe only to make sure that she has understood the statement, but do not force her to answer 'AGREE' or 'DISAGREE'.

For Questions 409 to 411, read each question through once, first beginning with 'doctor,' then beginning with 'nurse,' then 'TBA.' If she says that she does not know, probe only to make sure that she has understood the statement, but do not force her to answer 'YES' or 'NO'.

Section 5. Perceptions of Local Facilities

Q. 501: Knowledge of Place to Give Birth

Ask whether the woman knows of a place where a woman can give birth to her baby with assistance from a health professional, such as a doctor, nurse, or midwife. Record all the places she mentions. If she answers more than one health facility, ask which is the closest to her current residence and record the name on the line provided. If she does not know which of these health facilities is the closest, probe by asking how long it would take to walk to each one or how many kilometers far each one is. If she does not know of any place, circle '98' for DOES NOT KNOW PLACE. If the woman knows of a health facility for giving birth, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

Q. 502 and Q. 503: Transportation to Health Facility

In Question 502, ask the woman what kind of transportation she mainly used to get to the facility. Circle only one response. If the woman mentions more than one mode of transportation, probe and ask her which one was predominantly used.

Question 503 refers to whatever means of transportation the person would generally use, whether it is walking or riding a bicycle or a motor vehicle. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 504 and Q. 505: Ranking of Health Facility Services

In Question 504, ask the woman how she would rank the services in the health facility.

In Question 505, circle all responses the woman gives. Probe for more is she does not state at least three.

Section 6. Personal Experience Related to Last Pregnancy

Sections 6, 7 and 8 pertain to the pregnancy, intrapartum, and postpartum period of the same birth. The pregnancy being asked about in Section 6 is the pregnancy that resulted in the woman's *most recent* birth. If the most recent birth was a stillbirth, then the questions in this section refer to the pregnancy that resulted in that stillbirth.

Q. 602 to Q. 606: Antenatal Care

These questions refer to any antenatal care given by a professional healthcare provider, such as a doctor, nurse, or midwife, during her most recent pregnancy. This is to specifically check her pregnancy and not for other reasons. Antenatal care is usually given at a health facility but is sometimes provided in the pregnant woman's home.

For Question 603, ask the respondent how many times in total she saw someone for antenatal care during her pregnancy.

In Question 604, ask the respondent how many months into her pregnancy she was when she first sought antenatal care. If she does not remember, ask her how many menstrual periods she had missed at the time.

For Question 605, ask the woman whom she first saw for an antenatal checkup of her last pregnancy and whether she saw more than one person during the first visit. For example, the woman may have seen a nurse first and then a doctor during her initial antenatal checkup. In this case, circle NURSE and DOCTOR since she saw two different providers.

In Question 606, ask the respondent how many months into her pregnancy she was when she received her last antenatal examination. It does not matter where the checkup took place or whether the respondent went to get it or the health worker came to her home.

Q. 607 to Q. 615: Discussed Pregnancy with Others

Question 607 asks if *any* health workers discussed the given topics with the respondent at any time.

In Questions 609 to 614, you are asking whether the respondent has discussed the pregnancy with any friends, neighbors, or relatives. It does not matter who initiated the discussion, and it does not matter whether the discussants approved or disapproved of the topics. First ask each sub-question, then ask who the person was that spoke to them about that topic. Probe for any more people that they might have spoken to about the given topic.

Q. 616: Rationale for not Using Antenatal Care

Circle all the reasons the woman gives.

Q. 617 to Q. 619: Problems during Pregnancy

Sometimes a woman can experience serious health problems during late pregnancy, before she goes into labor. Ask the woman about each problem listed separately, carefully probing to ensure that the woman has understood what you have said. Make sure that she is referring to problems occurring during pregnancy and not during labor, childbirth, or after childbirth.

If the woman reports vaginal 'BLEEDING', probe for when during the pregnancy it occurred. This question is concerned with bleeding only in the second half of pregnancy. If she says that she experienced bleeding during the first half of pregnancy, do not mark 'BLEEDING'. If it occurred during the second half of her pregnancy, circle BLEEDING.

Q. 620 and Q. 621: Sought Assistance for Health Problem during Pregnancy

In Question 620, ask whether the woman sought assistance for her most severe pregnancy-related health problem. If she did, skip to Question 622. If she did not, continue to Question 621, which asks why she did not seek any assistance. If she does not know, skip to Section 7.
In Question 621, circle all the reasons that the woman mentions; fill in "OTHER" if necessary and probe for additional reasons by asking her, "Anything else?"

Q. 622: Decision-Making for Pregnancy-Related Problem

All women who experienced a pregnancy-related problem should be asked who mainly made the decision about whether to seek assistance in Question 622. Only one answer should be circled. This question asks who made the 'final' decision on whether to seek or not to seek assistance for the problem. We recognize that decision-making in households can be a complex process. Choose the most appropriate response code after you hear the respondent's answer.

Q. 624 and Q. 625: Care Sought for Pregnancy-Related Problem

We are interested in knowing whether the respondent saw anyone for a pregnancy-related health problem, who provided the healthcare, and where the visit took place. These questions refer to any care given to the woman by a healthcare provider for a health problem related to her pregnancy. Question 624 asks which health facility the woman went to and Question 625 asks whom the woman saw.

In Question 624, mark only one answer by determining which health facility the woman went to first, if she went to more than one. If the woman went to a health facility for assistance with a health problem she felt was related to her pregnancy, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

In Question 625, probe for everyone the woman saw. Ask the woman whether she saw more than one person and record all persons seen.

Section 7. Personal Experience Related to Last Birth

As a reminder, the questions in Section 7 pertain to the birth resulting from the pregnancy discussed in Section 6.

Q. 701: Place of Birth

The purpose of this question is to identify births occurred in a health facility. If the woman gave birth in a health facility, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private,

write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

Q. 702 to Q. 710: Planning for the Birth

These questions assess the woman's preparations (beforehand) for birth. Question 703 asks if plans were made, and Question 704 asks what plans were made.

For Question 704, record the woman's response for all of the precoded answers that she mentions. Do not read the response categories out loud. If a response other than the precoded ones is reported, circle '97' for OTHER and write her answer in the space provided. Probe by asking her "Anything else?"

For Questions 705 to 710, if a preparation had been made, ask if it was used.

Q. 711: Decision-Making about Place of Birth

Where a woman ultimately gives birth to her baby is often out of her control. Thus, this question asks who the main decision-maker was for this birth. Only one answer should be circled. This question asks who made the final decision on where to give birth. We recognize that decision-making in households can be a complex process. If she responds with more than one answer, press her to select the person who was the most responsible. Choose the most appropriate response code after you hear the respondent's answer.

Q. 713: Rationale for Birth in Health Facility

Write the three reasons the woman gives. Probe for more if she does not state three.

Q. 714: Transportation to Health Facility

In Question 714, ask the woman what kind of transportation she mainly used to get to the health facility. Circle only one response. If the woman mentions more than one mode of transportation, probe and ask her which one was predominantly used.

Q. 715: Companion(s) to Health Facility

Ask the woman who accompanied her to the health facility. Probe by asking her, "Anyone else?" Circle all persons she mentions.

Q. 716: Time to Get to Health Facility

This question refers to whatever means of transportation the person generally uses, whether it is walking or riding a bicycle or a motor vehicle. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 717: Time from Admission to Treatment

Because delays can sometimes happen even once a woman reaches a health facility, Question 717 asks the woman to estimate how long she had to wait before being seen by a health professional, from the time that she first arrived at the facility. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 718 and Q. 719: Ranking of Health Facility Services

In Question 718, ask the woman how she would rank the services in the health facility.

In Question 719, circle all the reasons the woman gives. Probe for more.

Q. 721: Rationale for not Using Health Facility

Circle the three reasons the woman gives. Probe for more if she does not state three.

Q. 722: Assistance at Birth

If she is not sure of the status of the person who attended the birth (for example, if she doesn't know whether the person was a midwife or a traditional birth attendant), probe by asking her, "Anyone else?" We want to know who assisted with the birth itself, not who helped in other ways such as boiling water or wrapping the baby in a blanket. Ask the woman whether she saw more than one person and record all persons seen. Do not forget to ask whether any adults were present during the birth if she says that no one assisted her.

Q. 723 and Q. 724: Preferred Assistance at Birth

Ask the woman whether she would have preferred another person to assist her with the birth instead of the person(s) who actually assisted her, and who she would have preferred.

Q. 725: Cesarean Section

Special attention must be paid to the translation of "cesarean section." A cesarean section is a birth of a baby through an incision in the woman's abdomen and womb, rather than through the birth canal. This procedure is necessary for some women due to pregnancy complications. Find out whether the baby was given birth by an operation and not through the birth canal.

Q. 726: Forceps/Vacuum Extraction

It is sometimes necessary to help the baby pass through the birth canal by using special equipment. Vacuum extraction refers to the birth of a baby with the assistance of a cup, which is attached to the baby's scalp by suction. Forceps delivery is a means of guiding the baby out of the birth canal by using a special instrument that consists of two separate dull blades, each with a handle, called obstetric forceps. Circle 'YES' if the woman reports that the childbirth was aided with either vacuum extraction or forceps.

Q. 727 to Q. 729: Problems during Childbirth

Sometimes a woman can experience serious problems during birth. Ask the woman about each problem listed separately, carefully probing to ensure that the woman has understood what you have said. Make sure that she is referring to problems occurring during labor and childbirth and not during pregnancy or after childbirth. If she did not experience any health problems during her pregnancy in Question 727, skip to Section 8. Otherwise, continue with Question 728. Some women may need special explanations on terms such as prolonged labor and other conditions.

Q. 730 to Q. 732: Sought Assistance for Health Problem during Childbirth

In Question 730, determine where the woman was when she developed her most severe problem during childbirth. If the woman had a problem during childbirth while she was already in a health

facility, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

In Question 731, ask whether the woman went somewhere to get assistance for her problem. If she did, skip to Question 733. If she did not, continue to Question 732, which asks why she did not seek any assistance. If she does not know, skip to Section 8.

In Question 732, circle all the reasons that she mentions; fill in "OTHER" if necessary and probe for additional reasons by asking her, "Anything else?"

Q. 733 to Q. 734: Decision-Making for Assistance

All women who experienced a health problem during childbirth should be asked who made the final decision about whether to seek assistance in Question 733. Only one answer should be circled. This question asks who made the final decision on whether to go or not to go somewhere for assistance to give birth. We recognize that decision-making in households can be a complex process. Choose the most appropriate response code after you hear the respondent's answer.

If the answer for Question 734 is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 736: Care Sought for Problem during Childbirth

We are interested in knowing where the respondent went to seek assistance for a problem she experienced during childbirth. Determine which health facility the woman went to first, if she went to more than one. If the woman went to a health facility for assistance with a problem, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

Q. 737: Companion(s) to Health Facility

Ask the woman who accompanied her to the health facility. Probe by asking her, "Anyone else?" Circle all persons she mentions.

Q. 738 and Q. 739: Transportation to Health Facility

These questions refer to whatever means of transportation the person used, whether it is walking or riding a bicycle or a motor vehicle. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 740: Time from Admission to Treatment

Because delays can sometimes happen even once a woman reaches a health facility, Question 821 asks the woman to estimate how long she had to wait before being seen by a health professional, from the time that she first arrived at the health facility. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 741: Care Sought for Health Problem during Childbirth

We are interested in knowing whom the respondent saw for a health problem she experienced during childbirth. This question refers to any care given by a healthcare provider during the birth. Ask the woman whether she saw more than one person and record all persons seen.

Section 8. Personal Experience Related to Last Birth—Postpartum

As a reminder, the postpartum period discussed in Section 8 is the postpartum period following the birth discussed in Section 7.

Q. 801 to Q. 804: Postpartum Care

Getting postpartum care soon after giving birth is crucial for the health of the woman. We are interested in knowing whether the respondent had a postpartum checkup with a healthcare provider, how many days or weeks after the birth the first checkup took place, who performed it, and where it took place. This visit could be in response to a problem, or just for a routine checkup. Here, we are asking only about postpartum care for the mother. If someone checked on the health of the baby, but not the mother, that visit would not be included. If the birth took place in a health facility and the mother received a postpartum checkup in the health facility before being discharged, this would also be considered postpartum care.

In Question 802, if the respondent answers in HOURS, circle '1' and fill in the number of hours in the boxes provided. If she answers in DAYS, circle '2' and fill in the number of days. If she answers in WEEKS, circle '3' and fill in the number of weeks in the boxes provided. Remember to write a zero in front of numbers less than ten. If she does not know when she first received postpartum care, circle '98.'

Question 803 refers to the first healthcare visit to the mother after the birth, so multiple answers are not allowed.

For question 804, record all persons who checked on the woman's health. Probe by asking, "Anyone else?"

Q. 806: Rationale for not Receiving Postpartum Care for the Woman

Write the reasons the woman gives.

Q. 807 to Q. 809: Postpartum Problems for the Woman

Sometimes a woman can experience serious health problems after giving birth. Ask the woman about each problem listed separately, carefully probing to ensure that the woman has understood what you have said. Make sure that she is referring to problems occurring postpartum and not during pregnancy, labor, or childbirth. If she did not experience any health problems after giving birth in Question 807, skip to Question 822. Otherwise, continue with Question 808.

Q. 810 to Q. 812: Sought Assistance for Postpartum Health Problem

In Question 810, determine where the woman was when she developed her most severe health problem. If the woman had a postpartum problem while she was in a health facility, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your

supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

In Question 811, ask whether the woman went somewhere else to get assistance for her health problem. If she did, skip to Question 813. If she did not, continue to Question 812, which asks why she did not seek any assistance. If she does not know, skip to Question 822.

In Question 812, circle all the reasons that she mentions; fill in "OTHER" if necessary and probe for additional reasons by asking her, "Anything else?"

Q. 813 and Q. 814: Decision-Making for Assistance

All women who experienced a serious health problem after birth should be asked who made the final decision about whether to seek assistance in Question 813. Only one answer should be circled. This question asks who made the final decision on whether to go or not to go somewhere for assistance. We recognize that decision-making in households can be a complex process. Choose the most appropriate response code after you hear the respondent's answer.

If the answer for Question 814 is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 815 to Q. 816: Care Sought for Postpartum Health Problem

We are interested in knowing where the respondent went to seek care for a postpartum health problem. This question refers to any care given by a healthcare provider for a health problem the woman had after giving birth. In Question 815, determine which health facility the woman went to first, if she went to more than one. If the woman went to a health facility for assistance with a problem, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

Q. 817: Companion(s) to Health Facility

Ask the woman who accompanied her to the health facility. Probe by asking her, "Anyone else?" Circle all persons she mentions.

Q. 818 and Q. 819: Transportation to Health Facility

These questions refer to whatever means of transportation the person used, whether it is walking or riding a bicycle or a motor vehicle. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

For Question 819, determine how long it took the woman to reach the health facility after transport arrived. Record the answers as explained above.

Q. 820: Time from Admission to Treatment

Because delays can sometimes happen even once a woman reaches a health facility, Question 820 asks the woman to estimate how long she had to wait before being seen by a health professional,

from the time that she first arrived at the facility. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 821: Care Sought for Postpartum Health Problem

We are interested in knowing whom the respondent saw for a health problem she experienced after giving birth. This question refers to any care given to the woman by a healthcare provider after birth. Ask the woman whether she saw more than one person and record all persons seen.

Q. 823 to Q. 826: Newborn Healthcare

If the woman's last birth was a multiple birth, ask this set of questions about the *last* baby that was born.

All newborn babies should receive care from a healthcare provider shortly after birth. We are interested in knowing whether the baby had a checkup with a healthcare provider, how many days or weeks after the birth the first checkup took place, who performed it, and where it took place. This visit could be in response to a problem, or just for a routine checkup. Here, we are asking only about healthcare for the baby. If someone checked on the health of the mother, but not the baby, that visit would not be included. If the birth took place in a health facility and the baby received a newborn checkup in the health facility before being discharged, this would also be considered newborn healthcare.

In Question 824, if the respondent answers in HOURS, circle '1' and fill in the number of hours in the boxes provided. If she answers in DAYS, circle '2' and fill in the number of days. If she answers WEEKS, circle '3' and fill in the number of weeks in the boxes provided. Remember to write a zero in front of numbers less than ten. If she does not know when the baby first received healthcare, circle '98.'

Question 825 refers to the baby's first healthcare visit after the birth, so multiple answers are not allowed.

For question 826, record all persons who checked on the baby's health. Probe by asking, "Anyone else?"

Q. 828: Rationale for not Receiving Postpartum Care for the Newborn

Write the reasons the woman gives.

Q. 829 to Q. 831: Breastfeeding Habits

For Questions 829 to 830, ask the respondent if the baby was breastfed, how long after birth he/she was first breastfed. Question 831 asks whether the mother gave the first liquid that came from her breasts, known as colostrum, to the baby. This liquid may have a special name in the local language.

Q. 832 to Q. 834: Newborn Health Problems

Sometimes a baby can experience a serious health problem after birth. Ask the woman about each problem listed separately, carefully probing to ensure that the woman has understood what you have said. Make sure that she is referring to problems occurring in the newborn. If the baby did not experience any health problems, skip to Section 9 (Personal Experience with Current Pregnancy).

Q. 835 to Q. 837: Sought Assistance for Newborn Health Problem

In Question 835, determine where the baby was when he/she developed his/her most severe health problem. If the problem with the newborn occurred while the mother and baby were in a health facility, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

In Question 836, ask whether the woman went somewhere else to seek assistance for the baby's problem. If she did, skip to Question 838. If she did not, continue to Question 837, which asks why she did not seek any assistance. If she does not know, skip to Section 9.

In Question 837, circle all the reasons that she mentions; fill in "OTHER" if necessary and probe for additional reasons by asking her, "Anything else?"

Q. 838 to Q. 839: Decision-Making for Assistance

All women whose babies experienced a health problem after birth should be asked who made the final decision about whether to seek assistance in Question 838. Only one answer should be circled. This question asks who made the final decision on whether to take or not to take the baby somewhere for assistance. We recognize that decision-making in households can be a complex process. Choose the most appropriate response code after you hear the respondent's answer.

If the answer for Question 839 is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 841: Care Sought for Newborn Health Problem

We are interested in knowing where the respondent went to seek assistance for the newborn's health problem. This question refers to any care given by a healthcare provider to the newborn for a health problem. If they went to more than one place to seek care, in Question 841, determine which health facility the woman and baby went to first. If the woman went to a health facility for assistance with the newborn's health problem, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

Q. 842: Companion(s) to Health Facility

Ask the woman who accompanied her baby to the health facility. Probe by asking her, "Anyone else?" Circle all persons she mentions.

Q. 843 and Q. 844: Transportation to Health Facility

These questions refer to whatever means of transportation the person used, whether it is walking or riding a bicycle or a motor vehicle. Question 843 asks how much time passed between the moment a decision to seek care was made and the moment when the transportation was ready to take the woman and her baby to a health facility. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

For Question 844, determine how long it took the woman and baby to reach the health facility, from the time they left to the time they arrived.

Q. 845: Time from Admission to Treatment

Because delays can sometimes happen even once a woman and baby reach a health facility, Question 845 asks the woman to estimate how long they had to wait before her baby was seen by a health professional, from the time that she first arrived at the health facility. If the answer is less than 2 hours, circle '2' and record the answer in minutes. Otherwise, circle '1' and record the answer in hours.

Q. 846: Care Sought for Newborn Health Problem

We are interested in knowing whom the respondent brought her baby to see for the baby's health problem. This question refers to any care given to the newborn by a healthcare provider. Ask the woman whether more than one person attended to her baby and record all persons seen.

Section 9. Personal Experience with Current Pregnancy

Q. 902 to Q. 907: Antenatal Care

These questions refer to any antenatal care given to the woman by a professional healthcare provider, such as a doctor, nurse, or midwife, during pregnancy. This is to specifically check her pregnancy and not for other reasons. Antenatal care is usually given at a health facility but is sometimes provided in the pregnant woman's home.

For Question 903, ask the respondent how many times in total she has seen someone for antenatal care during her pregnancy.

In Question 904, ask the respondent how many months into her pregnancy she was when she first received antenatal care. If she does not remember, ask her how many menstrual periods she had missed at the time.

For Question 905, ask the woman whom she first saw for an antenatal checkup of her current pregnancy and whether she saw more than one person during the first visit, and record all persons seen.

In Question 906, ask the woman how many times in total she intends to go for antenatal care during her pregnancy.

Q. 907 to Q. 914: Discussed Pregnancy with Others

Question 907 asks if *any* health workers discussed the given topics with the respondent at any time. In Questions 908 to 914, you are asking whether the respondent has discussed the pregnancy with any friends, neighbors, or relatives. It does not matter who initiated the discussion or whether those discussing approved or disapproved of the topics. First ask each question, and then ask who was the person that spoke to them about that topic. For example, in Question 909, ask the woman if she spoke with anyone outside of a health facility about where to go if she experienced danger signs of serious health problems. If the woman responds yes, circle 'YES' and then ask her whom she spoke with and record all responses. Probe for any more people the respondent might have spoken to. If she says no or does not know, circle the respective answer and continue to Question 910 and the following questions.

Q. 916: Rationale for not using Antenatal Care

Circle all the reasons the woman gives.

Q. 917 and Q. 918: Planning for the Birth

These questions assess the woman's preparations (beforehand) for birth. Question 917 asks if plans were made, and Question 918 asks what plans were made.

For Question 918, record the woman's response for all of the precoded answers that she mentions. Do not read the response categories out loud. If a response other than the precoded ones is reported, circle '97' for OTHER and write her response in the space provided. Probe by asking her, "Anything else?"

Q. 919: Expected Place of Birth

We are interested in knowing whether the respondent plans to give birth in a certain place. Ask the woman about where she expects to give birth to this baby. If the woman plans on a health facility for giving birth, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code. Circle only one response. If she says that she does not know, skip to Question 921; otherwise continue with Question 920.

Q. 920: Decision-Making about Birth Facility

This question asks who made the final decision on where to give birth. Only one answer should be circled. We recognize that decision-making in households can be a complex process. If the woman responds with more than one answer, press her to select the person who was the most responsible. Choose the most appropriate response code after you hear the respondent's answer.

Q. 921: Expected Birth Attendant

Ask the woman about who she expects will deliver this baby. Probe for multiple responses. Ask the woman whether she plans to see more than one person and record all persons.

Q. 922: Decision-Making about Birth Attendant

Where a woman ultimately gives birth to her baby is often out of her control. Thus, this question asks who the main decision-maker was for this birth. Only one answer should be circled. This question asks who made the final decision on where to give birth. We recognize that decision-making in households can be a complex process. If she responds with more than one answer, press her to select the person who was the most responsible. Choose the most appropriate response code after you hear the respondent's answer.

Q. 923 and Q. 924: Preference for Assistance at Birth

We want to know whom she prefers to assist with the birth itself, not to help in other ways such as boiling water or wrapping the baby in a blanket. Do not forget to ask whether she prefers any adults to be present during the baby's birth if she says no one.

Q. 925 and Q. 926: Postpartum Care

We are interested in knowing whether the respondent plans to see anyone for a postpartum checkup and where the checkup will take place. If the woman wants to go to a health facility for postpartum care, ask whether the place is in the public (run by the government) or private sector. If the respondent does not know whether the place is run by the government or is private, write the name of the place and tell your supervisor. Your supervisor will learn from other people in the community whether the place is public or private and then circle the appropriate code.

For Question 925, if she is nor planning to see anyone for a postpartum checkup, skip to Section 10.

Section 10. Media

Q. 1002 and Q. 1003: Newspaper/Magazine Reading

The purpose of these questions is to find out whether the respondent is exposed to influences outside her local community by means of reading newspapers or magazines. It does not matter what type of articles she reads, in what language she reads, or who buys the newspapers or magazines she reads. The question is simply whether she usually reads them and how often she reads them. Make sure that you read the entire question before accepting her answer.

Q. 1004 to Q. 1008: Radio Listening

If there is any doubt as to whether she listens almost every day, use your judgment. For example, if she says, "I listen almost every day, but during the planting season, I'm away and I don't listen at all," record ALMOST EVERY DAY, since she usually listens almost every day. It does not matter who owns the radio and what program she listens to.

Q. 1009 to Q. 1013: Television Watching

As with the other questions in this section, the purpose is to get an idea of how much exposure the respondent has to influences outside her place of residence. It does not matter who owns the television set and what program she watches.

Q. 1014 and Q. 1015: Appropriate Sources for Birth Preparedness Messages

Multiple responses are possible for these questions. Circle all responses given and probe for any additional sources.

Section 11. Exposure to Media Interventions

Q. 1101 to Q. 1103: Heard Birth Preparedness Message

"Healthy pregnancy" should be presented as an alternative to the term "birth preparedness." We are interested in any information the woman has heard or read about birth preparedness, whether it is a program concerned with giving information about birth preparedness, an advertisement about birth preparedness, or a speech in which birth preparedness is mentioned.

Multiple responses are possible for Question 1102. Circle all responses given and probe for any additional sources.

It may be necessary to train interviewers extensively in the use of the matrix for Question 1103. First, ask for examples of messages the woman heard, saw, or read and probe for more. Then ask

what was the source of each message. Probe for any additional sources from which the woman might have gotten the given message.

Q. 1104 and Q. 1105: Discussed Birth Preparedness Messages with Others

In Question 1104 you are asking whether the respondent has discussed the messages with any friends, neighbors, or relatives. It does not matter who initiated the discussion or whether those discussing approved or disapproved of the messages. If the woman responds yes to Question 1104, circle 'YES' and ask her in Question 1105 to specify with whom she discussed the messages. Then record all answers given.

Q. 1106 and Q. 1107: Actions Taken Related to Birth Preparedness Messages

Multiple responses are possible for Question 1107. Circle all responses given and probe for any additional sources.

Section 12. Participation in Community Interventions

Q. 1201 to Q. 1203: Participated in Community Interventions

"Healthy pregnancy" should be presented as an alternative to the term "birth preparedness." Response categories will be dependent on the setting.

Multiple responses are possible for Question 1202. Circle all responses given and probe for any additional sources.

It may be necessary to train interviewers extensively in the use of the matrix for Question 1203. First, ask for examples of messages the woman has learned through this kind of activities and probe for more. Then ask what was the source of each message. Probe for any additional sources from which the woman might have gotten the given message.

Q. 1204 and Q. 1205: Discussed Community Interventions with Others

In Question 1204 you are asking whether the respondent has discussed the community interventions with any friends, neighbors, or relatives. It does not matter who initiated the discussion or whether those discussing approved or disapproved of the interventions. If the woman responds yes to Question 1204, circle 'YES' and ask her in Question 1205 to specify with whom she discussed the messages. Then record all answers given.

Q. 1206 and Q. 1207: Actions Taken Related to Interventions

Multiple responses are possible for Question 1207. Circle all responses given and probe for any additional sources.

Interviewer's Observations

After you have checked over your questionnaire and thanked the respondent, note any comments on the last page. You may make comments about the woman you interviewed, about specific questions on the questionnaire, or about any other aspects of the interview. If anything about the interview was unusual or should be brought to the attention of the editor or supervisor, note it here. Even if the interview was straightforward, a few comments on each interview will be helpful in editing and processing the questionnaires. For example, if a respondent attended school in a

different country that had a different system for dividing grades into primary and secondary, note that here. You may wish to explain why a result code was other than '1'. If answers that were not precoded require further explanation, use this space as well. These comments are extremely helpful to the editor, supervisor, and data processing staff in interpreting the information in the questionnaire.

SAMPLE TABLES FOR A TABULATION PLAN FOR THE PROTOTYPE WOMAN'S SAFE MOTHERHOOD QUESTIONNAIRE

This set of 11 tables (**Table 2-4** to **Table 2-14**) illustrates what researchers could construct with one round of the survey. If a program implements the survey twice to show change over time, researchers would compare identical tables from each round of the survey, baseline and followup. If a program collects data from control and experimental areas, researchers could show both of those numbers within these tables.

Table 2-4. Percentage of Women Who Named Serious Health Problems that Can Occur during Labor and Childbirth, and Percentage Who Believe These Problems Can Be Fatal, by Background Characteristics

Background Characteristic	Believe Problems Can Be Fatal	Health Problems Named*										No.
		Severe Bleeding	Severe Headache	Convulsions	High Fever	Loss of Conscious-ness	Labor > 12 Hours	Retained Placenta	Other	None	Don't Know	
Age												
< 30												
30+												
Education												
None												
Primary												
Secondary+												
Birth/Stillbirth												
Never												
Last 2 Years												
Prior to Last 2 Years												
Total												

* Percentages may total more than 100 because some respondents gave multiple responses.

Table 2-5. Percentage of Women Who Strongly Agree or Agree with Selected Statements about Safe Motherhood, by Background Characteristics

Background Characteristic	Percentage Who Strongly Agree or Agree That:					No.
	A woman should plan ahead of time…		When women do not go to a health facility to give birth, it is mainly because…			
	…where she will give birth to her baby	…how she will get to the place where she will give birth	…it is too expensive	…it is too difficult to get there	…the staff there do not treat women respectfully	
Age						
< 30						
30+						
Education						
None						
Primary						
Secondary+						
Birth/Stillbirth						
Never						
Last 2 Years						
Prior to Last 2 Years						
Total						

Table 2-6. Among Women Who Know a Place Where a Woman Can Give Birth with Skilled Assistance and Who Ranked the Closest Such Facility as 'Poor', Percentage Who Cited Specific Reasons for that Ranking*, by Type of Facility

Type of Facility	Doctor Often Absent	Facility Often Closed	Staff Don't Answer Questions	Facility Doesn't Have Medicines	Long Wait	Staff Treat Clients Poorly	Other	Don't Know	No.
Government Hospital									
Government Health Center									
Other Government Facility									
Private Hospital									
Private Maternity Center									
Other Private Facility									
Home									
Other									
Total									

* Percentages may total more than 100 because some respondents gave multiple responses.

Table 2-7. Among Women Who Had a Live Birth/Stillbirth in the 24 Months Prior to the Survey, Percentage Who Received Antenatal Care and Percentage Distribution by Months Pregnant at First Visit and Total Number of Visits, by Background Characteristics

Background Characteristic	Received Antenatal Care	Months Pregnant at First Visit				Total Number of Visits				Total	No.
		1–3	4–6	7+	DK	1	2-3	4+	DK		
Age											
< 30										100%	
30+										100%	
Education											
None										100%	
Primary										100%	
Secondary+										100%	
Total										100%	

Table 2-8. Among Women Who Had a Live Birth/Stillbirth in the 24 Months Prior to the Survey, Percentage Who Made Any Arrangements for the Birth and Types of Arrangements Made, by Background Characteristics

Background Characteristic	Woman or Family Made Any Arrangements	Arrangements Made*					No.
		Identified Transportation	Identified or Saved Money	Identified a Blood Donor	Identified a Skilled Provider	Other	
Age							
< 30							
30+							
Education							
None							
Primary							
Secondary+							
Total							

* Can be broken down by prompted and unprompted responses.

Table 2-9. Among Women Who Had a Live Birth/Stillbirth in the 24 Months Prior to the Survey, Percentage Who Had the Following Types of Birth Assistance, by Background Characteristics and Arrangements Made*

Background Characteristic	Doctor	Nurse/ Midwife	Clinical Officer	TBA	Community Health Worker	Friend/ Relative	Other	No.
Age								
< 30								
30+								
Education								
None								
Primary								
Secondary+								
Arrangements								
Made Any								
Made None								
Total								

* Percentages may total more than 100 because some respondents gave multiple responses.

Table 2-10. Among Women Who Had a Live Birth/Stillbirth in the 24 Months Prior to the Survey, Percentage Who Experienced a Birth-Related Health Problem within 2 Days after Birth, by Background Characteristics

Background Characteristic	Health Problem Experienced*												
	Severe Bleeding	Severe Headache	Blurred Vision	Convulsions	Swollen Hands/ Face	High Fever	Vaginal Discharge	Loss of Consciousness	Difficulty Breathing	Severe Weakness	Other	Any Postpartum Complication	No.
Age													
< 30													
30+													
Education													
None													
Primary													
Secondary+													
Total													

* Can be broken down by prompted and unprompted responses.

Table 2-11. Among Women Who Gave Birth in the 24 Months Prior to the Survey, Percentage Whose Babies Had a Health Check and Timing of Check, by Place of Birth

Place of Birth	Received Health Check	Baby Received Health Check from:		Time between Birth and Health Check:				
		Health Professional*	Other**	< 1 Day	2-3 Days	4+ Days	DK	Total
Government Hospital								100%
Government Health Center								100%
Other Government Facility								100%
Private Hospital								100%
Private Maternity Center								100%
Other Private Facility								100%
Home								100%
Other								100%
Total								100%

* Doctor, nurse, midwife

** TBA, community health worker, relative/friend, other

Table 2-12. Among Women Who Are Currently Pregnant, Percentage Who Received Antenatal Care by First Person Seen and, Among Those With Antenatal Care, Percentage Advised about Various Topics, by Months Pregnant

Background Characteristic	First Person Seen					Advised about						No.
	Doctor	Nurse/ Midwife	Clinical Officer	Other*	DK	Danger Signs	Where to Go For Problems	Where to Give Birth	Trans-port	Blood Donor	Skilled Provider	
Months Pregnant												
1–-3												
4–-6												
7+												
DK												
Total												

* TBA, community health worker, relative/friend, other

Table 2-13. Percentage Distribution of Women by Media Exposure, According to Background Characteristics

	Age		Education		
	< 30	**30+**	**None**	**Primary**	**Sec +**
Reads a Newspaper or Magazine					
Almost every day					
At least once a week					
< Once a week					
Other					
Never					
Cannot read					
Listens to the Radio					
Almost every day					
At least once a week					
< Once a week					
Other					
Never					
Watches Television					
Almost every day					
At least once a week					
< Once a week					
Other					
Never					
Lives in HH with Radio					
Lives in HH with TV					
Total Number	100%	100%	100%	100%	100%

Table 2-14. Percentage of Women Who Have Seen, Heard, or Read about Birth Preparedness in Last 6 Months and Source(s) of Information, by Background Characteristics

Background Characteristic	Heard About BP	Saw, Heard, or Read about Birth Preparedness in Last 6 Months						
		Source(s) of Information*						
		Radio	TV	Written Sources	Interpersonal Sources	Other	Don't Remember	No.
Age								
< 30								
30+								
Education								
None								
Primary								
Secondary+								
Birth/Stillbirth								
Never								
Last 2 Years								
Prior to Last 2 Years								
Total								

* Percentages may total more than 100 because some respondents gave multiple responses.

FAMILY-LEVEL INDEX

RECOMMENDATIONS FOR ADAPTING THE PROTOTYPE WOMAN'S SAFE MOTHERHOOD QUESTIONNAIRE TO FAMILIES (HUSBANDS/PARTNERS)

As discussed previously in this manual, husbands or partners as well as other family members are key decision-makers on elements of birth preparedness and complication readiness (BP/CR), including everything from what preparations the family will make for birth, for example saving money, to where and with whom the woman should plan to deliver, to whether, when and where the family should take a women or newborn for emergency care.

For substantive and logistical reasons, researchers generally select the husbands/partners of the women who fall into their sample for the household survey of women who are currently pregnant or have recently given birth. If they choose, researchers can then conduct additional statistical analysis to match the responses from husbands/partners and their wives to gain a deeper understanding of the dynamics related to BP/CR.

In adapting the Prototype Woman's Safe Motherhood Questionnaire to husbands/partners, or even other family members, implementers have several options open to them. One option is to leave the Woman's Questionnaire largely intact while making changes to the wording of the questions and introductory passages from "you" to "your wife/partner" where applicable. A second option is to use very abbreviated version of the questionnaire containing only the demographic questions and the sections necessary to measure the indicators on the Family-Level (Husband/Partner) Index, that is, Sections 3 and 9. Sections 4 and 5 may also be useful, and do not require any changes to apply to husbands/partners. Option three would be something in between these two approaches selecting questions suitable to the intervention.

The following paragraphs provide some recommendations for adapting each section of the Prototype Woman's Safe Motherhood Questionnaire in this manual for use with family members, especially husbands and/or partners, under each of these scenarios.

Section 1. Sociodemographic Information

Guidelines for this section are the same regardless of which option implementers choose.

Q. 101–102: Do not change the wording.

Q. 103–106: Change the wording to apply to the husband/partner.
For example:
Question 103 "CHECK THIS HUSBAND'S/PARTNER'S LINE IN THE HQ."
Question 104 "Has your wife/partner ever been pregnant in the past?"

Q. 107–108: Do not change the wording.

Q. 109–110: Remove these questions.

Q. 111–115: Do not change the wording.

Q. 116–117: Add these questions. For Question 116, the implementing team will need to develop a list of pre-coded responses for occupation appropriate to the setting. Question 117 is appropriate only in polygynous societies.

Q. #	QUESTION	CODES	GO TO Q.
116	What is your occupation, that is, what kind of work do you mainly do?	_____ _____	
117	Do you currently have one wife or more than one wife?	**ONE** ..... **1** **MORE THAN ONE** **2**	

Section 2. Births and Stillbirths

Since the woman herself is a much stronger source of information about the births she has experienced, Section 2 would be completely removed from the questionnaire for use with husbands/partners in most circumstances. This section (or any part of it) would be retained only if implementers wish to ask husbands/partners about newborn care received and assistance sought for newborn complications (Questions 822 to 846 in the Prototype Woman's Safe Motherhood Questionnaire). In this event, implementers need to keep the questions to ascertain whether the most recent birth was a stillbirth.

Q. #	QUESTION	CODES	GO TO Q.
201	CHECK 107: WIFE/PARTNER HAS GIVEN BIRTH IN THE LAST 24 MONTHS? YES ☐ ↓	NO ☐ ----------	→**Next Sec.**
202	Did your wife's most recent birth result in a baby that was born alive or dead (that is, a baby who never cried or showed any signs **of life)?** IF LIVE BIRTH: In what month and year did your wife/partner's most recent birth occur? IF STILLBIRTH: In what month and year did your wife/partner's last such birth occur?	**LIVE BIRTH** .....**01** **MONTH** ..... ☐☐ **YEAR** ..... ☐☐ **STILLBIRTH** .....**02** **MONTH** ..... ☐☐ **YEAR** ..... ☐☐	

Section 3. Knowledge

Under all three options, implementers should use this section in its entirety. The husband/partner should have knowledge of danger signs of obstetric complications because he may be the deciding factor in seeking care, especially if his wife/partner is incapacitated. He is also instrumental in promoting his wife's/partner's knowledge of BP/CR as well as that of the wider community. No wording changes are needed to adapt this section for use with husbands/partners or other family members. Several questions in this section provide data to measure indicators on the Family-Level (Husband/Partner) Index.

Section 4. Attitudes and Perceptions, and Section 5. Perceptions of Local Facilities

Attitudes and perceptions about birthing practices and local health facilities among husbands or partners are important determinants of decisions they may make about accessing care. The authors recommend that implementers include both of these sections when adapting the Woman's Questionnaire. No changes are needed to the wording of any of the questions.

Section 6. Last Pregnancy, Section 7. Last Birth, and Section 8. Last Postpartum Period

These sections ask about the events surrounding the woman's last birth. If the woman's last birth was a stillbirth, then these sections refer to the pregnancy, intrapartum and postpartum period pertaining to that stillbirth. Most of the questions are objective rather than subjective. That is, they ask about facts, things that did or did not happen, rather than feelings, perceptions or opinions that may differ from person to person. Because the woman has already reported on these facts, asking her husband or partner to report again on the same facts may not generate any new information. In addition, in some cultures men have little involvement in matters related to childbirth, may not have been present, and therefore may not be able to answer many of the questions. For these reasons, the authors advise those implementers choosing the most abbreviated approach, the third option, to remove these three sections from the questionnaire for husbands/partners.

On the other hand, when responses on the same fact differ between a husband/partner and wife, having asked these questions to the woman's husband or partner can provide new, meaningful information that may help build a deeper understanding of family dynamics related to BP/CR. If a woman is having labor pains, or is incapacitated due to a complication, her husband/partner or other family member may be a better source of information for some of the questions than the woman herself. Furthermore, an in depth examination of those areas in which women and their husbands or partners are more likely to provide conflicting, or discordant, answers may highlight areas in which men's and women's involvement with BP/CR differs, but this effort is more useful as a research endeavor than in tracking levels of BP/CR

In order to make the process of collecting information on past events from husbands/partners worthwhile, that is, in order to understand what new information it provides, researchers must conduct an additional phase of data analysis during which data analysts match the responses of women to those of their husbands/partners for each question to identify discordance. In addition, in the event that responses are discordant on key indicators such as place of birth or birth attendant, researchers must write a set of rules dictating whose response is more credible for purposes of calculating the indicator, and they must have some evidence to back up the reasons for their decision.

The authors feel that unless implementers are able to make the extra investment in time and analytical expertise, there is little benefit to asking many of the questions in Sections 6, 7, and 8 to husbands/partners or other family members. For implementers willing to make this extra effort, below are some loose guidelines on selecting questions that may be most useful to ask the husband/partner as well as some specific instructions on how to change wording of questions and response codes. For questions not listed, there is no strong recommendation either to remove or retain them.

Section 6. Personal Experience Related to Last Pregnancy

Q. 601: Retain to keep the proper skip pattern.
Q. 602–607, Q. 614–615: Users may chose to remove these questions since women may be more involved in and know more about their routine antenatal care than their husbands/partners. During pretests of a question similar to **Question 605** in Tanzania and Kenya, male respondents found it very difficult to report on the specific cadre of health professional. For this reason, the categories of professional attendant should be collapsed into one. See below. Questions 604 and 607 may be least relevant to husbands/partners.

Q. #	QUESTION	CODES	GO TO Q.
605	Whom did you first see for a checkup on this pregnancy? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	**HEALTH PROFESSIONAL..... 01** **OTHER PERSON** **TBA..... 02** **COMMUNITY HEALTH WORKER..... 03** **RELATIVE/FRIEND..... 04** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW/DON'T REMEMBER..... 98**	

Q. 608–614: These questions should be retained as they relate to the husband or partner's communication with others about BP/CR. Keep the wording the same. In this case, "you" applies to the husband/partner. Do NOT change the wording so that the husband/partner reports on people his wife/partner spoke to.

Q. 617–625: It may be useful to ask the husband/partner his recollection of problems during pregnancy, especially who made decisions about whether to seek care and why. **Please note for Question 619**, that if the woman experienced more than one serious problem, she and her husband/partner may differ on which was most severe. If the answers for Question 619 differ between a woman and her partner, Questions 620 to 625 apply to different events, and it is not valid to compare responses. For **Questions 621 to 622**, response codes should be changed so that each code refers to the same people as in the Woman's Questionnaire. See below. For **Question 625**, health professional categories should be collapsed into one. See response codes for Question 605 above.

Q. #	QUESTION	CODES	GO TO Q.
621	Why did you not seek assistance for this problem? Anything else? PROBE FOR OTHER REASONS AND RECORD ALL MENTIONED	**WIFE DIDN'T THINK NECESSARY ..... 01** **RESPONDENT/FAMILY DIDN'T THINK NECESSARY ..... 02** **FACILITY TOO FAR ..... 03** **NO TRANSPORT ..... 04** **NO CHILDCARE ..... 05** **TOO EXPENSIVE ..... 06** **SERVICES ARE POOR ..... 07** **USED HOME REMEDY ..... 08** **DID NOT KNOW WHERE TO GO ..... 09** **NO TIME TO GO ..... 10** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	
622	Who mainly made the final decision about whether or not to seek assistance for this problem?	**NO ONE ..... 01** **RESPONDENT'S WIFE ..... 02** **RESPONDENT & WIFE ..... 03** **RESPONDENT ..... 04** **RESP.'S MOTHER-IN-LAW ..... 05** **RESP.'S FATHER-IN-LAW ..... 06** **MOTHER ..... 07** **FATHER ..... 08** **SISTER/SISTER-IN-LAW ..... 09** **OTHER MEMBER OF WIFE'S FAM ..... 10** **OTHER MEMBER OF RESP.'S FAM ..... 11** **FRIEND/NEIGHBOR ..... 12** **HEALTH PROFESSIONAL ..... 13** **TBA ..... 14** **OTHER _____ 97** **(SPECIFY)** **DON'T KNOW 98**	

Note about Wording Changes: Change "you" to "your wife/partner" in all questions except Questions 608 to 614, as noted above.

Section 7. Personal Experience Related to Last Birth

Q. 701, Q. 702, Q. 711, Q. 720, Q. 721: These questions refer to place of birth, planned place of birth, and reasons for selecting the place for the birth. Users may choose to cut these questions since the woman has already provided information on place of birth. Alternatively, they may keep the questions to assess difference between women and their partners in plans and reasons for selecting the place of birth. If users include **Question 711**, the response codes should be changed as in Question 622.

Q. 703–710: Implementers may choose to replace these questions with Questions 703o to 706o below. These optional questions ask husband/partner to report his involvement in birth planning. They more directly address his role in the process than the questions from the Woman's Questionnaire, which ask about whether preparations were made by anyone.

Q. #	QUESTION	CODES	GO TO Q.
703o	When your wife/partner was pregnant with (NAME) did you think about or plan where she would deliver the baby?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	
704o	Did you think about or plan what type of transport your wife/partner would use to get to the place where she would deliver the baby?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	
705o	Did you think about or make arrangements for a potential blood donor to accompany her to the place where she would deliver the baby?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	
706o	Did you think about or make arrangements to pay for this birth?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	**→711** **→711** **→711**

Q. 712–719: If implementers choose to include Questions 712 to 719 in the questionnaire for husbands/partners, they should change **Question 715** to ask if the husband/partner accompanied the woman. If he says no, he should not answer Questions 716 to 719 since he was not present.

Q. #	QUESTION	CODES	GO TO Q.
715	Did you accompany your wife/partner to the place where she gave birth?	**YES** ..... **1** **NO** **2**	 **→720**

Q. 720–721: Change response codes for **Question 721** so that each code refers to the same people as in the Woman's Questionnaire. See below.

Q. #	QUESTION	CODES	GO TO Q.
721	Can you tell me the three top reasons why you did not give birth in a health facility? PROBE: What else?	**WIFE DIDN'T THINK NECESSARY** ..... **01** **RESPONDENT/FAMILY DIDN'T THINK NECESSARY** ..... **02** **FACILITY TOO FAR** ..... **03** **NO TRANSPORT** ..... **04** **NO CHILDCARE** ..... **05** **TOO EXPENSIVE** ..... **06** **SERVICES ARE POOR** ..... **07** **DID NOT KNOW WHERE TO GO** ..... **08** **NO TIME TO GO** ..... **09** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	

Q. 722–724: If users choose to retain these questions on birth attendant in the questionnaire for husbands/partners, the response codes for professional attendant should be collapsed into one. See response codes for Question 605 above.

Q. 725–726: Remove questions on cesarean section, forceps or vacuum extraction, and birth. The woman's responses alone on these questions are sufficient.

Note about Wording Changes: Questions 703 to 710, 718 to 719, and 723 to 724 refer to the respondent's (that is, the husband's/partner's) own plans, perceptions, and preferences. Question wording should not change. In these questions "you" refers to the respondent. All other questions ask about the respondent's wife or partner; thus, wording should change from "you" to "your wife/partner."

Q. 727–741: If users choose to include Questions 727 to 741, they should be aware that if the woman experienced more than one serious problem, she and her husband/partner may differ on which was most severe in **Question 729**. If the answers for Question 729 differ between a woman and her partner, Question 730 to 741 apply to different events, and it is not valid to compare responses. In **Questions 732 to 733**, response codes should match the example provided for Questions 621 and 622 above. Users should revise **Question 737** in the same manner as Question 715. Note the skip pattern.

Q. #	QUESTION	CODES	GO TO Q.
737	Did you accompany your wife/partner to seek care?	**YES** ..... **1** **NO** **2**	 **→Sec. 8**

For **Question 741** health professional categories should be collapsed into one. See response codes for Question 605 above.

Optional Questions: Users may be interested in adding the following optional questions.

Q. #	QUESTION	CODES	GO TO Q.
720o	Did you have to pay for any part or all of your transportation to the health facility?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	 **→722o** **→722o**
721o	How much did you pay in total for transport to the health facility?	 **AMOUNT** ..... _____ **DON'T KNOW** **98**	
722o	Did you have to purchase any supplies (such as syringes, gauze) or medicines for birth?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	 **→724o** **→724o**
723o	What items did you purchase? PROBE: Anything else? RECORD ALL MENTIONED	 **GLOVES** ..... **01** **IV SOLUTIONS** ..... **02** **SUTURE MATERIALS** ..... **03** **SOAP** ..... **04** **MEDICATIONS/MEDICINES** ..... **05** **SANITARY PADS** ..... **06** **ANTISEPTIC SOLUTIONS** ..... **07** **BLOOD** ..... **08** **POWDER** ..... **09** **GAUZE/COTTON** ..... **10** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	

Q. #	QUESTION	CODES	GO TO Q.
724o	In addition to supplies and transport you may have had to pay for, did you also have to pay any other fees to staff at the health facility for the birth?	**YES** ..... **01** **NO** ..... **02** **DON'T KNOW** **98**	 **→720** **→720**
725o	For what were these fees? CIRCLE ALL MENTIONED.	**BED STAY** ..... **01** **LABFEES** ..... **02** **PROFESSIONAL FEES** ..... **03** **BRIBES** ..... **04** **OTHER** _____ **97** **(SPECIFY)** **DON'T KNOW** **98**	

Section 8. Personal Experience Related to Last Birth (Mother's Postpartum)

Q. 801–806: Users may chose to remove these questions since women may be more involved in and know more about their routine postpartum care than their husbands/partners. For **Question 804** health professional categories should be collapsed into one. See response codes for Question 605 above.

Q. 807–821: If users choose to include Questions 807 to 821, they should note that if the woman experienced more than one serious problem, she and her husband/partner may differ on which was most severe in **Question 809**. If the answers for Question 809 differ between a woman and her partner, Questions 810 to 821 apply to different events, and it is not valid to compare responses. In **Questions 812 to 813**, response codes should match the example provided for Questions 621 and 622 above. Users should revise **Question 817** in the same manner as Question 715. Note the skip pattern.

Q. #	QUESTION	CODES	GO TO Q.
817	Did you accompany your wife/partner to seek care?	**YES** ..... **1** **NO** **2**	 **→822**

For **Question 821** health professional categories should be collapsed into one. See response codes for Question 605 above.

Note about Wording Changes: All questions refer to the respondent's wife/partner; thus, wording should change from "you" to "your wife/partner."

Section 8. Personal Experience Related to Last Birth (Newborn)

Q. 822: Retain to keep the proper skip pattern.

Q. 823–828: Users may chose to remove these questions since women may be more involved in and know more about their routine postpartum care than their husbands/partners. For **Question 826** health professional categories should be collapsed into one. See response codes for Question 605 above.

Q. 829–831: Remove questions on infant feeding practices. In most cultures, women are much more involved in infant feeding than men.

Q. 832–846: If users choose to include Questions 832 to 846, they should note that if the newborn experienced more than one serious problem, the woman and her husband/partner may differ on which was most severe in **Question 834**. If the answers for Question 834 differ between a woman and her partner, Questions 835 to 846 apply to different events, and it is not valid to compare responses. In **Questions 837 to 838** response codes should match the example provided for Questions 621 and 622 above. Users should revise **Question 842** to ask if the husband/partner took the baby to care. If he says no, he should not answer Questions 843 to 846 since he was not there. Note the skip pattern.

Q. #	QUESTION	CODES	GO TO Q.
842	Did you accompany your wife/partner to seek care?	**YES** ..... **1** **NO** **2**	**→Sec. 9**

For **Question 846** health professional categories should be collapsed into one. See response codes for Question 605 above.

Note about Wording Changes: All questions refer to the respondent's wife/partner; thus, wording should change from "you" to "your wife/partner."

Section 9. Personal Experience with Current Pregnancy

Q. 901: Retain to keep the proper skip pattern.

Q. 902–907, Q. 914–915: Users may chose to remove these questions since women may be more involved in and know more about their routine antenatal care than their husbands/partners. For **Question 905** health professional categories should be collapsed into one. See response codes for Question 605 above. Questions 904 and 907 may be least relevant to husbands/partners.

Q. 908–914: These questions should be retained as they speak to the husband or partner's communication with others about BP/CR. Keep the wording the same. In this case, "you" applies to the husband/partner. Do NOT change the wording so that the husband/partner reports on people his wife/partner spoke to.

Q. 917–918: Retain these questions to measure indicators 2.8 and 2.9. Do not change the wording. "You" applies to the husband/partner.

Q. 919–926: These questions may be important for users as they address future plans for seeking care for childbirth and postpartum care. For **Question 920** and **Question 922** response codes should match the example provided for Question 622 above.

Note about Wording Changes: In Questions 908 to 915, 917 to 918, and 923 to 924, "you" refers to the male respondent. Question wording should not change. All other questions ask about the respondent's wife/partner and her pregnancy; thus, wording should change accordingly.

Section 10. Media, Section 11. Exposure to Media Interventions, and Section 12. Participation in Community Interventions

Asking men the questions in Sections 10 and 11 has added benefit when programs include a heavy focus on media and a large component on male involvement. Section 12 is useful when the program contains community-based interventions. Users can apply all three sections to interview husbands/partners without any changes in the wording of the questions. In **Question 1105** and **Question 1205** the first response code should change from "husband" to "wife/partner."

COMMUNITY-LEVEL INDEX

GUIDELINES FOR COMMUNITY-LEVEL DATA COLLECTION

This section of the manual serves as a guide for collecting information to measure the indicators on the Community-Level Index. Information about community preparedness should come from multiple sources including key informants, health committees, and direct observation on the part of the interviewer.

To evaluate birth preparedness and complication readiness (BP/CR) at the community level, use the same communities from which researchers sampled women for the population-based survey. The researcher should interview at least two key informants in each community. Key informants are people who are particularly knowledgeable and can give useful insights to the interviewer that help him or her to understand what is happening (Patton 1990). Researchers will have to determine in advance the profile of the persons whom they will consider to be key informants and the rules for substitution, if those individuals are not available. Key informants about BP/CR at the community level may be the mayor or the village chief, a traditional birth attendant (TBA), or a member of the community health committee.

The first step is to establish a point of contact within the community who will serve as a gateway to finding the proper key informants. For example, this first contact will know who the community leaders are, if a health committee exists, who the TBAs are, and how to contact them. The village chief, the mayor, or other official leader is the best person to start with. Below are some questions that may be useful in identifying key informants:

1. Who is the most influential public figure for you in this town/village?
2. Who help women give birth in this community?
3. Is there a community group that looks after or is involved in Maternal/Child Health?
4. Do you know who was involved in creating the committee?
5. Who is involved in this healthcare community group in the village?
6. Who currently leads this group?

This leader serving as the first point of contact may also be a suitable key informant. For the purpose of measuring BP/CR at the community level, the recommended data collection method to use with key informants is a semi-structured interview. It is beyond the scope of this manual to instruct on techniques for conducting semi-structured interviews[5]. However, evaluators need to be alerted to the fact that the interviewers gathering data for the Community-Level Index should have skills and experience in this interviewing technique.

The guidelines for the key informant semi-structured interview may include questions such as those below. The first questions (1–5) inquire about what services exist and whether they are functional. The later questions (6–10) are optional, but they are useful for learning more about the process through which the systems are established and maintained.

[5] For more information on the subject, refer to Ritchie, J. and Lewis, J. 2003. "Qualitative Research Practice: A Guide for Social Science Students and Researchers." Sage Publications: London, UK.

1. Does your community have organized systems or services in place to help pregnant women in case of emergency?
2. What type of assistance does your community offer to pregnant women in case of emergency?
3. Is there someone in the community designated to have the responsibility of knowing who all of the pregnant women are?
4. Have there been cases when the community helped a pregnant woman in danger?
    - Who alerted the key people that the pregnant woman was in danger?
    - Where did they take her?
    - How did they take her there?
    - Who took her?
    - Who accompanied the woman?
    - What services did the woman receive once she arrived at the health facility?
5. When was the last time that the community helped a pregnant woman in danger?
6. Please tell me how this community became organized to offer assistance to pregnant women in case of emergency.
7. Is there a group or committee in this community who is responsible for establishing and maintaining the systems or services to offer assistance to pregnant women in case of emergency?
8. Please tell me how this group or committee was formed in your community.
9. How many members does the group have? Who are they?
10. Please tell me what community members have thought of doing in order to continue to be able to offer this assistance to pregnant women in case of emergency?

After conducting at least two key informant interviews, the interviewer may wish to speak with members of the community group responsible for establishing or maintaining systems or services related to BP/CR in the community, if such a group exists. It is acceptable to interview members of this group together using a group interview technique. This technique is less formal than a focus group. The method is similar to the qualitative component of a semi-structured interview, except with more than one respondent. Interviewers can use similar guidelines for the qualitative component of the key informant and for the group interviews.

Through the community data collection process, interviewers may find conflicting responses about whether notification, transportation, finance, and blood donation systems exist and currently function to serve women in the community. For this reason, it is essential that interviewers attempt to verify as much information as possible through their own observation. For example, interviewers may ask to see where the money saved for emergencies is kept, or records of donations or loan repayments. They may request to see a vehicle for transport and test whether it is in working condition. Interviewers may ask to see a list of currently pregnant women or blood donors to verify the existence of a notification or blood donation system. It is the responsibility of the interviewers to continue to collect information until they are reasonably confident that they have a clear understanding of how to score the community on each indicator in the Index.

Because the interviewer must synthesize information from several sources and make a judgment about how to score the community on each of the five indicators on the Community-Level Index, some amount of subjectivity is unavoidable in the measurement process. However, the interviewer's decision should be well informed and systematic.

PART THREE:

SURVEYING PROVIDERS AND FACILITIES

PART THREE: SURVEYING PROVIDERS AND FACILITIES

PART THREE. SURVEYING PROVIDERS AND FACILITIES

INTRODUCTION TO PART THREE

Part Three of this manual presents the instruments or tools necessary to collect data for the Provider- and Facility-Level Birth Preparedness and Complication Readiness (BP/CR) Indices. The primary objective of collecting data on these indicators is to provide information about the supply of maternal and newborn care services in a given geographic region or program target area. This section of the manual also contains materials to provide methodological guidance in how to use these tools, including an overview of the principles of clinical assessment, sampling guidelines, recommendations for planning fieldwork, and tips for training field staff.

PRINCIPLES OF CLINICAL ASSESSMENT

The indicators and instruments presented in Part Three are based on tools and assessment methods developed to support clinical learning using a mastery learning approach. This approach assumes that all learners can master the necessary knowledge, skills, and attitudes if they are provided with enough time, clear expectations, and coaching. In this approach, teachers continually assess learners and give them feedback on their progress. Learning is competency based, which means that learners must acquire the essential skills and attitudinal concepts needed to perform a job, not just new knowledge. As a humanistic learning approach, mastery learning requires learners to practice first in simulated settings (for example, using anatomic models, case studies, and role-plays). Teachers assess learners for competence with these simulations before allowing them to work with patients.

Competence is defined as the ability to perform a specific task in a manner that yields desirable outcomes. It consists of knowledge, attitudes, and skills that can be applied to new tasks and familiar situations for which predetermined standards exist. Competency is acquired over time through hands-on experience and training and is not equivalent to performance. Competency describes what a provider can do under ideal circumstances whereas performance refers to what a provider actually does in their workplace (Kak et al. 2001). Performance is determined not only by skills and knowledge, but also by the availability of adequate supplies, equipment and infrastructure (which can be measured with the Facility Audit tool), and five additional factors.[1]

In addition to written tests (such as knowledge questionnaires and case studies), other instruments that aid learning and assessment of competence under this approach are learning guides and skills checklists. Learning guides assist students to master each new skill or activity in a standardized manner by breaking down the skill into essential steps. Skills checklists, based on the learning guides, focus on the key steps for each skill or activity and assist the teacher to make an objective assessment of what the learner has mastered. The written tests and skill observation checklists included in this part of the manual are based on tools developed by JHPIEGO to support training and supportive supervision interventions.[2]

---

[1]The five additional factors are: job expectations, motivation, performance feedback, leadership and management systems, and client and community focus (Rawlins B et al. 2003. *High-Performing Reproductive Healthcare Facilities in Kenya: Why They Exceed Expectations*. JHPIEGO: Baltimore, MD).

[2] The source documents for these instruments are: JHPIEGO/Maternal and Neonatal Health Program. 2002.*Learning Resource Package for Managing Complications in Pregnancy and Childbirth: Notebook for Teachers*. JHPIEGO: Baltimore, MD; JHPIEGO/Maternal and Neonatal Health Program. 2004. *Guidelines for Assessment of Skilled Providers after Training in Maternal and Newborn Healthcare*. JHPIEGO: Baltimore, MD; and Averting Maternal Death and Disability (AMDD) Program and JHPIEGO/Maternal and Neonatal Health (MNH) Program. 2003. *Emergency Obstetric Care for Doctors and Midwives: Course Notebook for Trainers*. JHPIEGO: Baltimore, MD.

Assessing Competence in Learning and Research

The overall goal of assessing competence in both learning and research situations is to determine whether or not a provider can perform a skill well enough to meet established standards. The main difference between these two situations is how observers will use the assessment results. In a learning environment, an observer uses the assessment to measure the learner's performance to determine if that individual is able to provide care using that skill, and to decide if he/she is ready to progress to another skill that builds on the skill being assessed. In research situations, on the other hand, the goal is to arrive at a general picture of the level of competence of a group of selected providers. Measuring the percentage of providers competent in a set of key skills gives an overview of how well they are able to provide services in an **ideal** setting. More specifically, an analysis of certain items within each skill can identify trends in the specific areas in which providers are most likely to deviate from standard practice. This information can be used in two ways: (1) to guide the design of a program to improve the knowledge and skills of healthcare providers, and (2) to serve as a baseline against which to track progress in BP/CR at the provider and facility levels.

An additional difference between learning and research situations is the use of feedback and coaching. In a learning situation, teachers provide ongoing coaching and feedback to learners in order to help them improve their skills and achieve competence in skill performance. In research situations, however, observers should not provide coaching, as this would tarnish the data creating a bias in survey results. Observers should interfere only if the health or safety of the client or provider is at risk. Feedback may be offered **after** the assessment is finished. This manual recommends saving all comments until the data collection team has completed all provider assessments and the Facility Audit. The data collection team should give one feedback session at the conclusion of their work in the health facility. For further details about providing feedback, please see the section on **Training Data Collection Teams and Observers**.

Key Areas for Assessment: Indicators on the Provider-Level Index

As stated above, the ability to demonstrate clinical competence depends on three interrelated components: knowledge, attitudes, and clinical skills. Clinical skills include decision-making skills, interpersonal communication and counseling (IPC/C) skills, and psychomotor skills. Although a provider may have knowledge about how to manage postpartum hemorrhage (PPH), this does not necessarily indicate that he/she is able to diagnose PPH when it happens, decide when intervention is necessary (decision-making), adequately perform the clinical intervention to control the hemorrhage (psychomotor skills), or respectfully communicate with the woman concerning her condition (IPC/C and attitudes). Observers must therefore measure all three components of competence individually.

Providers must first have mastery of the *essential knowledge*. The first four indicators on the Provider-Level Index make a comprehensive measurement of providers' knowledge in maternal and newborn care, from management of normal pregnancy through postpartum care (PPC) for the mother and newborn.

Women-friendly attitudes are a crucial component of quality care and provider competence. Although the Provider-Level Index does not include a separate indicator addressing women-friendly attitudes, Provider-Level Index indicators on IPC/C as well as psychomotor skills (indicators 4.6 to 4.10) all incorporate measurements of women-friendly attitudes. Providers demonstrate whether they have

women-friendly attitudes throughout all their interactions with clients, both during counseling sessions and while performing clinical procedures.

Providers must also demonstrate satisfactory performance of a wide range of *clinical skills* including decision-making skills, IPC/C, and psychomotor skills. A crucial component of clinical practice is assessing a client's condition, making a diagnosis, and deciding a course of treatment. This decision-making skill is especially important in providing care during labor, childbirth, and the immediate postpartum and newborn period since the events are unpredictable and providers must react to what they see occurring. To reflect the importance of this aspect of competency, the Provider-Level Index includes an indicator on decision-making skills (indicator 4.5).

An indicator of IPC/C skills appears on the Provider-Level Index (indicator 4.6) because experts often consider IPC/C to be a centerpiece of quality care. Clients consistently judge quality of care by providers' behaviors related to IPC/C (Heerey et al. 2003). It is critical that the provider be able to effectively communicate health information to the woman and make her feel comfortable to ask questions about her concerns. A provider's communication skills influence how a woman feels about having accessed the formal healthcare sector, and positive experiences during antenatal care (ANC) may encourage her to seek repeated ANC visits, to give birth with a skilled provider, and to seek PPC for herself and her baby.

Skilled providers must demonstrate competence in key psychomotor skills such as managing normal labor and childbirth and managing complications. The significance of skills for managing normal childbirth is sometimes overlooked in favor of skills to manage life-threatening complications. However, there is evidence that certain practices in management of normal childbirth can reduce the incidence of some complications. For example, active management of the third stage of labor reduces the risk of PPH[3]. Given the importance of clinical competence in managing normal childbirth, the Provider-Level Index includes an indicator to measure this skill (indicator 4.7).

The three remaining indicators on the Provider-Level Index measure provider's competence in managing complications; specifically, PPH, newborn asphyxia, and incomplete abortion. Skilled providers must be able to manage competently many other complications, for instance, eclampsia or fever. However, for the purposes of creating a short list with only the most essential indicators, the above complications were given highest priority. Experts regard PPH as the leading cause of maternal deaths worldwide, and incomplete and unsafe abortions account for 13% of maternal mortality (WHO/UNFPA/UNICEF/World Bank 1999). Birth asphyxia is the leading cause of neonatal mortality (WHO 1996). In addition to responding to some of the leading causes of maternal and neonatal mortality, these three indicators span skills required to provide care during pregnancy, birth and the postpartum period, as well as for the newborn.

Infection prevention is a key element of quality care for mother and baby. Postpartum infection accounts for 15% of all maternal deaths in developing countries (WHO/UNFPA/UNICEF/World Bank 1999). Newborn babies have immature immune systems that make them highly susceptible to infection (Kinzie and Gomez 2004). Worldwide, 42%, or 1.7 million, of all newborn deaths are caused by infections. Two-thirds of those infections are related to the birth process (WHO 1996).

---

[3] For information about the procedure of active management of the third stage of labor, see *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors*. 2000. WHO: Geneva. For data on active management and postpartum hemorrhage, see Elbourne DR et al. 2004. Prophylactic use of oxytocin in the third stage of labour (Cochrane Review), in *The Cochrane Library,* Issue 2. John Wiley & Sons, Ltd.: Chichester, UK.

Rather than creating a separate indicator to address it on the Provider-Level Index, infection prevention has been integrated into each assessment tool; infection prevention knowledge and practice are assessed through knowledge questionnaires and skills checklists.

Confidence also plays a role in clinical performance. For a competent provider, low confidence can be an impediment in deciding to perform a particular skill. On the other hand, an overly confident, incompetent provider may be more likely to perform a skill that is unfamiliar to him, thus posing danger to clients. Although confidence and clinical performance are interrelated, confidence cannot substitute as a measure of competence. In previous studies, self-assessment of clinical skills performance has shown to have no correlation with correct knowledge or demonstrated skill in completing a procedure (Gbangbade et al. 2003). In addition, gender and cultural variables influence confidence. A survey performed in the United Arab Emirates demonstrated that women were more likely to rate themselves lower in performance than their male colleagues (Das et al. 1998). A lower self-assessment of performance indicates lower confidence. For these reasons, the Provider-Level Index does not include a confidence indicator.

Tools to Assess Providers in These Key Areas

This manual uses three types of tools or instruments to measure the indicators on the Provider-Level Index: knowledge questionnaires, case studies, and skills checklists. These measure the different aspects of provider competence. All three types of instruments have to be used in order to have a complete picture of whether a provider is ready to assist normal births as well as to manage complications.

Knowledge questionnaires assess what a provider knows by asking a set of multiple-choice questions about a specific topic, such as ANC or normal labor and childbirth. Providers complete the test by reading the questions and placing a mark on the line next to the most correct response. This manual includes four knowledge questionnaires: antenatal care; normal labor, childbirth, and immediate newborn care; postpartum care (mother and baby); and management of complications. These four knowledge questionnaires correspond to the knowledge indicators included on the Provider-Level Index (4.1 to 4.4) so that one knowledge questionnaire provides the data for one indicator (see **Table 3-1**).

Case studies evaluate healthcare providers' decision-making ability. Although decision-making ability is an essential component of provider performance, it is difficult to observe and measure. A case study, as defined in this manual, is a written questionnaire that begins with a description of the medical condition of a fictional client. The healthcare provider reads this scenario and then answers questions that require him/her to interpret the information and state the decisions he/she would make in this case.

This manual includes two case studies. One case study assesses a provider's ability to detect problems during labor and to decide the correct action to take based on information presented in a partograph. The second case study assesses a provider's ability to diagnose PPH and decide the proper course of treatment. After data collection, researchers combine the scores on both case studies to measure the decision-making indicator (4.5). Skilled providers must have the ability to assess a woman's or newborn's condition and decide proper treatment in a very wide range of situations ranging from early pregnancy to the postpartum period. Measuring a provider's decision-making ability in one example does not provide sufficient evidence to make a conclusion about

his/her strength in clinical decision-making in general. Presenting providers with two cases provides a greater depth of insight into their decision-making ability than one. However, these are still only two cases, and both focus on labor and childbirth or the immediate postpartum period, so the range of decision-making that the indicator addresses is not broad.

Skills checklists are guides used during direct observation of a provider in order to measure that provider's skills and attitudes. A clinical skills checklist is a standardized list of sequential key steps for a given clinical situation, such as normal labor, or a specific clinical procedure, such as newborn resuscitation. Checklists for clinical skills and IPC/C skills are very similar. One way in which they differ, however, is that while items on a clinical skills checklist represent steps in a procedure that should be followed in order, many items on an IPC/C checklist represent qualities of the provider's communication and counseling that he/she should consistently practice whenever they are appropriate. A provider may in fact perform several of these behaviors simultaneously.

As observers watch providers perform a given skill, they use the applicable skills checklist as a guide to help them to compare what they observe against the established standard and to assess whether the provider meets that standard. Observers must be healthcare providers (e.g., doctors, nurses, midwives), they must have up-to-date knowledge, and they must be competent in the skills they will be assessing. This one is by far the most difficult to administer of the three types of tools included in this manual. There are no objective answers and no answer keys. Observers require very specialized training in order to collect data properly. The decision about whether a provider performs each step correctly, and ultimately whether the provider is competent in a given skill can be a subjective judgment. Two strategies to make the process of clinical observation more systematic, objective, and consistent are the use of standardized skills checklists and careful observer training. The manual provides detailed guidance on training clinical observers in the section that addresses **Training Data Collection Teams and Observers**.

This manual includes five skills checklists, one for each of the five indicators focusing on IPC/C and psychomotor skills (4.5 to 4.10). Although there is a separate indicator and corresponding checklist for IPC/C, the clinical skills checklists also include items that assess providers' communication and client-supporting behaviors. Providers should exhibit strong IPC/C skills in every client interaction. The kinds of communication behaviors providers must employ while providing maternal and newborn care are more varied than for some other areas of health care. Maternal and newborn care providers need to have health education and counseling skills similar to those required to provide family planning services for outpatient visits, such as ANC and postpartum visits. In addition, they need communication and client support behaviors relevant to managing normal labor and childbirth or complications. These behaviors include aspects such as treating the woman with kindness and respect and keeping her informed about what will happen next. The IPC/C checklist addresses the communication and counseling skills used in an outpatient setting while the clinical skills checklists incorporate the other elements of IPC/C.

Besides the Postpartum Hemorrhage Case Study, the Provider-Level Index addresses competence in managing PPH through an indicator of clinical skill for bimanual compression of the uterus and aortic compression. The most common cause of PPH is uterine atony, that is, the failure of the uterus to contract properly after birth (Ripley 1999). Bimanual compression of the uterus and compression of the abdominal aorta may be used to manage persistent bleeding due to this cause.

In addition, providers use several other procedures for PPH management that do not appear among the indicators on the Provider-Level Index. Clinical skills for uterine massage and administration of uterotonics are not included since these are basic procedures that do not require complex psychomotor skills. The skill for manual removal of the placenta is not included because retained placenta is a rare occurrence, especially when the provider has practiced active management of the third stage of labor. Furthermore, many countries do not train (or license) midwives and nurses to perform manual removal of the placenta. A tear in the vagina or the cervix can also cause postpartum hemorrhage. Since tears are a less common cause of PPH than uterine atony, there is no indicator to assess providers' skills in repair of tears.

Table 3-1. Tools Used for Provider-Level Index Indicators

Indicator Number	Indicator	Tools	Page Number
4.1	% of providers with essential knowledge of management of normal pregnancy	Antenatal Care Knowledge Questionnaire	3-31
4.2	% of providers with essential knowledge of care during childbirth and immediate newborn care	Normal Labor, Childbirth, and Immediate Newborn Care Knowledge Questionnaire	3-35
4.3	% of providers with essential knowledge of complications management	Management of Complications Knowledge Questionnaire	3-43
4.4	% of providers with essential knowledge of postpartum care	Postpartum Care (Mother and Baby) Knowledge Questionnaire	3-47
4.5	% of providers with adequate decision-making skills	Use of the Partograph Case Study	3-51
		Postpartum Hemorrhage Case Study	3-57
4.6	% of providers with adequate interpersonal communication and counseling (IPC/C) skills	Skills Checklist for Interpersonal Communication and Counseling (IPC/C)	3-63
4.7	% of providers with clinical competence in normal childbirth	Skills Checklist for Normal Labor, Childbirth, and Immediate Newborn Care	3-65
4.8	% of providers with clinical competence in bimanual compression of the uterus and aortic compression	Skills Checklist for Bimanual Compression of the Uterus and Aortic Compression	3-69
4.9	% of providers with clinical competence in newborn resuscitation	Skills Checklist for Newborn Resuscitation	3-71
4.10	% of providers with clinical competence in manual vacuum aspiration (MVA)	Skills Checklist for Manual Vacuum Aspiration (MVA)	3-73

Some users of this manual may not have enough resources to administer all of these instruments. For instance, some may choose to use only the written questionnaires and measure only indicators 4.1 to 4.5 on the Provider-Level Index. This practice is not recommended because in order to

determine providers' readiness to manage normal birth and complications, all aspects of competency (knowledge, attitudes, and skills) need to be measured. However, in cases where limiting the data collection process to the simpler tools cannot be avoided, users are strongly advised to take great care in presenting their results. If the results only present data on provider knowledge, users must explain openly that their results do not capture provider competence since they lack information on provider attitudes and skills.

Assessing Skills with Clients or Anatomic Models

When observing providers perform clinical skills, observers may choose one of two options: they may observe providers perform the skill with a client or they may observe them demonstrate how to perform the skill on an anatomic model. Observing providers with clients is clearly the preferred option since the real situation will be a better indication of the provider's actual practice. However, since obstetric emergencies are relatively rare, if data collection teams were to try to observe providers managing an obstetric complication such as PPH with a client, they would need to stay at health facilities for several days, or possibly weeks. This situation is seldom, if ever, feasible. This manual, therefore, recommends that data collectors observe providers perform the skills for managing complications in a simulated situation on anatomic models.

Normal births are a much more frequent occurrence than complications, so some survey coordinators may decide to adopt a protocol to observe normal childbirth skills with clients. However, in small facilities, a birth may not occur in one or two days, or the few births that do occur may happen at inopportune times. If frequent and timely births are not available for observation, we recommend observing normal childbirth skills in a simulated environment on an anatomic model. Those implementers who choose to conduct this observation with clients will collect more meaningful information, but they should be prepared for the added time and complexity during fieldwork. Since observations with clients are different from observations with anatomic models, they are difficult to compare. It is preferable to conduct all observations on clients or all on models, if possible.

However, observers cannot assess IPC/C skills using an anatomic model since the client must interact with the provider. Observers should assess provider competence in communication skills with outpatient clients, for example with ANC or postpartum clients. Alternatively, they could use a simulation in which one of the data collectors plays the role of the client, if the data collector has received proper training.

Limitations

As mentioned before, competence refers to what a provider can do under ideal circumstances whereas performance is what he/she actually does under existing circumstances (Kak et al. 2001; JHPIEGO 2003). In addition to knowledge and skills, providers' performance is subject to external factors such as job expectations; motivation; performance feedback; infrastructure, equipment and supplies; leadership and management systems; and client and community focus (Rawlins et al. 2003). When data collectors observe providers' actions on anatomic models in a simulated environment, they are not observing providers' performance. Survey coordinators must not interpret these results to reflect actual provider performance. These results indicate only what providers can do if all other performance factors are in place. The tools included in this manual do not attempt to measure any of the other performance factors, with the exception of supplies and equipment.

The provider may be on his/her best behavior when a data collector is present. This phenomenon, which results from the presence of an observer in the room during clinical sessions with the provider, is called "the Hawthorne Effect." The added presence of an observer may cause the client and the provider to act differently than they would if they were alone (Rossi et al. 1999; MEASURE *Evaluation* 2001). The Hawthorne Effect may be partially mediated by training the observer to be as unobtrusive as possible (e.g., dressed in a lab coat, same sex as the client, etc.). Although some providers will perform better while being observed, the experience to date suggests that observation is still an effective means of identifying shortcomings in providers' performance. If a provider lacks knowledge of a certain fact or is not competent at a certain procedure, the presence of the observer will not change that reality (MEASURE *Evaluation* 2001).

Ethical Issues

As in any survey, ethical issues must be considered in the design as well as in the implementation of the survey. The three ethical issues most relevant here are informed consent, confidentiality, and safety.

Data collectors need to obtain informed consent from the providers and the clients they are observing before the observation takes place. Participants need to understand the purpose of the survey and how survey coordinators will use the results. Data collectors must make providers and clients aware of any risks and/or benefits involved in their participation in the data collection. When observing providers to measure the indicators for the Birth Preparedness and Complication Readiness (BP/CR) Indices, providers must understand that their participation, or refusal to participate, will not affect their employment status in any way. In the case of clients, data collectors must assure them that if they choose not to participate, this decision will not affect the care they receive at the health facility.

Confidentiality of respondents and facilities must be maintained throughout the survey. Although recording the names of facilities and providers may be necessary to keep data organized during fieldwork, data collectors and other individuals working with the data must keep these names confidential. The data collection aspect discussed in Part Three of this manual does not require recording the names of clients at any point. The results presented should never list providers or facilities by name, or by any other characteristics that would make them easy to identify.

During the data collection activities in Part Three, data collectors will observe providers as they perform some services with clients in a health facility. If a data collector sees a provider doing something that could harm a client, that data collector has an ethical obligation to intervene and prevent the provider from initiating or continuing a potentially harmful practice.

SAMPLING

Data to calculate the indicators on the Provider- and Facility-Level Indices will come from the same group of health facilities. Many users of this manual may be interested in getting information about a small number of facilities, for example, all facilities in a small geographic region, or all facilities that participate in a specific programmatic intervention. When it is feasible to collect data from *all* facilities and/or providers of interest, it is not necessary to select a sample, and the contents of this section will not apply.

On the other hand, in instances where the user wishes to measure the Provider- and/or Facility-Level Indices in a large number of health facilities, for example nationwide or in a large province, it will not be possible to collect data from every facility. In this situation, it will be necessary to select a sample of facilities for data collection.

In order for the sample of health facilities to represent the whole group, or universe, of facilities accurately, probability-sampling methodology must guide the sample selection. Probability sampling refers to a number of different techniques through which each health facility in the universe has a known probability of being selected into the sample.

Using probability sampling to design a sample of facilities that will be representative of all services provided within the area of interest is extremely complex. **Users must seek assistance from a statistician with expertise in designing facility samples.** This section will not instruct users on how to select a sample of facilities; rather, it will introduce some of the challenges involved in sampling health facilities and key questions that program staff must answer so that researchers can appropriately address technical concerns when selecting the sample.[4]

For the Provider and Facility-Level Indices, only facilities that provide a broad range of maternal and newborn care services, including childbirth services, should be included in the universe of facilities for selection. The indicators apply to facilities that provide at least the five basic services that characterize a basic essential obstetric care (EOC) facility. If a small health center, health post, or dispensary does not offer childbirth services, for example, it would not make sense to expect them to have all the supplies and equipment necessary to provide this service, nor would it be fair to hold the staff to a standard of competence in skills they may not be trained, licensed, or expected to perform.

Dual-Frame Sampling

The main challenge in selecting a sample of facilities is that there seldom exists a list of all health facilities, accurate and up to date, from which to draw the sample. Private facilities and facilities that are smaller are most likely to be absent from available lists. For this reason, facility samples should typically include two separate sampling procedures: list frame sampling for large or especially important facilities and area frame sampling for all other facilities (Turner et al. 2000).

Large or otherwise important facilities are more permanent than smaller facilities, and more likely to be known to health administrators. Survey coordinators can therefore create the sample frame by finding an existing list of all these facilities in the country or other geographic area of focus. To create the area frame for all other facilities, survey coordinators make a list of geographic areas. They then select a sample of geographic areas and include facilities in those areas. The sections below cover this process in further detail.

Using only a list frame may be more appropriate for conducting surveys in maternal and newborn health than for other health areas since, in order to provide childbirth services, these facilities need a

[4] This section draws heavily on a facility-sampling manual developed by the MEASURE *Evaluation* Project: Turner AG et al. 2000. *Sampling Manual for Facility Surveys: For Population, Maternal Health, Child Health and STD Programs in Developing Countries*. Version 5; complete preliminary version. MEASURE *Evaluation* Project: Chapel Hill, NC. For information on sampling, see *Quick Investigation of Quality* (MEASURE *Evaluation* 2001), and DHS facility survey reports such as the Kenya Service Provision Assessment (Ministry of Health [Kenya], National Council for Population and Development [Kenya], and ORC Macro 2000).

relatively high level of infrastructure and enough staff to operate 24 hours a day. Facilities that offer maternal and newborn care tend to be larger and more permanent, and thus more likely to appear on existing lists than facilities that do not provide birthing services. Researchers must evaluate the completeness of available lists very closely, and consider the decision to use only a list frame with care; it will not be possible to overcome bias in the original sample through later analysis. Bias in the sampling stage permanently damages the representative value and generalization ability of the collected results.

Calculating Sample Size

The factors to consider in calculating sample size for a facility survey are similar to the factors involved in calculating the sample size for a population-based survey, as described in the section on **Sampling Issues for Birth Preparedness and Complication Readiness Surveys**, in Part Two.

- Desired precision of estimates
- Estimate of proportion of facilities (or providers) with attribute of interest
- The need to show change over time
- The need to have estimates for certain subsets, or domains, of the facility and provider samples. (Domains for facilities may include ownership, geographic location, urban/rural, size of health facility, or range of services offered. Cadre is an important domain for providers.)
- Budget

Facility surveys produce measurements of many different items. In order to calculate the sample size, programmers and survey coordinators need to decide which measurements are most important. A statistician then calculates the sample size needed to measure each key item, and chooses the largest sample size resulting from these calculations (Turner et al. 2000). Presenting the mathematical formulas to calculate sample size is beyond the scope of this manual. We advise the users to ask assistance from a statistician to perform this task.

Allocating Sample Size Between List and Area Frames

The next decision to make is how many of the total number of facilities should come from the list frame and how many from the area frame. For users applying the toolkit at a sub-national level, such as a district or province, the number of facilities on the list frame will be relatively small. One recommendation in this situation is to include all of the facilities on the list frame in the sample (this would be a census, not a sample) (Turner et al. 2000). The number of facilities to sample from the area frame would then be equal to the total desired sample size for the survey minus the number of facilities in the list frame.

In the event that the list frame contains more than 100 health facilities, it will be necessary to take a sample of the facilities on the list (Turner et al. 2000). This introduces the issue of how to allocate the sample of facilities between the list and area frames, that is, deciding how many facilities to sample from each frame in order to reach the total desired sample size. Survey coordinators should take several issues into consideration; such as how alike or different health facilities are within each group, and the unit cost per facility in each group. Traditional thinking is that unit cost to collect data in the facilities on the list frame will be higher than unit cost per facility on the area frame (Turner et al. 2000). The facilities on the list frame are likely to be much further apart than facilities on the area

frame, which will be clustered together within the selected areas. Therefore, list frame facilities will require greater travel costs so the number of facilities from the list frame should be limited.

Selecting the Sample from the List Frame

If it is necessary to sample facilities from the list frame, study coordinators must first organize the list by groups or "strata." Organizing the list by strata allows the statistician to control the sample size of groups of facilities with select characteristics. Using proportionate stratification, facilities with certain characteristics will appear in the same proportions to each other in the sample as they do in the universe. In some cases, disproportionate stratification—in which the distribution of facilities with certain characteristics is different in the sample than in the universe—may permit more precise estimates with smaller overall sample sizes. Disproportionate stratification may be desirable if users want equally precise measurements for urban facilities and rural facilities when urban facilities far outnumber the latter. By disproportionately allocating, or "over sampling," the rural facilities included in the sample, the precision for estimates for rural facilities will improve to meet the desired standard with a smaller increase in total sample size. This, in turn, will save costs.

In order to decide how to group the health facilities by strata, survey coordinators must think about the kind of information they need to get from the survey, that is, which sub-groups of facilities are important to measure and compare to other groups. Strata defined for facility surveys commonly include geography, public/private, urban/rural, level of facility, and facility size. In order to stratify facilities on the list frame by certain characteristics, information about these characteristics must be available on the facility list. For example, although it may be desirable to stratify facilities by size, information about facility size (such as number of beds, number of births, or number of staff) may not be complete on the available lists. Survey coordinators must take availability of data into account when defining the strata. A statistician will need to determine the optimum allocation of facilities from each of the strata. To select facilities from the stratified list statisticians use special procedures that help ensure each health facility has a known probability of being selected into the sample. Discussion of these procedures is beyond the scope of this manual.

Generating the Area Frame

Since the available lists of facilities in most cases will not include all eligible facilities, it will be necessary to construct an area frame. Survey coordinators must first compile a list of geographic areas. These areas must cover the whole region of interest for the survey, must not overlap, and must leave no gaps. They should also have easily recognizable boundaries; it is helpful if maps of the area already exist. Census enumeration areas or geographic units defined during a recent DHS survey are good candidates for these areas.

The team should then stratify the list of areas according to whether the populations they serve are urban or rural. Stratification by urban/rural is generally recommended because the number and distribution of facilities in urban and rural areas, as well as the care those facilities provide, may be quite different. Due to these differences, it is desirable to use different sample sizes and sampling procedures for the two types of areas. Survey coordinators should also consider stratifying the list of areas by geography/administrative unit or other characteristics. The anticipated average number of eligible facilities per area determines the number of areas to select from the area frame. Survey coordinators may not know this average number ahead of fieldwork, so some preliminary pretesting of the areas may be necessary.

Once the survey planners have completed the list of areas and have ordered the areas on the list according to the strata they have decided to use, a statistician will then use one of several possible procedures for selecting the geographic areas to include in the sample from the complete list. Field workers will then visit all of the selected areas to find and list every health facility in that area. The most rigorous method of identifying all facilities in an area entails canvassing the area in a systematic way to cover the whole area and identify all facilities first hand. If time and budgetary constraints make this process impractical, the list of facilities can also be generated through interviews with community informants and local health area administrators (National Bureau of Statistics, Tanzania, and MEASURE *Evaluation* 2000). Field workers should have a list of the facilities selected in the list frame so that they do not duplicate these facilities on their area frame list.

When using the method of identifying health facilities for the area frame in which field workers canvass the entire area and visit each facility, they should also take this opportunity to collect some preliminary information from each facility at the time they identify it. The data that field workers collect during the identification phase will help them determine if the facility satisfies the criteria for inclusion in the survey. For facilities that qualify for the survey, field workers should try to collect additional information that will be instrumental to selecting both the facility and provider samples—for example, a list of all staff by cadre, and client load. Data collection teams must then make a second field visit to the area to administer the data collection tools in each health facility in the sample to measure the indicators specified on the Facility- and Provider-Level Indices.

Weighting Facilities

Weighting of results collected from each health facility is necessary any time every facility in the whole group, or universe, does not have the same probability of being selected for the survey. Anytime a research team uses both a list frame and an area frame, the facilities on the list frame have a higher chance of being included in the sample than the facilities on the area frame. Any time survey coordinators choose to stratify facilities, and disproportionately select facilities from one of the strata, all facilities do not have the same chance of being selected into the sample. In short, it is almost always necessary to weight results in a facility survey.

Weighting takes place during the analysis phase, after the research team has collected and entered all of the data. The purpose of weighting is to give results of certain types of facilities the same representation that they have in the real world, even when the sample, because of practical considerations, did not look exactly like the real world. The technical aspects of the weighting process are beyond the scope of this manual. A statistician should be consulted to perform this task.

Provider Sample

Providers eligible for inclusion in the provider sample are those who fit the definition of a skilled provider mentioned in Part One. Furthermore, they must be currently providing maternal and newborn care services at the facility.

There are two basic methods for deciding how many providers to sample at each facility: selecting a fixed *number* of providers per site, and selecting a fixed *percentage* of all providers. The *Sampling Manual for Facility Surveys* (Turner et al. 2000) recommends selecting a fixed number of three to four providers per site, and selecting all eligible providers where the number is less than three. A facility survey conducted by MEASURE *Evaluation* in Tanzania selected six providers in each site (and all providers in sites with less than six) (National Bureau of Statistics, Tanzania, and MEASURE

Evaluation 2000). Sampling methods for provider observations recommended in other resources, such as the *Quick Investigation of Quality* (MEASURE *Evaluation* 2001) and the *Training Manual for Conducting the Service Provision Assessment* (ORC Macro 2002b), do not apply since they use clients as the unit of selection for the observations.

Selecting a fixed percentage of all eligible providers may reduce mistakes in the provider sampling process in facilities (using a standard sampling rate may be easier for data collectors than having to calculate a new sampling rate at each facility based on the number of staff that work there). However, fixed percentage sampling makes it more difficult to control the overall sample size of providers and the workload for data collection teams at each site (Turner et al. 2000).

For facilities in which data collection teams will need to take a sample of providers, that is, those facilities with more providers than the number required by the survey protocol, team members will need to stratify the providers by cadre before making the selection. The most rigorous way to sample providers from a health facility would be to select from the complete list of staff, regardless of who happens to be working on the day(s) of the site visit. However, in many cases, this method may not be practical since it may involve spending more time at the facility. Users can also decide to write a protocol to take a sample of providers at work in the facility on the first day of the visit.

As for the facilities, the results of providers will have to be weighted during analysis. The proper weight for each provider depends not only on his/her probability of being selected from amongst other providers at the facility, but also on the probability of selection for the facility where he/she works.

Linking Facility and Population data

The sample designs discussed here assume that the survey coordinators will select the sample for the facility survey independent from any survey to measure service use or health status among the population. It is possible to design a facility sample that is linked to the sample for a population-based survey. Although this methodology is much stronger for measuring the impact of healthcare improvement initiatives in populations of interest, it is much more complex. Survey coordinators must seek the assistance of a specialist in designing linked surveys if they are to consider this option.

PLANNING FIELDWORK FOR DATA COLLECTION

Preparing for Fieldwork

To prepare for fieldwork, survey coordinators first review the list of the facilities in the sample in order to determine the number of data collection teams they will need. Determining the number of data collection teams depends not only on the number of facilities to be surveyed, but also several other factors, including geographic distribution and accessibility of facilities, road infrastructure, time constraints for completing data collection, and budget. Availability of all relevant equipment and supplies, especially anatomic models, is another factor in determining the number of teams needed, since each data collection team will need at least one set.

After determining the number of data collection teams needed to complete the fieldwork, coordinators divide the number of facilities into sets and assign a list to each data collection team. In general, survey coordinators should assign each data collection team a set of facilities that is

geographically close together. Data collection teams working in sparsely populated, rural areas should receive shorter lists of facilities since they will need more time to travel between facilities.

Contacting Authorities and Facilities

Survey coordinators must obtain permission from the appropriate authorities at the national, district, and/or local levels prior to the start of data collection. If the proper authorities are not notified, this could affect rapport with authorities, and even result in termination of the project.

Transportation

Whether data collection teams will use public or private transportation, survey coordinators must allocate adequate funds for all team members to travel to and from the health facilities. When using private transportation, the vehicle must have adequate gas and be in proper maintenance. Survey coordinators and data collection team supervisors should investigate the best and most accessible way to reach the facilities before the teams leave for the field.

Some of the facilities may be in rural areas at long distances from urban centers. The overall data collection schedule must allow for time to reach the health facility and return to an area with accommodation for the data collection team in the evening. Trying to accomplish more than is possible in one day may jeopardize the quality of data collection. Data collection teams should spend the night in the vicinity of the facilities on their list if this will significantly reduce travel time.

Data Collection Team Composition

In order to collect data for the Provider- and Facility-Level Indices, each data collection team should consist of at least three people: a supervisor and two observers. It is essential for observers to be healthcare providers (e.g., a doctor, nurse, midwife, etc.) since they will perform direct observation of providers' clinical skills using a checklist that includes the current standard of care for each specific procedure. Although preferable, it is not necessary for supervisors to be healthcare providers since their primary responsibility is to organize the logistics of the team and ensure that data collection forms are properly completed.

Data collection team members need to be comfortable in the local language that people will speak in the facilities they visit. If the local language will differ among facilities in the sample, then survey coordinators should try to match the linguistic abilities of the data collectors with the languages spoken in the facilities they will assess. If circumstances allow survey coordinators to choose team members, they should hire motivated, mid- to low-ranking health workers to be a part of the data collection team. High-ranking health officials tend to put providers "on guard" and make them nervous, which may have an impact on the data collection process.

Roles and Responsibilities of the Data Collection Team

Supervisor

Supervisors are responsible for the overall organization of field operations for their data collection teams. Since data collection team members may have varying backgrounds and viewpoints, supervisors must be sensitive to these in order to maintain a spirit of common purpose. The team should be respectful of those working in the facilities they are visiting in order to disrupt day-to-day

activities as little as possible. At any point during fieldwork, the supervisor may be responsible for solving problems as they arise.

The main responsibilities of the supervisor include:

- **Obtain permission from local authorities**

  The overall survey coordinators should notify appropriate authorities about the objectives of the data collection and obtain their authorization to visit facilities. However, it may still be necessary for the data collection team supervisor to clear with local authorities the visits to all facilities included on their list. When the team arrives at a health facility, the data team supervisor should arrange a meeting with the facility manager to explain the objectives of the visit, show the letters of permission, and request permission to proceed with data collection. The data collection team supervisor should explain to the facility manager and staff that the interviews and observations are part of a scientifically designed survey, and he/she should assure them that all results will be kept confidential. Names of providers or health facilities and other identifying information will not be shared with anyone not working on the survey (MEASURE *Evaluation* 2001). Providers' supervisors will not have access to the information about each provider, and they will not use results as part of the normal supervision process.

- **Arrange transportation**

  The data collection team supervisor should make sure that transportation is available and ready every day and should work with the team (including the driver) to plan the most effective way to visit each assigned facility in the time allotted for fieldwork. This may include the use of public and/or private transportation depending on local circumstances. The supervisor is also responsible for managing funds to pay for transportation expenses, including drivers and fuel (MEASURE *Evaluation* 2001).

- **Ensure adequate supplies are available**

  Before leaving to start fieldwork, the supervisor must make sure that all supplies needed to conduct the provider and facility surveys are available for the team. (See sample supply list on **page 3-19**.)

- **Verify clinic information**

  At the beginning of the fieldwork, the data collection team supervisor will obtain a list of the facilities the team will visit to collect data. During the first meeting with each facility manager, the supervisor should verify that the information on their list is correct, including name of the facility, level, and type of service provided.

- **Sample providers**

  If it is necessary to take a sample of providers within the health facility (see the **Sampling** section for more information), the data collection team supervisor is responsible for selecting a sample of providers to test and observe in the facility in accordance with the guidelines in the survey protocol. The team supervisor should assign identification numbers to each provider observed.

- **Assist with Facility Audit and administer written tools**

  The team supervisor should administer knowledge questionnaires and case studies to the selected providers, and assist one of the observers to apply the Facility Audit.

- **Data collection and data management**

  In consultation with the data collection team members and the facility manager, the data collection team supervisor is responsible for organizing a plan to complete all components of the data collection at each facility. The section on **Organizing Data Collection at the Facility** provides helpful tips and considerations for planning data collection in a facility.

  The supervisor should review all completed data collection instruments to verify that:

  - The knowledge questionnaires, case studies and observation checklists are filled out completely and legibly for each provider sampled.
  - The provider identification number written on each tool matches the facility identification number and is consistent across tools for each provider.

  If there are noticeable problems on the questionnaires (blank questions, illegible answers, information recorded incorrectly or incompletely), the supervisor should try to correct these problems while the team is still at the health facility. It will be much more difficult to correct the tools after the team has left the site.

  In order to assist with managing the forms used during the data collection process, this manual includes a Facility Data Collection Summary Sheet (see **page 3-27**). The Summary Sheet contains a checklist to track every tool corresponding to each provider assessed and the Facility Audit.

- **Provide technical support for the team**

  The data collection team supervisor must be familiar with the objectives of the survey so that he/she can resolve any questions and issues that may arise during the fieldwork in a way that is consistent with the survey protocol. It is a good idea for the supervisor to hold at the end of every day meetings during which team members can discuss any issues that developed during the day's data collection activities (MEASURE *Evaluation* 2001).

- **Prepare and conduct feedback sessions**

  Providing a feedback session to the facility after the data collection team has completed their work is a good way for the facility to receive some benefit for participating in the data collection activity. It also responds to the ethical concern of witnessing poor quality care while doing nothing to improve it. The data collection team supervisor is responsible for consulting with the observers to prepare and conduct the feedback sessions. Recommendations on how to organize feedback sessions can be found in the section on **Training Data Collection Teams and Observers**.

Observers

Observers must be skilled providers (e.g., doctors, nurses or midwives) with standardized clinical skills, and they must have also received training in direct observation of clinical skills (see **page 3-20**). Observers are responsible for observing selected providers perform all of the skills required to measure the indicators on the Provider-Level Index—interpersonal communication and counseling (IPC/C), normal childbirth, management of postpartum hemorrhage, newborn resuscitation, and manual vacuum aspiration—and applying the Facility Audit. They may also assist in administering

the written data collection instruments, as necessary. In many settings, observers blend in better in the health facility operations if they wear lab coats with proper identification. When observing providers' performance with clients, it may be necessary for observers to be the same sex as the client, depending on local custom.

Specific responsibilities of observers include:

- **Obtain permission to observe providers and clients**

  Observers must administer consent forms to obtain permission from providers to evaluate their clinical skills, whether they are performed on an anatomic model or with a client. Before observation, observers should inform providers before observation that they cannot provide guidance during the procedure unless an action threatens the client's or provider's health or safety. Observers should instruct providers to act as they would normally do in the absence of an observer. The observer should be as unobtrusive as possible during the procedure. When providers perform a skill with a client, observers must administer the client consent form and obtain permission from the client to observe her visit with the provider.

- **Set Up skills stations**

  Observers are responsible for setting up skills stations and making sure the anatomic models are in proper working condition. Observers must also ensure that all supplies for each procedure are available.

- **Observe clinical skills**

  Observers will evaluate providers in all clinical skills on the Provider-Level Index that require observation. Antenatal care counseling sessions are an ideal situation to observe providers' IPC/C skills. The observer will arrange observations with providers and the facility manager. With the exception of normal childbirth, observers are likely to observe providers perform the psychomotor skills using anatomic models as opposed to clients. For more information, see the section on **Principles of Clinical Assessment**.

  It is very important that the observer know the content and sequence of steps on the skills checklists so that when he/she sees an action or hears an issue discussed, he/she will know exactly where the item is located within the checklist. Although observers should mark items on the checklist as soon as they observe them, they may need to mark some of the items after the clinical procedure is over, especially during fast-paced procedures with clients such as normal childbirth.

- **Conduct the Facility Audit**

  One of the observers should complete the Facility Audit. Most items require the observer to actually see them in order to verify that they are available and in working order. Some items are questions to the facility manager that will require a response from him/her.

- **Review completed instruments**

  Observers must verify that all skills checklists have been completely filled out. After they have completed all observations, observers should review every form to ensure that identification

(ID) numbers are correct and that all information on the forms is complete. Then, observers hand over the completed forms to the data collection team supervisor.

- **Contribute to feedback session**

  Observers are responsible for assisting the data collection team supervisor to prepare the feedback session for the facility.

Organizing Data Collection at the Facility

Integrating data collection activities into the routine of a busy clinic may prove challenging. Data collection can be successful with careful thought and advanced planning. The following section includes considerations and tips for implementing data collection at the facility.

The data collection team supervisor should arrange a brief meeting with the facility manager to explain the purpose of the visit and obtain his/her permission, and decide on a plan for data collection that most efficiently integrates the four tasks listed below into the functioning of the health facility.

The tasks to be completed during the facility visit are:

- Complete the facility tool with the facility manager.
- Administer the six written instruments to all sampled providers (preferably at the same time).
- Observe IPC/C skills of all sampled providers with clients during antenatal care (ANC) or postpartum care (PPC) sessions.
- Observe skills of all sampled providers with clients or using skills stations with anatomic models.

Table 3-2. Types of Anatomic Models Used to Observe Clinical Skills

Skill	Anatomic Model
Normal childbirth	Childbirth simulator
Bimanual compression of the uterus and aortic compression	Childbirth simulator
Newborn resuscitation	Newborn resuscitation model
Manual vacuum aspiration (MVA)	ZOE® model

Since the skills measured in the Provider-Level Index call for three different types of anatomic models, three skills stations will have to be set up. Because the same model can be used for normal childbirth and bimanual compression of the uterus, one observer can assess both skills at this station. The second station can be devoted to newborn resuscitation and the third station to manual vacuum aspiration (MVA).

Schedule

If amenable with the schedule of the facility and the providers, the most efficient system of data collection is to divide the providers into two groups so that half complete the written tests while the other half rotates through the skills stations. Because normal childbirth and bimanual compression of the uterus use the same anatomic model, one observer can assess both skills at this station. At the

same time, the second observer can watch another provider perform skills at the newborn resuscitation station, followed then by the MVA station. In the afternoon, the activities can be reversed. This way, providers complete all written and clinical skills testing on the first day. On the second day, one observer and the data collection team supervisor complete the facility tool and the other observer assesses each provider's IPC/C skills with a client. A third day of data collection may be necessary depending on the ANC and PPC caseload of the health facility.

Another possibility is to start gathering data by administering the written tests to all providers at the same time. While the providers take the written tests, one of the observers can conduct the Facility Audit with the facility manager. After providers have completed the written tests, they can go back to their usual duties. One of the observers will take each provider, one at a time, to observe him/her go through each of the three skills stations. At the same time, the other observer watches providers provide ANC services in order to observe their IPC/C skills. This way of organizing data collection may take longer, but may interfere less with the clinic's operations. However, it may also give providers a chance to discuss the skills stations with each other and offer coaching, which introduces error into the measurements.

Preparing for Challenges

Certain challenges may arise in each facility, for instance, the difficulty to find enough space in a small clinic to set up three skills stations at the same time. A second challenge might arise as providers are assessed while clinical services continue to function. In small facilities, the data collection team will select a large portion or all of the health facility's staff for assessment, which will have a greater impact on facility operations. On the other hand, some smaller facilities may only have client loads in the mornings, leaving more time in the afternoons for data collection using anatomic models, without taking providers away from client care. In larger facilities such as hospitals that offer 24-hour services, where the providers selected for observation might work on different shifts, scheduling data collection may require more planning.

Equipment and Supplies

Supplies for the skills stations:

- ZOE model
- Advanced childbirth simulator
- Soft fetal model
- Newborn resuscitation model
- Newborn self-inflating resuscitation bag and mask
- Childbirth kit
- DeLee tracheal catheter with glass mucus trap
- Protective face shields or barrier goggles
- Plastic aprons
- Exam gloves
- Syringes and needles

- Sharps box
- Buckets (2)
- Basin for placenta
- Drapes for mother (2)
- Baby blankets (2)
- Manual Vacuum Aspiration kit with speculum

Other supplies:

- Official letters of introduction and permission to collect data
- Provider and client consent forms
- Map/list of facilities to be surveyed
- Survey schedule
- Ball point pens
- Large envelopes to place completed surveys
- Stapler and staples
- Paper clips
- Clipboards
- Copies of assessment tools (bring more than the number of providers to be assessed)
  - Knowledge questionnaires and answer keys
    - Antenatal Care
    - Normal Labor, Childbirth, and Immediate Newborn Care
    - Postpartum Care (Mother and Baby)
    - Management of Complications
  - Case studies and answer keys
    - Use of the Partograph
    - Postpartum Hemorrhage
  - Skills checklists
    - Interpersonal Communication and Counseling
    - Normal Labor, Childbirth, and Immediate Newborn Care
    - Bimanual Compression of the Uterus and Aortic Compression
    - Newborn Resuscitation
    - Manual Vacuum Aspiration
  - Facility Audit form

TRAINING DATA COLLECTION TEAMS AND OBSERVERS

The most technically demanding aspect of collecting data for the Provider- and Facility-Level Indices is direct observation of providers. This section contains suggestions on how to train clinical observers to improve the quality and reliability of the data they collect.

Steps in Training

Training of data collectors includes the following steps:

Step 1: Overview of goals and objectives of the training and assessment
Step 2: Review the data collection instruments
Step 3: Build consensus among observers for the skills observations
Step 4: Train data collection team supervisors
Step 5: Cover data collection protocols and ethical issues
Step 6: Review logistics and schedule for data collection

This manual proposes a 5-day workshop in order to meet the goals and objectives of training, but users may choose to modify this schedule to meet their needs.

Step 1: Overview of goals and objectives of the training and assessment

An overview of the concept of birth preparedness and complication readiness (BP/CR) and the indices provides a foundation for successful training of data collectors. During the introduction, trainers should help data collectors understand the purpose of the survey, what questions it aims to answer, and how programmers and policymakers will use the results. This understanding will give data collectors context for their work and will help to explain why survey coordinators have established certain procedures that data collectors must follow. The introduction should also present the concept of assessment of skills through direct observation. In the same way that healthcare providers receive training to become competent in the provision of clinical services, the data collector training is designed to help observers attain competence in direct observation of clinical skills using checklists.

Step 2: Review the data collection instruments

It is essential that both supervisors and observers become familiar with the Facility Audit, knowledge questionnaires, and case studies to be used during data collection before starting the fieldwork. Although the supervisors will be primarily responsible for the knowledge questionnaires and case studies, observers should be familiar with them in the event that they need to assist the supervisor to administer these tools. The purpose of reviewing the instruments is to acquaint the data collection team with them, to determine if any revisions are necessary to make the tools more culturally appropriate, and to clarify any words, phrases, sentence structures and/or translations that may cause confusion. In addition, participation in the review of tools encourages "buy in" from the data collectors. Users of the tools should not make any significant changes to the questions or items since they were carefully selected by clinical experts based on available scientific evidence and mutual consensus.

Step 3: Build consensus among observers for the skills observations

Observation is inherently a subjective process. If two people observe the same provider performing a clinical skill, they might not agree about whether the provider performed that skill competently. Since they list the key items that define competence in a given skill, observation checklists help different observers use the same criteria to judge clinical performance. The main purpose of this portion of the data collector training is to ensure that all observers judge providers according to the same standards. In research, if one measurement comes out the same when measured several times, we call this measurement "reliable." By training observers to use the skills checklists, the goal is to

increase the reliability among the group of observers so that they all measure the same thing in the same way. Another way to state this is that the goal of training is to maximize inter-rater reliability.

This step of the training teaches observers how to conduct skills performance observations that are reliable and valid. In order to build this capacity, observers must learn four critical assessment skills. First, they must become familiar with how to use the skills checklists to observe skills performances and learn to recognize the correct performance of each skill. Second, observers must practice using the skills checklists to strengthen their ability to conduct *accurate* and *reliable* observations of correct and incorrect skills performances. Third, they must understand how to establish standardized conditions for assessment so each provider assessed is exposed to similar circumstances and conditions during his/her performance. Finally, observers should learn how to provide constructive feedback on provider performance. The following are recommendations for training observers to develop these assessment skills.

3.1: Building capacity to recognize correct skills performance and use checklists for observation

After observers have become familiar with the skills checklists through the instrument review process, the next step in training is to ensure that all observers agree on what is correct performance for each item of each checklist and to give observers a chance to practice using each checklist for the first time to rate a skills demonstration.

To accomplish these objectives, a trainer will demonstrate (model) the performance of a skill so that the providers have a clear idea of the level of performance expected from them. For psychomotor skills, this demonstration could be a live demonstration on an anatomic model, or a videotaped model performance of the skill. For IPC/C, the demonstration could be a live role-play between two trainers, or a videotaped model client/provider interaction. Before starting the demonstration, trainers should instruct observers that the demonstration will show correct performance of the skill, and that observers should practice using the skills checklist to rate the demonstration.

After the demonstration, observers and trainers discuss the skill and corresponding checklist as a group. Observers are very likely to have different opinions about what constitutes correct performance of the skill. Therefore the standard of care for the country in which the assessment is to take place is needed for reference. During this part of the training, trainers should help the group to reach consensus about how, specifically, providers perform each item on the checklist in order to receive a competent rating for that item. Trainers repeat this process with the checklist for each skill.

This manual recommends that a provider should perform 90% of items on the skills checklist correctly in order to be rated as competent in the skill (see the section on **Calculating Indicators** for further details). However, this score is somewhat flexible. Observers may use their discretion to rate a provider as competent in special cases where they feel confident about the provider's ability even though the provider made one or two minor mistakes and performed less than 90% of the steps correctly. Therefore, this portion of the training needs to teach observers how to use the skills checklists to determine if the provider met the 90% requirement for competence. Throughout the training, observers should gain an understanding of when and why it may be appropriate to rate a provider as competent when he/she performed less than 90% of the steps correctly.

3.2: Building capacity to rate providers with accuracy and reliability

Once trainers and all observers reach general consensus on what is correct practice, observers practice with more demonstrations. After the initial model demonstration, each practice demonstration may have a few steps intentionally performed incorrectly. An effective method to build inter-rater reliability among the observers is to have several observers watch the same skill demonstration. As the demonstration occurs, the observers score each item on the checklist as performed "competently" or "not competently" based on what they see.

The trainers then lead the group of observers through each item on the skills checklist and ask each observer whether he/she marked the item as performed correctly or not. Every time two or more observers disagree on how to rate the item, the trainers explore what the correct answer should be and why. This process to practice observing and rating continues until all observers who are rating the skill demonstration agree with each other (and the trainer) on whether the demonstrator performed each step competently or not competently for eight or nine out of every 10 steps.

In the training schedule, trainers should allocate a full day for a field test in a clinic or skills lab to allow the data collection teams to practice data collection in the field. This enables the teams to practice working together and to amend any potential difficulties they may have before implementing the assessment.

3.3: Building capacity to standardize conditions for assessment

By standardizing the conditions for assessment, all providers have an equal opportunity to perform as best as they can. Observers should not make comments on the quality of a provider's performance while he/she is still executing the skill, unless the health or safety of the client or provider is at risk. Also, observers must set up the skills stations in the same way every time so that no provider will perform better or worse than any other simply because of the availability or location of materials in the skills stations.

As stated earlier in this manual, during a clinical skills assessment, observers should not coach providers. Although it may be appropriate to prompt providers using neutral statements such as, "What would be the next thing you would do?" observers should not make any hand gestures or say anything to help providers. Observers should standardize their neutral interaction with each provider so that no provider receives more helpful cues than others.

3.4: Building capacity to provide constructive feedback

Constructive feedback allows providers to see if their level of competence meets current standards and how to make improvements. To provide feedback, the data collection team should hold a brief meeting with all providers and the facility manager at the end of the assessment. Below are some tips for providing constructive feedback:

- **Be positive**. Begin addressing those aspects that the providers and facilities are doing well and recognize their accomplishments.
- **Be specific**. Describe specific behaviors and practices, and provide suggestions for how to improve those that should change.
- **Be descriptive**, not judgmental. Describe poor practices and their negative consequences rather than judge or blame the providers. Instead of identifying providers by name and discussing their performance publicly, the data collection team should discuss the range of behaviors or practices

they observed at the facility, the positive aspects, and those that need improvement, without accusing individuals.

Step 4: Train data collection team supervisors

In most cases, the data collection team supervisors will not be healthcare providers, and they do not need to develop skills in direct clinical observation. Therefore, supervisors don't need to attend the practice sessions for the observers, which are designed to train them to develop this skill. A concurrent session tailored specifically to the needs of the data collection field supervisors should cover the following: liaising with facility managers and health administrators, how to assign ID numbers, how to sample providers within the health facility, checking and organizing the data collection tools, organizing data collection within the facility, planning feedback sessions, and problem solving.

Step 5: Cover data collection protocols and ethical issues

Data collection protocols are rules written by the survey coordinators that govern how data collection teams should collect data. The purpose of data collection protocols is to make the data collection process as similar as possible in all facilities included in the survey. Similar data collection processes lead to reliable results. During this section of the training, trainers may want to stress that data collectors must not give answers to questions on the written tests or hints that could help the providers guess the correct answer. Trainers should specify whether all providers must complete the written tests at the same time, the circumstances under which observers should watch providers perform the skills for normal labor and childbirth with clients or on anatomic models, and other ground rules for how to collect data.

This section of the training should also introduce data collectors to the major ethical issues involved in a survey of this nature: informed consent, confidentiality, and safety (see **Ethical Issues** for more detailed information). Trainers should demonstrate how to administer a consent form and how to obtain informed consent from providers and clients.

Step 6: Review logistics and schedule for data collection

A review of logistics and roles and responsibilities of team members at the end of the training will inform data collectors about team assignment, the list of facilities they will visit, and important details about payment, transportation, meals, and lodging. A thorough discussion of logistics will prevent many potential problems during fieldwork.

SAMPLE TRAINING SCHEDULE: COURSE FOR DATA COLLECTORS AND OBSERVERS (5 Days, 10 Sessions)

DAY 1	DAY 2		DAY 3	DAY 4	DAY 5
A.M.	**A.M.**		**A.M.**	**A.M.**	**A.M.**
Introduction (Step 1) • Overview of schedule, goals and objectives of training and assessment • Background of BP/CR monitoring and competency-based evaluation • Methodological issues: reliability, validity, data collection issues • Team compositions and roles and responsibilities of each member	**Training Observers (Steps 3.1 and 3.2)** • Model demonstration of each skill and discussion • Practice demonstrations to improve inter-rater reliability		**Training Observers (Steps 3.3 and 3.4)** • Standardizing conditions for assessment • Constructive feedback	**Field Test in Facility**	**Review Logistics and Schedule (Step 6)** • Review field test and make changes to protocol, if necessary • Review schedule • Review roles and responsibilities of each team member • Prepare money and materials
P.M.	**P.M.**		**P.M.**	**P.M.**	**P.M.**
Knowledge Questionnaires, Case Studies, and Facility Audit Review (Step 2) • Review of knowledge questionnaires, case studies, and Facility Audit • Review of use and structure of each tool	**Training Observers (Step 3.2)** Practice demonstrations (C*ontinued*)	**Training Supervisors (Step 4)** **Discussion** • Sampling providers • ID numbers • Organizing data collection • Data checking • Problem solving	**Data collection protocols and ethical issues (Step 5)** **Discussion** • Rules for data collection • Informed consent • Confidentiality • Safety: Provider actions potentially harmful to client **Review Logistics for Field Test**	**Field Test in Facility** *(continued)*	**Course Summary and Closing**

SAFE MOTHERHOOD CLINICAL ASSESSMENT TOOLS

Facility ID Number			

FACILITY DATA COLLECTION SUMMARY SHEET

Name of data collection team supervisor_____

Name of facility_____

District of facility_____

Date(s) of assessment_____

Directions

Place an "X" in the box below if the Facility Audit was completed. Send all completed original forms for each provider corresponding to the facility he/she is affiliated with to appropriate survey staff.

Facility Audit	☐ Complete

Provider Tools	Provider ID Number				
	01	02	03	04	05
Knowledge Questionnaires					
Antenatal Care					
Normal Labor, Childbirth, and Immediate Newborn Care					
Management of Complications					
Postpartum Care (Mother and Baby)					
Case Studies					
Use of the Partograph					
Postpartum Hemorrhage					
Skills Checklists					
Interpersonal Communication and Counseling					
Normal Labor, Childbirth, and Immediate Newborn Care					
Bimanual Compression of the Uterus and Aortic Compression					
Newborn Resuscitation					
Manual Vacuum Aspiration					

Explanation for any missing forms_____

_____

_____

VERBAL CONSENT FORM FOR PROVIDER

Instructions to Observer

Ask the provider if he/she is willing to let you observe the visit. It is essential that you obtain the provider's informed consent before beginning the observation, so the following greeting should be given. After reading the consent form, sign and date the statement that indicates whether or not the provider agreed to participate.

Good Morning/afternoon/evening. My name is _____, from [NAME OF GROUP] and I am a doctor/midwife/nurse/medical student, etc. We are conducting a survey to learn about the services provided at this facility including providers' knowledge and skills in maternal and newborn care. If you decide to participate in the survey, we will ask you to complete six written questionnaires and let us observe you while you perform five clinical skills with clients or on anatomic models. The results of this survey will be used to help improve the healthcare services at this and other facilities.

The information we collect is confidential and will not be discussed or communicated to anyone outside of this project. No information about your scores on knowledge questionnaires, case studies, or skills checklists will be shared with your supervisor or colleagues, nor will it affect your job status.

Your participation in this survey is voluntary. If you choose not to participate, this decision will not affect your employment at this health facility in any way.

There are no risks or direct benefits to you from participating in this survey. After the data collection is complete, we will provide some general feedback to the facility about aspects that are done well and suggestions for aspects that can be improved.

Would you like to ask me anything about the survey? If you agree to take part in the survey please state that now. I will make a note of that on this form and sign it to show I witnessed your oral consent.

I attest that I read the consent form to the participant and he/she has agreed to participate.

_____
Data collection team member's signature

Date: _____

NOT VALID WITHOUT THE COMMITTEE OR IRB STAMP OF CERTIFICATION

Void One Year From Above Date
CHR No.

VERBAL CONSENT FORM FOR CLIENT

Instructions to Observer

When an antenatal care or postpartum client arrives at the health facility, ask her if she is willing to let you observe the visit. It is essential that you obtain her informed consent before beginning the observation, so the following greeting should be given. After reading the consent form, sign and date the statement that indicates whether or not the client agreed to participate.

Good Morning/afternoon/evening. My name is _____, from [NAME OF GROUP] and I am a doctor/midwife/nurse/medical student, etc. We are conducting a survey to learn about the services provided at this facility. The results of this survey will be used to help improve the healthcare services at this and other facilities.

I would like to ask your permission to observe your visit with the healthcare providers today. I will not write down your name. All information from your visit today is confidential and will not be discussed or communicated to anyone outside of this project.

Your participation is voluntary. You do not have to agree to let me observe your visit. If you choose not to participate, this decision will not affect the care you receive at this health facility today or at any time in the future.

There are no risks or direct benefits to you from participating in this survey but your participation will help to improve healthcare services.

Would you like to ask me anything about the survey? If you agree to take part in the survey please state that now. I will make a note of that on this form and sign it to show I witnessed your oral consent.

I attest that I read the consent form to the participant and he/she has agreed to participate.

_____

Data collection team member's signature

Date: _____

NOT VALID WITHOUT THE COMMITTEE OR IRB STAMP OF CERTIFICATION

Void One Year From Above Date
CHR No.

Facility ID Number	
Provider ID Number	

ANTENATAL CARE
KNOWLEDGE QUESTIONNAIRE AND ANSWER KEY

Name of provider_____

Name of facility _____

Name of data collector conducting assessment_____

Date(s) of assessment_____

Directions

Read the following questions and write an "**X**" on the line of the single **best** answer to each question.

1. The information obtained from the antenatal history can help the provider

   a. _____ Plan for childbirth
   b. _____ Identify existing problems
   c. _____ Identify health education and counseling needs
   d. _____ All of the above

2. Pregnant women should receive educational messages about which of the following?

   a. _____ Personal hygiene, rest, and exercise during pregnancy
   b. _____ Diet and nutrition during pregnancy
   c. _____ Danger signs during pregnancy
   d. _____ All of the above

3. When counseling a pregnant woman about formulating a birth plan, the provider should tell her

   a. _____ If she has no risk factors, she can give birth at home with a traditional birth attendant
   b. _____ There are ways of knowing whether she will develop a complication
   c. _____ It is not recommended that she have a companion during labor and childbirth
   d. _____ She should put money aside to pay for the expenses of the birth

4. If the woman trusts the provider and feels that he/she cares about the outcome of the pregnancy, she will be more likely to

   a. _____ Return for scheduled antenatal care visits
   b. _____ Return immediately if a danger sign appears
   c. _____ Comply with recommended treatment
   d. _____ All of the above

5. When offering HIV testing services to a pregnant woman, the provider should

   a. _____ Counsel the woman and let her decide whether to be tested
   b. _____ Ask the husband's permission
   c. _____ Perform the test without informing the woman
   d. _____ Tell the woman she must have the test for her baby's benefit

6. Focused antenatal care means that

   a. _____ Care provided to every woman during pregnancy is for the purpose of providing support of the normal pregnancy as well as early detection and management of complications
   b. _____ A vaginal exam should be performed at every visit
   c. _____ All women have the same concerns about their pregnancies
   d. _____ Women don't need information about danger signs in pregnancy

7. When counseling a pregnant woman about nutrition, be sure to

   a. _____ Ask her what she eats in a typical day to determine if her diet is adequate
   b. _____ Tell her to eat the same amount of food that she ate before her pregnancy
   c. _____ Recommend that she weigh herself once a week
   d. _____ Inform her that only very anemic women need iron/folate supplements

8. Focused antenatal care includes which of the following actions?

   a. _____ Checking the baby's position at 28 weeks
   b. _____ Checking the woman's blood pressure at every visit
   c. _____ Assessing ankle edema at 36 weeks
   d. _____ Counseling the woman about danger signs only at the last visit

9. Tests that should be performed for every woman during antenatal care include

   a. _____ Hemoglobin
   b. _____ Test for syphilis
   c. _____ Ultrasound of baby
   d. _____ A and B only

10. After giving a pregnant woman her first dose of tetanus toxoid by intramuscular injection, the used syringe and needle should be

    a. _____ Decontaminated before placing in puncture-proof containers
    b. _____ Capped again before placing in puncture-proof containers
    c. _____ Decontaminated before reusing them
    d. _____ Placed in a garbage can

ANTENATAL CARE KNOWLEDGE QUESTIONNAIRE ANSWER KEY

1. The information obtained from the antenatal history can help the provider

   a. Plan for childbirth
   b. Identify existing problems
   c. Identify health education and counseling needs
   D. ALL OF THE ABOVE

2. Pregnant women should receive educational messages about which of the following?

   a. Personal hygiene, rest, and exercise during pregnancy
   b. Diet and nutrition during pregnancy
   c. Danger signs during pregnancy
   D. All OF THE ABOVE

3. When counseling a pregnant woman about formulating a birth plan, the provider should tell her

   a. If she has no risk factors, she can give birth at home with a traditional birth attendant
   b. There are ways of knowing whether she will develop a complication
   c. It is not recommended that she have a companion during labor and childbirth
   D. SHE SHOULD PUT MONEY ASIDE TO PAY FOR THE EXPENSES OF THE BIRTH

4. If the woman trusts the provider and feels that he/she cares about the outcome of the pregnancy, she will be more likely to

   a. Return for scheduled antenatal care visits
   b. Return immediately if a danger sign appears
   c. Comply with recommended treatment
   D. ALL OF THE ABOVE

5. When offering HIV testing services to a pregnant woman, the provider should

   A. COUNSEL THE WOMAN AND LET HER DECIDE WHETHER TO BE TESTED
   b. Ask the husband's permission
   c. Perform the test without informing the woman
   d. Tell the woman she must have the test for her baby's benefit

6. Focused antenatal care means that

   A. CARE PROVIDED TO EVERY WOMAN DURING PREGNANCY IS FOR THE PURPOSE OF PROVIDING SUPPORT OF THE NORMAL PREGNANCY AS WELL AS EARLY DETECTION AND MANAGEMENT OF COMPLICATIONS
   b. A vaginal exam should be performed at every visit
   c. All women have the same concerns about their pregnancies
   d. Women don't need information about danger signs in pregnancy

7. When counseling a pregnant woman about nutrition, be sure to

   A. ASK HER WHAT SHE EATS IN A TYPICAL DAY TO DETERMINE IF HER DIET IS ADEQUATE
   b. Tell her to eat the same amount of food that she ate before her pregnancy
   c. Recommend that she weigh herself once a week
   d. Inform her that only very anemic women need iron/folate supplements

8. Focused antenatal care includes which of the following actions?

   a. Checking the baby's position at 28 weeks
   B. CHECKING THE WOMAN'S BLOOD PRESSURE AT EVERY VISIT
   c. Assessing ankle edema at 36 weeks
   d. Counseling the woman about danger signs only at the last visit

9. Tests that should be performed for every woman during antenatal care include

   a. Hemoglobin
   b. Test for syphilis
   c. Ultrasound of baby
   D. A AND B ONLY

10. After giving a pregnant woman her first dose of tetanus toxoid by intramuscular injection, the used syringe and needle should be

    A. DECONTAMINATED BEFORE PLACING IN PUNCTURE-PROOF CONTAINERS
    b. Capped again before placing in puncture-proof containers
    c. Decontaminated before reusing them
    d. Placed in a garbage can

Facility ID Number	☐☐☐
Provider ID Number	☐☐

NORMAL LABOR, CHILDBIRTH, AND IMMEDIATE NEWBORN CARE KNOWLEDGE QUESTIONNAIRE AND ANSWER KEY

Name of provider_____

Name of facility _____

Name of data collector conducting assessment_____

Date(s) of assessment_____

Directions

Read the following questions and write an "X" on the line of the single best answer to each question.

Normal Labor and Childbirth Care

1. One way to prevent transmission of HIV from an infected mother to her baby (vertical transmission) is to

   a. ____ Use condoms
   b. ____ Give AZT to the woman after the baby is born
   c. ____ Rupture membranes early in labor
   d. ____ Give a single dose of nevirapine to the woman in labor and to the baby after birth

2. When performing a vaginal examination, which of the following is recorded on the partograph?

   a. ____ Cervical dilation of 3 centimeters
   b. ____ Vaginal temperature and wetness
   c. ____ Position of the presenting part
   d. ____ Degree of molding

3. If a woman is admitted during the active phase of labor, cervical dilation is initially plotted on the partograph

   a. ____ To the left of the alert line
   b. ____ To the right of the alert line
   c. ____ On the alert line
   d. ____ On the action line

4. Cervical dilation plotted to the right of the alert line indicates

   a. _____ Satisfactory progress in labor
   b. _____ Unsatisfactory progress in labor
   c. _____ The end of the latent phase
   d. _____ The end of the active phase

5. Active management of the third stage of labor should be practiced

   a. _____ Only for women who have a history of postpartum hemorrhage
   b. _____ Only for the primipara
   c. _____ Only for the multipara
   d. _____ For all women in labor

6. The appropriate order of steps in active management of the third stage of labor include

   a. _____ Controlled cord traction, fundal massage, and oxytocin
   b. _____ Intravenous oxytocin, cord clamping and cutting, and fundal massage
   c. _____ Cord clamping and cutting, controlled cord traction, ergometrine administration, and inspection to be sure the placenta is intact
   d. _____ Intramuscular injection of oxytocin, controlled cord traction with countertraction to the uterus, and uterine massage

7. If bleeding continues after delivery of the placenta using active management, the **first thing** the provider should do is call for help and

   a. _____ Start an IV
   b. _____ Massage the uterus
   c. _____ Insert a urinary catheter
   d. _____ Check the placenta to make sure that it is complete

8. When Mrs. K. was admitted in labor at 10 AM the following were found: cervix: 5 cm; contractions: 3 in 10 minutes lasting 20–40 seconds; fetal head: 2/5 palpable; membranes intact; fetal heart rate: 138 beats per minute.

   At 2 PM the following were found: cervix: 7 cm; contractions: 2 in 10 minutes lasting 20 seconds; fetal head: 1/5 palpable; membranes intact; fetal heart rate: 142 beats per minute.

   Which is the **most** appropriate intervention?

   a. _____ Prepare for vacuum extraction
   b. _____ Encourage the mother to empty her bladder
   c. _____ Sedate the mother so that she can rest
   d. _____ Augment the labor with oxytocin

9. Which of the following will help to decrease the risk of infection during childbirth?

   a. _____ Performing frequent vaginal examinations
   b. _____ Rupturing membranes as soon as possible in the first stage of labor
   c. _____ Routine catheterization of the bladder before childbirth
   d. _____ Reducing prolonged labor

10. Contaminated instruments in the labor ward should immediately be

   a. _____ Washed with soap and water and boiled for 2 hours
   b. _____ Soaked in 0.5% chlorine solution for 10 minutes
   c. _____ Soaked in 0.5% chlorine solution for 30 minutes
   d. _____ Washed with soap and water and soaked in 0.5% chlorine solution for 10 minutes

Immediate Newborn Care

11. The **first** step in thermal protection for the newborn includes

   a. _____ Drying the baby thoroughly immediately after birth
   b. _____ Drying the baby thoroughly after the cord has been cut
   c. _____ Covering the baby with a clean, dry cloth immediately after birth
   d. _____ Covering the baby with a clean, dry cloth after the cord has been cut

12. Immediate care for a normal newborn includes

   a. _____ Skin-to-skin contact followed by placing the baby in a warming incubator
   b. _____ Drying the baby, removing the wet cloth, and covering the baby with a clean, dry cloth
   c. _____ Stimulating the baby by slapping the soles of the baby's feet
   d. _____ Deep suctioning of the airway to remove mucus

13. Which of the following can contribute to hypothermia in newborns?

   a. _____ The baby is not dried thoroughly immediately after birth
   b. _____ The baby is bathed immediately after birth
   c. _____ The baby is dried and placed in skin-to-skin contact with the mother
   d. _____ A and B

14. To maintain the newborn's axillary temperature between 36.5º C and 37.5º C it is important to

   a. _____ Place the baby in an incubator
   b. _____ Bathe the baby in warm water immediately after birth
   c. _____ Rub the baby vigorously with a blanket
   d. _____ Cover the baby's head, place the baby in skin-to-skin contact on the mother's chest, and cover with a blanket

15. Before performing an exam on a baby who is 2 hours old and who has not been bathed, the skilled provider should

    a. _____ Wash hands with soap and dry with a clean towel, then put on exam gloves
    b. _____ Wash hands with soap and dry with a clean towel
    c. _____ Bathe the baby with soap and water
    d. _____ Put on sterile gloves

16. Care of the umbilicus should include

    a. _____ Cleansing with alcohol
    b. _____ Covering with a sterile compress
    c. _____ Cleansing with cooled, boiled water and leaving uncovered
    d. _____ Applying antibiotic cream

17. The best way to determine if a newborn needs resuscitation is to

    a. _____ Wait until 1 minute after birth and assign the Apgar score
    b. _____ Listen to the baby's heart rate
    c. _____ Observe respirations immediately and begin resuscitation if they are less than 30/minute
    d. _____ Perform resuscitation only if central cyanosis is present

18. Breastfeeding should begin

    a. _____ After the baby's first bath
    b. _____ When the baby starts to cry
    c. _____ Within the first hour following birth
    d. _____ When the mother's milk comes in

19. When counseling the mother about breastfeeding, the skilled provider should tell her to

    a. _____ Avoid giving colostrum to the newborn
    b. _____ Establish a schedule for breastfeeding so the baby gets plenty of sleep
    c. _____ Give the baby water after each feed
    d. _____ Breastfeed on demand for as long as the baby wants to feed

20. When counseling the mother about her newborn, the skilled provider should

    a. _____ Help the mother formulate a complication readiness plan for her baby
    b. _____ Make sure the mother understands danger signs for her baby and where to go if they arise
    c. _____ Tell the mother to bring her baby for a newborn care visit on the sixth day after birth
    d. _____ All of the above

NORMAL LABOR, CHILDBIRTH, AND IMMEDIATE NEWBORN CARE KNOWLEDGE QUESTIONNAIRE ANSWER KEY

Normal Labor and Childbirth Care

1. One way to prevent transmission of HIV from an infected mother to her baby (vertical transmission) is to

   a. Use condoms
   b. Give AZT to the woman after the baby is born
   c. Rupture membranes early in labor
   D. GIVE A SINGLE DOSE OF NEVIRAPINE TO THE WOMAN IN LABOR AND TO THE BABY AFTER BIRTH

2. When performing a vaginal examination, which of the following is recorded on the partograph?

   a. Cervical dilation of 3 centimeters
   b. Vaginal temperature and wetness
   c. Position of the presenting part
   D. DEGREE OF MOLDING

3. If a woman is admitted during the active phase of labor, cervical dilation is initially plotted on the partograph

   a. To the left of the alert line
   b. To the right of the alert line
   C. ON THE ALERT LINE
   d. On the action line

4. Cervical dilation plotted to the right of the alert line indicates

   a. Satisfactory progress in labor
   B. UNSATISFACTORY PROGRESS IN LABOR
   c. The end of the latent phase
   d. The end of the active phase

5. Active management of the third stage of labor should be practiced

   a. Only for women who have a history of postpartum hemorrhage
   b. Only for the primipara
   c. Only for the multipara
   D. FOR ALL WOMEN IN LABOR

6. The appropriate order of steps in active management of the third stage of labor include

   a. Controlled cord traction, fundal massage, and oxytocin
   b. Intravenous oxytocin, cord clamping and cutting, and fundal massage
   c. Cord clamping and cutting, controlled cord traction, ergometrine administration, and inspection to be sure the placenta is intact
   D. INTRAMUSCULAR INJECTION OF OXYTOCIN, CONTROLLED CORD TRACTION WITH COUNTERTRACTION TO THE UTERUS, AND UTERINE MASSAGE

7. If bleeding continues after delivery of the placenta using active management, the **first thing** the provider should do is call for help and

   a. Start an IV
   B. MASSAGE THE UTERUS
   c. Insert a urinary catheter
   d. Check the placenta to make sure that it is complete

8. When Mrs. K. was admitted in labor at 10 AM the following were found: cervix: 5 cm; contractions: 3 in 10 minutes lasting 20–40 seconds; fetal head: 2/5 palpable; membranes intact; fetal heart rate: 138 beats per minute.

   At 2 PM the following were found: cervix: 7 cm; contractions: 2 in 10 minutes lasting 20 seconds; fetal head: 1/5 palpable; membranes intact; fetal heart rate: 142 beats per minute.

   Which is the **most** appropriate intervention?

   a. Prepare for vacuum extraction
   b. Encourage the mother to empty her bladder
   c. Sedate the mother so that she can rest
   D. AUGMENT THE LABOR WITH OXYTOCIN

9. Which of the following will help to decrease the risk of infection during childbirth?

   a. Performing frequent vaginal examinations
   b. Rupturing membranes as soon as possible in the first stage of labor
   c. Routine catheterization of the bladder before childbirth
   D. REDUCING PROLONGED LABOR

10. Contaminated instruments in the labor ward should immediately be

    a. Washed with soap and water and boiled for 2 hours
    B. SOAKED IN 0.5% CHLORINE SOLUTION FOR 10 MINUTES
    c. Soaked in 0.5% chlorine solution for 30 minutes
    d. Washed with soap and water and soaked in 0.5% chlorine solution for 10 minutes

Immediate Newborn Care

11. The **first** step in thermal protection for the newborn includes

    A. DRYING THE BABY THOROUGHLY IMMEDIATELY AFTER BIRTH
    b. Drying the baby thoroughly after the cord has been cut
    c. Covering the baby with a clean, dry cloth immediately after birth
    d. Covering the baby with a clean, dry cloth after the cord has been cut

12. Immediate care for a normal newborn includes

    a. Skin-to-skin contact followed by placing the baby in a warming incubator
    B. DRYING THE BABY, REMOVING THE WET CLOTH, AND COVERING THE BABY WITH A CLEAN, DRY CLOTH
    c. Stimulating the baby by slapping the soles of the baby's feet
    d. Deep suctioning of the airway to remove mucus

13. Which of the following can contribute to hypothermia in newborns?

    a. The baby is not dried thoroughly immediately after birth
    b. The baby is bathed immediately after birth
    c. The baby is dried and placed in skin-to-skin contact with the mother
    D. A AND B

14. To maintain the newborn's axillary temperature between 36.5º C and 37.5º C it is important to

    a. Place the baby in an incubator
    b. Bathe the baby in warm water immediately after birth
    c. Rub the baby vigorously with a blanket
    D. COVER THE BABY'S HEAD, PLACE THE BABY IN SKIN-TO-SKIN CONTACT ON THE MOTHER'S CHEST, AND COVER WITH A BLANKET

15. Before performing an exam on a baby who is 2 hours old and who has not been bathed, the skilled provider should

    A. WASH HANDS WITH SOAP AND DRY WITH A CLEAN TOWEL, THEN PUT ON EXAM GLOVES
    b. Wash hands with soap and dry with a clean towel
    c. Bathe the baby with soap and water
    d. Put on sterile gloves

16. Care of the umbilicus should include

    a. Cleansing with alcohol
    b. Covering with a sterile compress
    C. CLEANSING WITH COOLED, BOILED WATER AND LEAVING UNCOVERED
    d. Applying antibiotic cream

17. The best way to determine if a newborn needs resuscitation is to

    a. Wait until 1 minute after birth and assign the Apgar score
    b. Listen to the baby's heart rate
    C. OBSERVE RESPIRATIONS IMMEDIATELY AND BEGIN RESUSCITATION IF THEY ARE LESS THAN 30/MINUTE
    d. Perform resuscitation only if central cyanosis is present

18. Breastfeeding should begin

    a. After the baby's first bath
    b. When the baby starts to cry
    C. WITHIN THE FIRST HOUR FOLLOWING BIRTH
    d. When the mother's milk comes in

19. When counseling the mother about breastfeeding, the skilled provider should tell her to

    a. Avoid giving colostrum to the newborn
    b. Establish a schedule for breastfeeding so the baby gets plenty of sleep
    c. Give the baby water after each feed
    D. BREASTFEED ON DEMAND FOR AS LONG AS THE BABY WANTS TO FEED

20. When counseling the mother about her newborn, the skilled provider should

    a. Help the mother formulate a complication readiness plan for her baby
    b. Make sure the mother understands danger signs for her baby and where to go if they arise
    c. Tell the mother to bring her baby for a newborn care visit on the sixth day after birth
    D. ALL OF THE ABOVE

Facility ID Number	
Provider ID Number	

MANAGEMENT OF COMPLICATIONS
KNOWLEDGE QUESTIONNAIRE AND ANSWER KEY

Name of provider_____

Name of facility _____

Name of data collector conducting assessment_____

Date(s) of assessment_____

Directions

Read the following questions and write an "**X**" on the line of the single **best** answer to each question.

1. Carry out a rapid initial assessment

   a. _____ Only for women who present with abdominal pain and vaginal bleeding
   b. _____ Only for women who present with abdominal pain
   c. _____ Only for women who present with vaginal bleeding
   d. _____ For all women of childbearing age who present with a danger sign

2. When there is an obstetric emergency, tell the woman and her family or support person

   a. _____ As much as possible about the management of the emergency
   b. _____ As little as possible about the management of the emergency
   c. _____ What the provider thinks she/they should be told
   d. _____ Nothing at all

3. Immediate postpartum hemorrhage can be due to

   a. _____ Uterine atony
   b. _____ Genital trauma
   c. _____ Retained placenta
   d. _____ All of the above

4. The most effective way to **immediately** control eclamptic convulsions is to

   a. _____ Give diazepam
   b. _____ Give magnesium sulfate
   c. _____ Deliver the baby as soon as possible
   d. _____ Give nifedipine

5. Newborn resuscitation procedures

   a. _____ Always require the use of oxygen
   b. _____ Should be started after assigning the Apgar score
   c. _____ Can usually be carried out without oxygen
   d. _____ Should only be carried out by a pediatrician

6. When performing newborn resuscitation with an Ambu bag and mask, it is important to verify that

   a. _____ The newborn's head is in neutral position
   b. _____ The seal between the newborn's mouth, nose, and Ambu bag is adequate
   c. _____ The baby is not covered
   d. _____ Cardiac massage is being performed

7. Do not perform vacuum extraction in the case of

   a. _____ A cephalic presentation
   b. _____ A face presentation
   c. _____ Cervical dilation of 7 cm
   d. _____ Fetal head not engaged

8. A woman with a ruptured uterus has which of the following signs and symptoms

   a. _____ Rapid maternal pulse
   b. _____ Persistent abdominal pain and suprapubic tenderness
   c. _____ Fetal distress
   d. _____ All of the above

9. When performing newborn resuscitation with an Ambu bag and mask, ventilate at the rate of

   a. _____ 20–30 breaths per minute if there is no chest indrawing
   b. _____ 40 breaths per minute for all babies
   c. _____ 60 breaths per minute if the baby is gasping
   d. _____ None of the above

10. Treatment of postpartum metritis includes

    a. _____ Discontinuation of breastfeeding
    b. _____ Bed rest and adequate hydration
    c. _____ Intravenous ampicillin, gentamicin, and metronidazole until fever-free for 48 hours
    d. _____ B and C

MANAGEMENT OF COMPLICATIONS
KNOWLEDGE QUESTIONNAIRE ANSWER KEY

1. Carry out a rapid initial assessment

   a. Only for women who present with abdominal pain and vaginal bleeding
   b. Only for women who present with abdominal pain
   c. Only for women who present with vaginal bleeding
   D. FOR ALL WOMEN OF CHILDBEARING AGE WHO PRESENT WITH A DANGER SIGN

2. When there is an obstetric emergency, tell the woman and her family or support person

   A. AS MUCH AS POSSIBLE ABOUT THE MANAGEMENT OF THE EMERGENCY
   b. As little as possible about the management of the emergency
   c. What the provider thinks she/they should be told
   d. Nothing at all

3. Immediate postpartum hemorrhage can be due to

   a. Uterine atony
   b. Genital trauma
   c. Retained placenta
   D. ALL OF THE ABOVE

4. The most effective way to **immediately** control eclamptic convulsions is to

   a. Give diazepam
   B. GIVE MAGNESIUM SULFATE
   c. Deliver the baby as soon as possible
   d. Give nifedipine

5. Newborn resuscitation procedures

   a. Always require the use of oxygen
   b. Should be started after assigning the Apgar score
   C. CAN USUALLY BE CARRIED OUT WITHOUT OXYGEN
   d. Should only be carried out by a pediatrician

6. When performing newborn resuscitation with an Ambu bag and mask, it is important to verify that

   a. The newborn's head is in neutral position
   B. THE SEAL BETWEEN THE NEWBORN'S MOUTH, NOSE, AND AMBU BAG IS ADEQUATE
   c. The baby is not covered
   d. Cardiac massage is being performed

7. Do not perform vacuum extraction in the case of

   a. A cephalic presentation
   B. QA FACE PRESENTATION
   c. Cervical dilation of 7 cm
   d. Fetal head not engaged

8. A woman with a ruptured uterus has which of the following signs and symptoms

   a. Rapid maternal pulse
   b. Persistent abdominal pain and suprapubic tenderness
   c. Fetal distress
   D. ALL OF THE ABOVE

9. When performing newborn resuscitation with an Ambu bag and mask, ventilate at the rate of

   a. 20–30 breaths per minute if there is no chest indrawing
   B. 40 BREATHS PER MINUTE FOR ALL BABIES
   c. 60 breaths per minute if the baby is gasping
   d. None of the above

10. Treatment of postpartum metritis includes

    a. Discontinuation of breastfeeding
    b. Bed rest and adequate hydration
    c. Intravenous ampicillin, gentamicin, and metronidazole until fever-free for 48 hours
    D. B AND C

Facility ID Number	☐☐☐
Provider ID Number	☐☐

POSTPARTUM CARE (MOTHER AND BABY) KNOWLEDGE QUESTIONNAIRE AND ANSWER KEY

Name of provider_____

Name of facility _____

Name of data collector conducting assessment_____

Date(s) of assessment_____

Directions

Read the following questions and write an "**X**" on the line of the single **best** answer to each question.

1. During the first 2 hours following birth, the provider should

   a. ____ Measure the woman's blood pressure and pulse once, and insert a catheter to empty her bladder
   b. ____ Measure the woman's blood pressure and pulse, and check the uterine tone every " 15 minutes
   c. ____ Not disturb the woman if asleep because her rest is more important than her vital signs
   d. ____ Measure the woman's temperature and pulse, massage the uterus, and perform a vaginal examination to remove clots

2. After childbirth, the mother should have a postpartum visit with a skilled provider

   a. ____ Once, at 3 weeks postpartum
   b. ____ Once, at 6 weeks postpartum
   c. ____ Three times: at 6 hours, 6 days, and 6 weeks postpartum and any time she has danger signs
   d. ____ Only if she has danger signs

3. During the postpartum visit to the clinic, obtain a history for the

   a. ____ Baby only
   b. ____ Mother only
   c. ____ Mother and baby
   d. ____ Mother, her support person, and the baby

4. During each postpartum visit, specific information should be obtained from the woman about

   a. ____ Problems during pregnancy, during and after childbirth, and any present problems
   b. ____ Present problems only
   c. ____ Only those problems directly related to childbirth
   d. ____ None of the above

5. By the tenth day postpartum, you should be able to palpate the uterus

   a. _____ Just below the umbilicus
   b. _____ At the level of the umbilicus
   c. _____ Just above the symphysis pubis
   d. _____ Halfway between the symphysis pubis and the umbilicus

6. Each time you counsel the breastfeeding mother about nutrition, tell her that

   a. _____ There are many foods that she should avoid
   b. _____ She should eat at least one extra meal per day
   c. _____ She should only drink a few glasses of fluids per day
   d. _____ Iron/folate supplementation is not necessary

7. At each postpartum visit, the mother should be counseled to seek care if she has which of the following danger signs

   a. _____ Normal lochia, temperature 37º C, or slight breast engorgement
   b. _____ Edema of hands and face, severe abdominal pain, or sore, cracked nipples
   c. _____ Severe headache, foul-smelling lochia, or calf tenderness
   d. _____ B and C

8. When counseling a new mother about breastfeeding in the 6 hours following birth

   a. _____ Help her position her baby so that he/she attaches properly to the nipple
   b. _____ Tell her to give breast milk substitutes so her baby will grow faster
   c. _____ Advise that she breastfeed her baby 4 times/day
   d. _____ Tell her that she needs a method of contraception even if she is exclusively breastfeeding

9. Each postpartum examination should include

   a. _____ Measurement of blood pressure and temperature, and assessment of conjunctiva, breasts, abdomen, perineum, and legs
   b. _____ Observation of breastfeeding
   c. _____ Information about contraception, safer sex, and counseling and testing for HIV
   d. _____ All of the above

10. After completing the postpartum examination

   a. _____ There is no need to wipe off the exam table with 0.5% chlorine solution
   b. _____ The exam table should be wiped off with 0.5% chlorine solution only if there is blood on it
   c. _____ The exam table should be wiped off with 0.5% chlorine solution after each use
   d. _____ The exam table should be wiped off with soap and water after each use

POSTPARTUM CARE (MOTHER AND BABY)
KNOWLEDGE QUESTIONNAIRE ANSWER KEY

1. During the first 2 hours following birth, the provider should

   a. Measure the woman's blood pressure and pulse once, and insert a catheter to empty her bladder
   B. MEASURE THE WOMAN'S BLOOD PRESSURE AND PULSE, AND CHECK THE UTERINE TONE EVERY 15 MINUTES
   c. Not disturb the woman if asleep because her rest is more important than her vital signs
   d. Measure the woman's temperature and pulse, massage the uterus, and perform a vaginal examination to remove clots

2. After childbirth, the mother should have a postpartum visit with a skilled provider

   a. Once, at 3 weeks postpartum
   b. Once, at 6 weeks postpartum
   C. THREE TIMES: AT 6 HOURS, 6 DAYS, AND 6 WEEKS POSTPARTUM AND ANY TIME SHE HAS DANGER SIGNS
   d. Only if she has danger signs

3. During the postpartum visit to the clinic, obtain a history for the

   a. Baby only
   b. Mother only
   C. MOTHER AND BABY
   d. Mother, her support person, and the baby

4. During each postpartum visit, specific information should be obtained from the woman about

   A. PROBLEMS DURING PREGNANCY, DURING AND AFTER CHILDBIRTH, AND ANY PRESENT PROBLEMS
   b. Present problems only
   c. Only those problems directly related to childbirth
   d. None of the above

5. By the tenth day postpartum, you should be able to palpate the uterus

   a. Just below the umbilicus
   b. At the level of the umbilicus
   C. JUST ABOVE THE SYMPHYSIS PUBIS
   d. Halfway between the symphysis pubis and the umbilicus

6. Each time you counsel the breastfeeding mother about nutrition, tell her that

   a. There are many foods that she should avoid
   B. SHE SHOULD EAT AT LEAST ONE EXTRA MEAL PER DAY
   c. She should only drink a few glasses of fluids per day
   d. Iron/folate supplementation is not necessary

7. At each postpartum visit, the mother should be counseled to seek care if she has which of the following danger signs

   a. Normal lochia, temperature 37º C, or slight breast engorgement
   b. Edema of hands and face, severe abdominal pain, or sore, cracked nipples
   c. Severe headache, foul-smelling lochia, or calf tenderness
   D. B AND C

8. When counseling a new mother about breastfeeding in the 6 hours following birth

   A. HELP HER POSITION HER BABY SO THAT HE/SHE ATTACHES PROPERLY TO THE NIPPLE
   b. Tell her to give breast milk substitutes so her baby will grow faster
   c. Advise that she breastfeed her baby 4 times/day
   d. Tell her that she needs a method of contraception even if she is exclusively breastfeeding

9. Each postpartum examination should include

   a. Measurement of blood pressure and temperature, and assessment of conjunctiva, breasts, abdomen, perineum, and legs
   b. Observation of breastfeeding
   c. Information about contraception, safer sex, and counseling and testing for HIV
   D. ALL OF THE ABOVE

10. After completing the postpartum examination

    a. There is no need to wipe off the exam table with 0.5% chlorine solution
    b. The exam table should be wiped off with 0.5% chlorine solution only if there is blood on it
    C. THE EXAM TABLE SHOULD BE WIPED OFF WITH 0.5% CHLORINE SOLUTION AFTER EACH USE
    d. The exam table should be wiped off with soap and water after each use

Facility ID Number	
Provider ID Number	

USE OF THE PARTOGRAPH
CASE STUDY AND ANSWER KEY

Name of provider_____

Name of facility _____

Name of data collector conducting assessment_____

Date(s) of assessment_____

Directions

Refer to the attached partograph for the information needed to answer the questions. Write your answer to each question in the space provided or circle the correct answer(s).

1. What was the fetal heart rate on admission? _____
2. What was the fetal heart rate at 12:30 PM? _____
3. When did the membranes rupture?_____
4. What was the condition of the amniotic fluid at admission? _____
5. How much molding of the fetal head was recorded at admission? _____

   _____
6. What was the dilation of the cervix on admission? _____
7. What was the descent of the head on admission? _____
8. List the vital signs on admission. _____

   _____
9. Describe the contractions at 9 AM. _____
10. What aspects of Mrs. A's labor are abnormal upon admission?

    a. Blood pressure
    b. Frequency and duration of uterine contractions
    c. Fetal heart rate
    d. Color of amniotic fluid

11. Based on your answer to question 10, what is your intervention?

    a. Give magnesium sulfate
    b. Encourage the woman to walk with assistance to stimulate contractions
    c. Start oxytocin after consultation
    d. Refer for cesarean section

12. At 9 AM, what action should be taken?

    a. Reassure the woman that everything is alright
    b. Encourage the woman to continue to walk with assistance
    c. Start oxytocin after consultation
    d. Refer for cesarean section

13. When cervical dilation passes the alert line, what actions should the provider take?

    a. Evaluate the frequency and duration of contractions
    b. Evaluate cervical dilation
    c. Evaluate fetal descent and condition (fetal heart rate, molding, amniotic fluid)
    d. All of the above

14. When the partograph crosses the action line, what should be your action?

    a. Start oxytocin after consultation
    b. Refer for cesarean section
    c. Do nothing now and re-examine in 2 hours
    d. Begin antibiotics

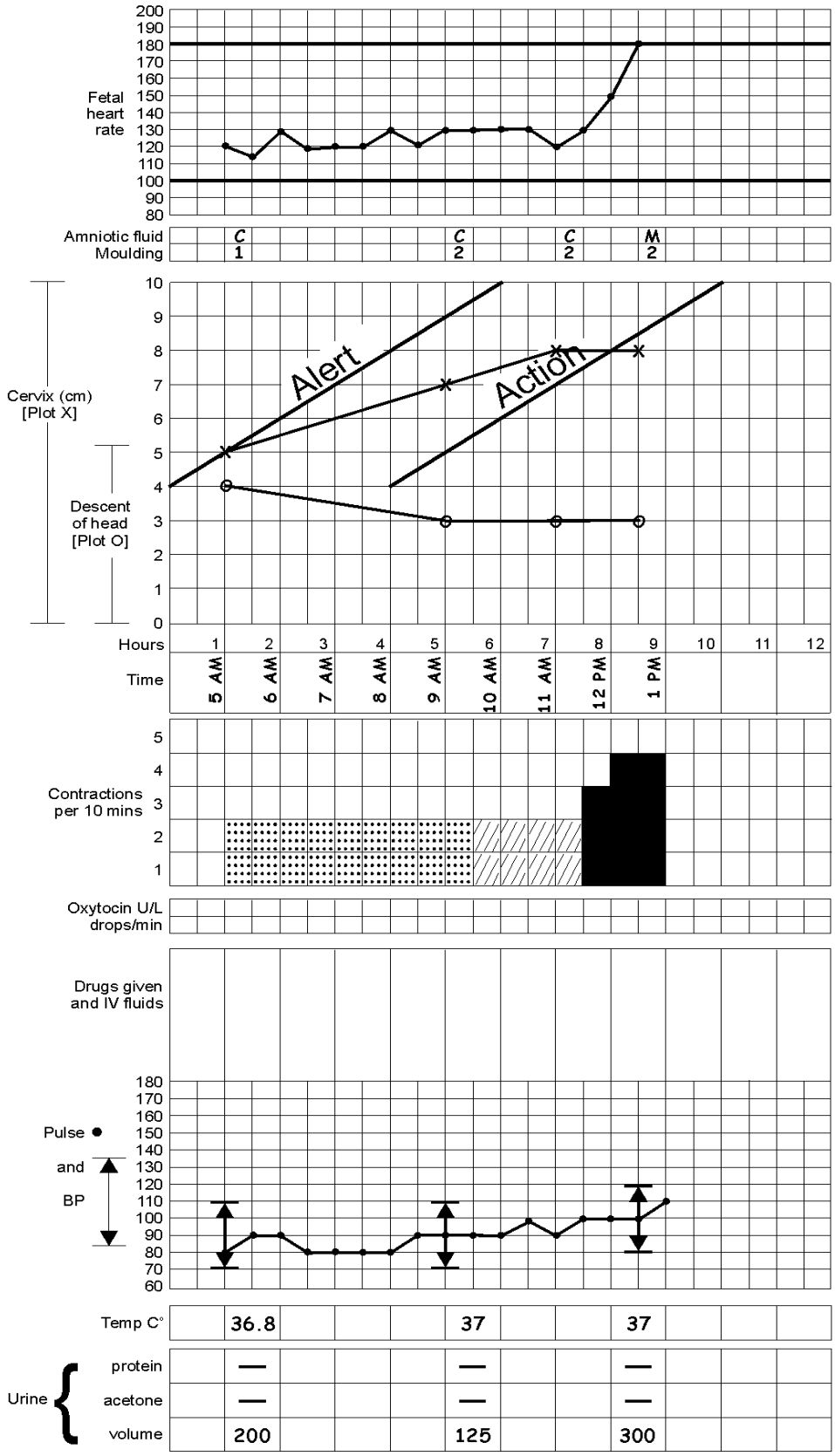
15. Why did you choose the action in question 14?

    a. Cervical dilation has not progressed after one hour of 3–4 contractions in 10 minutes lasting more than 40 seconds each
    b. Meconium is present
    c. Fetal heart rate is abnormal
    d. All of the above

16. How many vaginal exams were performed during the course of labor? _____

Name **Mrs. A** Gravida **1** Para **0** Hospital number **747**

Date of admission **28.4.2003** Time of admission **5 AM** Ruptured membranes **2** hours



Comments: _____

_____
_____
_____
_____
_____
_____
_____
_____
_____

USE OF THE PARTOGRAPH CASE STUDY ANSWER KEY

1. What was the fetal heart rate on admission?
   120/min

2. What was the fetal heart rate at 12:30 PM?
   180/min

3. When did the membranes rupture?
   2 hours before admission (3 AM)

4. What was the condition of the amniotic fluid at admission?
   Clear

5. How much molding of the fetal head was recorded at admission?
   1

6. What was the dilation of the cervix on admission?
   5 cm

7. What was the descent of the head on admission?
   4/5 palpable

8. List the vital signs on admission.
   BP 110/70, P 80, T 36.8° C

9. Describe the contractions at 9 AM.
   2 contractions per 10 minutes lasting less than 20 seconds

10. What aspects of Mrs. A's labor are abnormal upon admission?

    a. Blood pressure
    B. FREQUENCY AND DURATION OF UTERINE CONTRACTIONS
    c. Fetal heart rate
    d. Color of amniotic fluid

11. Based on your answer to question 10, what is your intervention?

    a. Give magnesium sulfate
    B. ENCOURAGE THE WOMAN TO WALK WITH ASSISTANCE TO STIMULATE CONTRACTIONS
    c. Start oxytocin after consultation
    d. Refer for cesarean section

12. At 9 AM, what action should be taken?

    a. Reassure the woman that everything is alright
    b. Encourage the woman to continue to walk with assistance
    C. START OXYTOCIN AFTER CONSULTATION
    d. Refer for cesarean section

13. When cervical dilation passes the alert line, what actions should the provider take?

    a. Evaluate the frequency and duration of contractions
    b. Evaluate cervical dilation
    c. Evaluate fetal descent and condition (fetal heart rate, molding, amniotic fluid)
    D. ALL OF THE ABOVE

14. When the partograph crosses the action line, what should be your action?

    a. Start oxytocin after consultation
    B. REFER FOR CESAREAN SECTION
    c. Do nothing now and re-examine in 2 hours
    d. Begin antibiotics

15. Why did you choose the action in question 14?

    a. Cervical dilation has not progressed after one hour of 3–4 contractions in 10 minutes lasting more than 40 seconds each
    b. Meconium is present
    c. Fetal heart rate is abnormal
    D. ALL OF THE ABOVE

16. How many vaginal exams were performed during the course of labor?
    4

Facility ID Number	
Provider ID Number	

POSTPARTUM HEMORRHAGE CASE STUDY AND ANSWER KEY

Name of provider_____

Name of facility _____

Name of data collector conducting assessment_____

Date(s) of assessment_____

Directions

Read the following case study and write an "**X**" on the line of the single **best** answer to each question.

Case Study

Mrs. B is a 30-year-old gravida 4, para 4. She gave birth at the health center to a healthy, full-term baby weighing 4.2 kg. You gave oxytocin 10 units IM following birth of the baby. The placenta was delivered 5 minutes later without complication. However, 30 minutes after childbirth, Mrs. B tells you that she is having heavy vaginal bleeding.

1. What is the **first** action you will take?

   a. _____ Check the uterus to see whether it is contracted
   b. _____ Administer more oxytocin
   c. _____ Perform bimanual compression of the uterus
   d. _____ Perform manual exploration of the uterus

2. Vaginal bleeding immediately after birth in the presence of a well contracted uterus is most often due to:

   a. _____ Uterine atony
   b. _____ Endometritis
   c. _____ Genital trauma
   d. _____ Abnormal clotting mechanism

You have completed your assessment of Mrs. B and your main findings include the following:

- Pulse 88/minute
- Respiration rate 18/minute
- Blood pressure 110/80
- Temperature 37° C

Her uterus is firm and well contracted. The placenta is complete. She has no perineal trauma. It is difficult to examine the vagina and cervix because she continues to have heavy vaginal bleeding.

3. Based on these findings, what is your next step?
   a. _____ Pack the uterus and vagina
   b. _____ Begin a blood transfusion
   c. _____ Start antibiotics
   d. _____ Perform speculum examination of the vagina and cervix to identify and repair tears

4. What will you tell your assistant to do while you perform the exam?

   a. _____ Monitor vital signs and begin intravenous fluids
   b. _____ Reassure Mrs. B and her family
   c. _____ Draw blood for hemoglobin
   d. _____ All of the above

One hour following childbirth, you repair Mrs. B's cervical tear.

5. What is the most appropriate manner to repair a cervical tear?

   a. _____ Perform interrupted sutures using silk
   b. _____ Perform continuous sutures using silk
   c. _____ Perform continuous sutures using chromic catgut or polyglycolic suture
   d. _____ Perform interrupted sutures using chromic catgut or polyglycolic suture

After repair of the cervical tear, Mrs. B's hemoglobin is found to be 10 g/dL, and her vital signs are stable.

6. What is the most appropriate plan of care?

   a. _____ Begin transfusing blood
   b. _____ Send her home
   c. _____ Monitor her vital signs for 24 hours and begin ferrous sulphate and folate supplementation; encourage breastfeeding
   d. _____ Continue administration of oxytocin for 24 hours

POSTPARTUM HEMORRHAGE CASE STUDY ANSWER KEY

Case Study

Mrs. B is a 30-year-old gravida 4, para 4. She gave birth at the health center to a healthy, full-term baby weighing 4.2 kg. You gave oxytocin 10 units IM following birth of the baby. The placenta was delivered 5 minutes later without complication. However, 30 minutes after childbirth, Mrs. B tells you that she is having heavy vaginal bleeding.

1. What is the **first** action you will take?

   A. CHECK THE UTERUS TO SEE WHETHER IT IS CONTRACTED
   b. Administer more oxytocin
   c. Perform bimanual compression of the uterus
   d. Perform manual exploration of the uterus

2. Vaginal bleeding immediately after birth in the presence of a well contracted uterus is most often due to:

   a. Uterine atony
   b. Endometritis
   C. GENITAL TRAUMA
   d. Abnormal clotting mechanism

You have completed your assessment of Mrs. B and your main findings include the following:

- Pulse 88/minute
- Respiration rate 18/minute
- Blood pressure 110/80
- Temperature 37° C

Her uterus is firm and well contracted. The placenta is complete. She has no perineal trauma. It is difficult to examine the vagina and cervix because she continues to have heavy vaginal bleeding.

3. Based on these findings, what is your next step?

   a. Pack the uterus and vagina
   b. Begin a blood transfusion
   c. Start antibiotics
   D. PERFORM SPECULUM EXAMINATION OF THE VAGINA AND CERVIX TO IDENTIFY AND REPAIR TEARS

4. What will you tell your assistant to do while you perform the exam?

    a. Monitor vital signs and begin intravenous fluids
    b. Reassure Mrs. B and her family
    c. Draw blood for hemoglobin
    D. ALL OF THE ABOVE

One hour following childbirth, you repair Mrs. B's cervical tear.

5. What is the most appropriate manner to repair a cervical tear?

    a. Perform interrupted sutures using silk
    b. Perform continuous sutures using silk
    C. PERFORM CONTINUOUS SUTURES USING CHROMIC CATGUT OR POLYGLYCOLIC SUTURE
    d. Perform interrupted sutures using chromic catgut or polyglycolic suture

After repair of the cervical tear, Mrs. B's hemoglobin is found to be 10 g/dL, and her vital signs are stable.

6. What is the most appropriate plan of care?

    a. Begin transfusing blood
    b. Send her home
    C. MONITOR HER VITAL SIGNS FOR 24 HOURS AND BEGIN FERROUS SULPHATE AND FOLATE SUPPLEMENTATION; ENCOURAGE BREASTFEEDING
    d. Continue administration of oxytocin for 24 hours

SKILLS CHECKLISTS DIRECTIONS

1. Using the skills checklist, watch the provider perform the skill.

2. Do not coach or talk to the provider while he/she is performing the skill, unless there is potential harm to the client or the provider.

3. Note on the skills checklist whether the provider performs the skill with a woman, anatomic model, or role-play.

4. Note the date of observation.

5. In the column on the skills checklist titled "Result," write **C** if the provider is competent in the step or task, or write **N** if the provider is **not** competent in the step or task.

6. After the provider has finished performing the skill, record the total number of items (steps or tasks) marked with a **C** in the space provided on the checklist.

7. The provider must perform 90% of the items (steps or tasks) correctly to be assessed as competent. The total number of correct items (steps or tasks) needed to achieve 90% is noted at the end of the checklist. If the number of steps the provider performed correctly is equal to or higher than the number on the checklist, the provider is rated competent. If the number of steps that the provider performed correctly is lower than the number on the checklist, the provider is not competent. Compare the number at the end of the checklist with the number of steps or tasks that the provider performed correctly, and note whether the provider was competent in this skill.

8. Note any comments about the provider's performance, including what steps were most difficult for him/her. If the provider did not perform 90% of the steps or tasks correctly, but was assessed as "competent," please explain in the Comments section.

Facility ID Number	☐☐☐
Provider ID Number	☐☐

SKILLS CHECKLIST FOR INTERPERSONAL COMMUNICATION AND COUNSELING[5]

Name of provider_____

Name of facility _____

Name of observer _____

Name of team supervisor _____

Date of assessment_____

Please mark with an "X" whether the assessment was conducted with a Client or Role play.

☐ **Client** ☐ **Role Play**

Write **C** in the right column if step or task is performed competently; write **N** if it is **not** performed competently.

Competent: Performs the step or task according to the standard procedure or guidelines.

Not competent: Unable to perform the step or task according to the standard procedure or guidelines.

SKILLS CHECKLIST FOR INTERPERSONAL COMMUNICATION AND COUNSELING	
STEP/TASK	**RESULT**
ENCOURAGING CLIENT PARTICIPATION	
1. Does not permit interruptions during the consultation (lowers radio volume, does not let people in).	
2. Congratulates the client for coming to seek services.	
3. Looks at the client when talking with her.	
RESPONDING TO CLIENT'S NEEDS	
4. Responds concretely to all of the client's questions, and refers her to educational sessions for more information.	
5. Leans towards the client to show interest and concern.	
6. Uses facial expressions and a tone of voice that shows interest in the client.	
7. Does not criticize when the client says what she thinks.	
8. Does not scold (avoids words like stupid, lazy, dirty).	
9. Concentrates on what the client is saying.	

[5] *Adapted from*: Heerey M et al. 2003. Supervision checklist in *Client-Provider Communication: Successful Approaches and Tools* (CD-ROM). Quality Associates, Inc. and The Johns Hopkins Bloomberg School of Public Health Center for Communication Programs: Baltimore, MD

SKILLS CHECKLIST FOR INTERPERSONAL COMMUNICATION AND COUNSELING	
STEP/TASK	**RESULT**
10. Uses expressions that indicate listening like "hmm," "ok," and "oh."	
GIVING INFORMATION	
11. Uses words the client can easily understand.	
12. Explains problem or illness and its management.	
13. Uses visual aids or print materials to explain things to the client.	
14. Informs and agrees with the client when the next appointment will be.	
15. Asks the client to come back if she has problems or does not improve with treatment.	
EXPRESSING POSITIVE EMOTION	
16. Establishes an open relationship of mutual trust.	
17. Uses calming words with the client.	
18. Uses a friendly tone of voice and facial expressions.	
TOTAL NUMBER OF ITEMS MARKED WITH A "C"	
TOTAL NUMBER OF CORRECT ITEMS NEEDED TO ACHIEVE 90%	**17**
PROVIDER WAS COMPETENT IN THIS SKILL	☐ **YES** ☐ **NO**

Comments on this assessment: _____

Facility ID Number	☐☐☐
Provider ID Number	☐☐

SKILLS CHECKLIST FOR NORMAL LABOR, CHILDBIRTH, AND IMMEDIATE NEWBORN CARE

Name of provider_____

Name of facility _____

Name of observer _____

Name of team supervisor _____

Date of assessment_____

Please mark with an "X" whether the assessment was conducted with a Client or Anatomic Model.

☐ **Client** ☐ **Anatomic Model**

Write **C** in the right column if step or task is performed competently; write **N** if it is **not** performed competently.

Competent: Performs the step or task according to the standard procedure or guidelines.

Not competent: Unable to perform the step or task according to the standard procedure or guidelines.

SKILLS CHECKLIST FOR NORMAL LABOR, CHILDBIRTH, AND IMMEDIATE NEWBORN CARE	
STEP/TASK	**RESULT**
GETTING READY	
1. Prepares the necessary supplies and equipment, for example, highly disinfected or sterile scissors, a cord tie, and clean blanket to dry the baby.	
2. Allows the woman to adopt the most comfortable position.	
3. Treats the woman with kindness and respect.	
CARE DURING CHILDBIRTH	
4. Washes hands and forearms thoroughly with soap and water.	
5. Puts on gloves on both hands, gown, and/or protective eyewear to prepare for the birth.	
6. Cleans the perineum with an antiseptic solution. (Performs episiotomy only if needed.)	
7. Encourages the woman to push as desired.	
8. Supports the perineum.	
9. After crowning, allows the head to gradually extend.	

SKILLS CHECKLIST FOR NORMAL LABOR, CHILDBIRTH, AND IMMEDIATE NEWBORN CARE	
STEP/TASK	**RESULT**
10. Allows restitution and external rotation of the head to occur spontaneously.	
11. Assists in completion of the birth: • Feels around the baby's neck for the cord, and if found, slackens the cord to allow the shoulders to pass through, or double-ties or clamps and cuts the cord. • Completes the birth with gentle guidance around the chest. • Notes the time of birth. • Places the baby on a clean, dry cloth. • Places the baby on the mother's abdomen. • Stimulates the baby for crying, while drying off with a clean, dry cloth/towel.	
12. Observes the baby's breathing while drying with a clean, dry cloth/towel.	
13. Wipes the baby's eyes with a piece of clean cloth.	
14. Monitors the baby: • Places the baby in skin-to-skin contact on the mother's abdomen. • Covers the baby with a clean, dry cloth/towel. • Checks baby's breathing and color every 5 minutes. • Checks baby's temperature every 15 minutes.	
15. Clamps or ties and cuts cord.	
16. Performs active management of the third stage of labor: • If available, gives 10 units of oxytocin IM. • Waits for strong uterine contraction, then applies counter traction on the uterus during controlled cord traction, repeating until placenta is delivered. • Massages the uterus until uterus is firm. • Checks the uterus every 15 minutes for the first 2 hours after delivery. • Checks the mother's vital signs every 15 minutes for the first 2 hours after birth.	
17. Inspects the lower vagina and perineum for lacerations/tears and repairs lacerations/tears, if necessary.	
* Repairs episiotomy, if one was performed.	
18. Examines the maternal surface of the placenta and membranes for completeness and abnormalities, noting the insertion and cut end of the cord.	
19. Disposes of the placenta by incineration (or places in a leakproof container for burial).	
20. Correctly disinfects instruments, gloves etc.	
21. Makes sure the woman is clean and comfortable.	
22. Assists with breastfeeding when the baby shows readiness within the first hour of birth.	
23. Provides prophylactic eye care to the baby within 1 hour of birth	
TOTAL NUMBER OF ITEMS MARKED WITH A "C"	
TOTAL NUMBER OF CORRECT ITEMS NEEDED TO ACHIEVE 90%	**21**
PROVIDER WAS COMPETENT IN THIS SKILL	☐ **YES** ☐ **NO**

* Do not count this step in the number of items marked with a "C". Not all women receive episiotomies, therefore, the total number of correct items required on the checklist does not include the step of episiotomy repair.

Comments on this assessment: _____

Facility ID Number	
Provider ID Number	

SKILLS CHECKLIST FOR BIMANUAL COMPRESSION OF THE UTERUS AND AORTIC COMPRESSION

Name of provider_____

Name of facility _____

Name of observer _____

Name of team supervisor _____

Date of assessment_____

Please mark with an "X" whether the assessment was conducted with a Client or Anatomic Model.

☐ **Client** ☐ **Anatomic Model**

Write **C** in the right column if step or task is performed competently; write **N** if it is **not** performed competently.

Competent: Performs the step or task according to the standard procedure or guidelines.

Not competent: Unable to perform the step or task according to the standard procedure or guidelines.

SKILLS CHECKLIST FOR BIMANUAL COMPRESSION OF THE UTERUS AND AORTIC COMPRESSION	
STEP/TASK	**RESULT**
GETTING READY	
1. Tells the woman what is going to be done. • Provides continuous emotional support.	
2. Washes hands and forearms thoroughly with soap and water. • Dries hands and forearms with a clean cloth. • Puts on personal protective barriers (e.g., gown and protective eyewear). • Puts high-level disinfected or sterile gloves on both hands.	
3. Cleans the vulva and perineum with an antiseptic solution.	
BIMANUAL COMPRESSION OF THE UTERUS	
4. Inserts a fist into the anterior vaginal fornix. • Applies pressure against the anterior wall of the uterus.	
5. Places the other hand on the abdomen behind the uterus. • Presses the hand deeply into the abdomen. • Applies pressure against the posterior wall of the uterus.	

SKILLS CHECKLIST FOR BIMANUAL COMPRESSION OF THE UTERUS AND AORTIC COMPRESSION	
STEP/TASK	**RESULT**
6. Maintains compression until bleeding is controlled and the uterus contracts.	
7. Asks assistant to start 1 L IV solution with 20 units of oxytocin at 40 drops per minute. ● If IV access was not previously established it should be started at this time.[a, b]	
8. If bleeding is not controlled or the woman is to be transported, prepares for aortic compression and tells the woman what is going to be done.	
AORTIC COMPRESSION	
9. Places a closed fist just above the umbilicus and slightly to the left.	
10. Applies downward pressure over the abdominal aorta directly through the abdominal wall.	
11. With the other hand, palpates the femoral pulse to check the adequacy of compression: ● If the pulse is palpable during compression, the pressure is inadequate. ● If the pulse is not palpable during compression, the pressure is adequate.	
12. Maintains compression until bleeding is controlled.	
POSTPROCEDURE TASKS	
13. Removes gloves and discards them in a leakproof container or plastic bag, if disposing of, or, if reusing gloves, decontaminates them in 0.5% chlorine solution for high-level disinfection or sterilization.	
14. Washes hands thoroughly with soap and water and dries them.	
15. Monitors woman's condition every 15 minutes for 1 hour, then every 30 minutes for 2 hours. ● Takes vital signs. ● Determines amount of vaginal bleeding to be within normal limits. ● Makes sure that the uterus is contracted. ● If the uterus is not well contracted, massages the uterus as necessary to maintain uterine contraction or arranges for additional intervention.	
TOTAL NUMBER OF ITEMS MARKED WITH A "C"	
TOTAL NUMBER OF CORRECT ITEMS NEEDED TO ACHIEVE 90%	**14**
PROVIDER WAS COMPETENT IN THIS SKILL	☐ **YES** ☐ **NO**

[a] If oxytocin is not available, gives 0.2 mg ergometrine IM or IV (slowly) as indicated, not to exceed a total of 5 doses (1.0 mg).

[b] If neither oxytocin or ergometrine is available, gives 0.25 mg prostaglandin IM every 15 minutes, not to exceed a total of 8 doses (2.0 mg).

Comments on this assessment: _____

_____

_____

_____

_____

Facility ID Number	
Provider ID Number	

SKILLS CHECKLIST FOR NEWBORN RESUSCITATION

Name of provider_____

Name of facility _____

Name of observer _____

Name of team supervisor _____

Date of assessment_____

Please mark with an "X" whether the assessment was conducted with a Client or Anatomic Model.

☐ **Client** ☐ **Anatomic Model**

Write **C** in the right column if step or task is performed competently; write **N** if it is **not** performed competently.

Competent: Performs the step or task according to the standard procedure or guidelines.

Not competent: Unable to perform the step or task according to the standard procedure or guidelines.

SKILLS CHECKLIST FOR NEWBORN RESUSCITATION	
STEP/TASK	**RESULT**
GETTING READY	
1. Checks to make sure all supplies are available (ventilation bag, size 1 or 0 masks). • Checks to make sure that the emergency equipment is working (e.g., the bag is inflating and releases adequate pressure).	
2. Quickly dries and covers the baby, except for the head, face, and upper chest. • If available, places the baby under the warmer.	
3. Tells the mother what is happening.	
RESUSCITATION USING BAG AND MASK	
4. Positions the head in a slightly extended position to open the airway.	
5. Clears the airway by suctioning the mouth and nose. (Does NOT deep suction.).	
6. Places the mask on the baby's face so that it covers the chin, mouth, and nose. • Ensures that a seal is formed between the mask and the baby's face.	
7. Checks the seal by ventilating two or three times and observing the rise of the chest.	

SKILLS CHECKLIST FOR NEWBORN RESUSCITATION	
STEP/TASK	**RESULT**
8. Ventilates at a rate of 40 breaths per minute for 1 minute. • Stops and quickly assesses if the baby is breathing spontaneously.	
9. If breathing is 30–60 breaths per minute, and there is no indrawing of the chest and no grunting, puts the baby in skin-to-skin contact with the mother. • If the baby is not breathing, or breathing is less than 30 breaths per minute or severe chest indrawing or grunting is present, continues ventilating.	
* Gives oxygen if available and arranges for immediate transfer for special care.	
POST-RESUSCITATION TASK	
10. Places disposable suction catheters and mucus extractors in a leakproof container or plastic bag. Places reusable catheters and mucus extractors in 0.5% chlorine solution for decontamination. Then, cleans and processes.	
11. Cleans and decontaminates the valve and mask, and checks for damage.	
12. Washes hands thoroughly.	
TOTAL NUMBER OF ITEMS MARKED WITH A "C"	
TOTAL NUMBER OF CORRECT ITEMS NEEDED TO ACHIEVE 90%	**11**
PROVIDER WAS COMPETENT IN THIS SKILL	☐ **YES** ☐ **NO**

* Do not count this step in the number of items marked with a "C". Not all newborn babies need or receive oxygen; therefore, the total number of correct items required on the checklist does not include the step of giving oxygen.

Comments on this assessment: _____

_____

_____

_____

_____

_____

_____

_____

_____

Facility ID Number	
Provider ID Number	

SKILLS CHECKLIST FOR MANUAL VACUUM ASPIRATION (MVA)

Name of provider_____

Name of facility _____

Name of observer _____

Name of team supervisor _____

Date of assessment_____

Please mark with an "X" whether the assessment was conducted with a Client or Anatomic Model.

☐ **Client** ☐ **Anatomic Model**

Write **C** in the right column if step or task is performed competently; write **N** if it is **not** performed competently.

Competent: Performs the step or task according to the standard procedure or guidelines.

Not competent: Unable to perform the step or task according to the standard procedure or guidelines.

SKILLS CHECKLIST FOR MANUAL VACUUM ASPIRATION (MVA) (Many of the following steps/tasks should be performed simultaneously.)	
STEP/TASK	**RESULT**
INITIAL ASSESSMENT	
1. Greets the woman respectfully and with kindness.	
2. Assesses patient for shock or complications. • Checks pulse. • Checks blood pressure. • Checks respirations. • Checks skin color. • Assesses patient's level of consciousness.	
MEDICAL EVALUATION	
3. Takes a reproductive health history. • History includes gravidity and parity of patient. • History includes LMP. • History includes assessment of symptoms, including onset and duration of pain and/or bleeding.	
4. Washes hands with soap and water.	

SKILLS CHECKLIST FOR MANUAL VACUUM ASPIRATION (MVA) (Many of the following steps/tasks should be performed simultaneously.)	
STEP/TASK	**RESULT**
5. Performs a physical examination. • Does a pelvic examination using high-level disinfected or sterile gloves.	
6. Collects specimens for laboratory tests.	
7. Gives the patient information about her condition.	
8. Discusses her reproductive goals, as appropriate.	
9. If she is considering an IUD: • Fully counsels her regarding IUD use. • The decision to insert the IUD following the MVA procedure will be dependent on the clinical situation and the woman's preference.	
GETTING READY	
10. Tells the woman (and her support person) what is going to be done, listens to her and responds attentively to her questions and concerns. • Tells her she may feel discomfort during the procedure.	
11. Provides continuous emotional support and reassurance, as feasible.	
12. Asks about allergies to medications, antiseptics, and anesthetics.	
13. Gives paracetamol 500 mg by mouth to the woman 30 minutes before the procedure.	
14. Ensures the necessary supplies and equipment are available: • Determines that required sterile or high-level disinfected instruments and cannula are present. • Ensures that appropriate size cannula and adapters are available. • Checks MVA syringe and charges it (establishes vacuum).	
15. Checks that the woman has recently emptied her bladder.	
16. Checks that the woman has washed her perineal area.	
17. Puts on personal protective barriers. (e.g., goggles, plastic apron).	
18. Performs infection prevention procedures: • Washes hands thoroughly with soap and water. • Puts on high-level disinfected or sterile surgical gloves.	
19. Arranges sterile or high-level disinfected instruments on sterile tray or in high-level disinfected container.	
PREPROCEDURE TASKS	
20. Gives oxytocin 10 units IM or ergometrine 0.2 mg IM.	
21. Performs bimanual examination.	
22. Inserts speculum.	
23. Applies antiseptic to cervix and vagina two times.	
24. Removes any products of conception (POC).	
25. Checks for any cervical tears.	
MVA PROCEDURE	
26. Explains each step of the procedure prior to performing it.	
27. Places single-toothed tenaculum or vulsellum forceps on and shows the anterior lip of the cervix.	

SKILLS CHECKLIST FOR MANUAL VACUUM ASPIRATION (MVA) (Many of the following steps/tasks should be performed simultaneously.)	
STEP/TASK	**RESULT**
28. Gently applies traction on cervix to straighten the cervical canal and uterine cavity.	
29. Dilates the cervix (if needed).	
30. Properly inserts the cannula gently through the cervix into the uterine cavity: • Pushes the cannula slowly into the uterine cavity until it just touches the fundus (not more than 10 cm). • Withdraws the cannula slightly away from the fundus.	
31. Attaches the prepared syringe to the cannula by holding the cannula in one hand and the tenaculum and syringe in the other. • Ensures the cannula does not move forward as the syringe is attached.	
32. Evacuates contents of the uterus by rotating the cannula and syringe from 10 to 2 o'clock and moving the cannula gently and slowly back and forth within the uterus.	
33. When: • Red or pink foam are present without any more tissue, • A grating sensation is felt as the cannula passes over the surface of the evacuated uterus, AND/OR • The uterus grips the cannula; Does the following: • Gently withdraws cannula and MVA syringe. • Empties the contents of MVA syringe into a strainer.	
34. Removes forceps or tenaculum (before removing the speculum). • Removes the speculum.	
35. Performs bimanual examination. • Checks size of the uterus. • Checks firmness of the uterus.	
36. Inspects tissue removed from uterus to make sure evacuation is complete. • If no POC are seen, reassesses the woman to be sure there is no ectopic pregnancy.	
37. Inserts speculum to check for bleeding. • If uterus is still soft or if bleeding persists, repeats steps 29–34.	
POSTPROCEDURE TASKS	
38. Before removing gloves, disposes of waste materials in a leakproof container or plastic bag.	
39. Flushes MVA syringe and cannula with 0.5% chlorine solution. • Submerges MVA syringe and other instruments in 0.5% chlorine solution for decontamination.	
40. If reusing needle or syringe, fills syringe (with needle attached) with 0.5% chlorine solution, and submerges it in solution for decontamination. If disposing of needle and syringe, places them it in puncture-proof container.	
41. Removes gloves and discards them in a leakproof container or plastic bag, if disposing of, or, if reusing gloves, decontaminates them in 0.5% chlorine solution for high-level disinfection or sterilization.	
42. Washes hands thoroughly with soap and water.	
43. Checks for bleeding.	

SKILLS CHECKLIST FOR MANUAL VACUUM ASPIRATION (MVA) (Many of the following steps/tasks should be performed simultaneously.)	
STEP/TASK	**RESULT**
44. Ensures cramping has decreased before discharging the woman home.	
45. Instructs patient regarding postabortion care. • Includes all warning signs: prolonged bleeding (more than two weeks), prolonged cramping (more than 4 days), heavy bleeding, severe pain, increased pain, fever, chills, malaise, and fainting.	
46. Discusses reproductive goals and, as appropriate, provides family planning counseling and method. • Tells her when to return if follow-up is needed and that she can return anytime she has concerns.	
47. Encourages the woman to eat, drink and ambulate as she wishes.	
48. If possible, offers other health services such as tetanus prophylaxis.	
TOTAL NUMBER OF ITEMS MARKED WITH A "C"	
TOTAL NUMBER OF CORRECT ITEMS NEEDED TO ACHIEVE 90%	**44**
PROVIDER WAS COMPETENT IN THIS SKILL	☐ **YES** ☐ **NO**

Comments on this assessment: _____

_____

_____

_____

_____

_____

_____

_____

_____

Facility ID Number ☐☐☐

FACILITY AUDIT

Name of facility manager_____

Name of evaluator_____

Name of facility_____

Name of district_____

Type of facility

- ☐ Health Dispensary (1)
- ☐ Health Center (2)
- ☐ District Hospital (3)
- ☐ Regional Hospital (4)
- ☐ Private Clinic/Hospital (5)
- ☐ Nursing/Midwifery Teaching Institution (6)
- ☐ Other (7) (specify) _____

Affiliation of facility

- ☐ Government (1)
- ☐ Religious/Missionary (2)
- ☐ Private (3)
- ☐ Quasi-Government (4) (specify)_____
- ☐ Nongovernmental Organization (NGO) (5)
- ☐ Other (6) (specify) _____

Date(s) of assessment_____

Instructions: Place an "**X**" in the YES column if the item/service is available and functions correctly. Place an "**X**" in the NO column if the item/service is not available or does not function correctly. Record your comments in the COMMENTS column, as necessary.

Section 1: Facility Services

DOES THE FACILITY OFFER THE FOLLOWING SERVICES?		YES	NO	COMMENTS
101	Is staff available to treat and refer clients 24 hours a day, 7 days a week?			
102	Does the facility have an active health committee?			
103	Does the facility have a system for reviewing cases of maternal and perinatal deaths and/or complications on a regular basis?			

What is the system for reviewing cases of maternal and perinatal deaths and/or complications on a regular basis? _____

_____

Section 2: Facility Infrastructure

DOES THE FACILITY HAVE THE FOLLOWING?		YES	NO	COMMENTS
201	Client waiting area with shelter			
202	Exam room with adequate privacy			
203	Water source			
204	Light source			

Section 3: Equipment and Supplies for Basic EOC Facilities

DOES THE FACILITY HAVE THE FOLLOWING?		YES	NO	COMMENTS
General Equipment and Supplies				
301	Fetoscope			
302	Stethoscope			
303	Blood pressure cuff			
304	Thermometer			
305	Antiseptics			
306	Sterile gauze			
307	Syringes			
308	Suture material (absorbable)			
309	IV solutions			
310	Urinary catheters			
311	IV administration set (tubing and needle)			
Record Keeping				
312	ANC cards			
313	Clinic registers			
314	Partographs			
Infection Prevention				
315	Utility gloves			
316	Clean gloves			
317	HLD and/or sterile gloves			
318	Chlorine			
319	Buckets			
320	Ability to boil water			
321	Sharps container			

DOES THE FACILITY HAVE THE FOLLOWING?		YES	NO	COMMENTS
Childbirth Kit/Suture Kit				
322	Scissors			
323	Clamps			
324	Cord ties			
325	2 dry blankets or towels			
326	Ring forceps (sponge forceps)			
327	Needle holder			
328	Container for placenta			
Vacuum Extraction				
329	Vacuum extractor (including tubing, pump and cups)			
Newborn Resuscitation				
330	Self inflating resuscitation bag			
331	Neonatal masks (size 0 and 1)			
332	Suction equipment			
Manual Vacuum Aspiration				
333	Speculum			
334	Manual vacuum aspiration syringe			
335	Cannula			
336	Tenaculum			
Drugs				
337	Local anesthetic (e.g., lignocaine)			
338	Oxytocin			
339	Magnesium sulfate (and/or injectable diazepam)			
340	Ampicillin (injectable)			
341	Metronidazole (injectable)			
342	Gentamicin (injectable)			
343	Paracetamol			
344	Erythromycin ointment and/or silver nitrate drops			
345	OPV			
346	BCG vaccine			
347	Tetanus toxoid			
348	Iron/Folate tablets			
349	Sulfadoxine-pymethamine and/or chloroquine			

Section 4: Additional Infrastructure, Staff, Equipment, and Supplies for Comprehensive EOC Facilities

400 HAS THE FACILITY PERFORMED BLOOD TRANSFUSION IN THE PAST 3 MONTHS?

YES ☐ ↓ NO ☐ → 405

Are the following laboratory tests performed either at the facility OR off-site to screen blood for transfusion?

		YES	NO	COMMENTS
401	Type and crossmatch			
402	HIV			
403	Hepatitis B			
404	Syphilis			

405 HAS THE FACILITY PROVIDED CESAREAN SECTION IN THE PAST 3 MONTHS?

YES ☐ ↓ NO ☐ → End

Type(s) of Anesthesia Provided in the Last 3 Months				
406	Spinal			
407	Local			
408	Ketamine			
409	General			
410	If the facility provides general anesthesia, does the anesthesia machine work?			
Cesarean Section Infrastructure				
411	Does the facility have an operating room?			
Availability of Staff to Provide Cesarean Section				
412	Are all key staff necessary to provide a cesarean section available 24 hours a day, 7 days a week?			
Cesarean Section Kit with the Following Supplies:				
413	Scalpel			
414	Scissors			
415	Artery forceps			
416	Needle holder			
417	Needle			
		YES	**NO**	**COMMENTS**

418	Doyen's or pelvic retractor			
419	Self-retaining (abdominal wall) retractor			
420	Forceps, toothed			
421	Forceps, non-toothed			
422	Suction system			
423	Kidney basins			
424	Gallipots			

Comments: _____

FACILITY AUDIT GUIDELINES

The Facility Audit is a tool used to measure the indicators on the Facility-Level Index. This tool is not designed to perform a comprehensive assessment of the functioning of the facility. Rather, it focuses on the key infrastructure, equipment, supplies, and staffing a facility needs to provide a minimum standard of maternal and newborn care. The items on the Facility Audit tool feed directly into the five indicators in the Facility-Level Index to measure whether a given facility is prepared to provide care for normal births and ready to treat and/or refer complications.

The Facility Audit assesses facilities at two different standards based on the level of services a given facility provides. Basic Essential Obstetric Care (EOC) facilities must meet standards to be able to provide the six following services: administer parenteral antibiotics, administer parenteral uterotonics, administer parenteral anticonvulsants, perform manual removal of the placenta, and perform removal of retained products of conception after incomplete abortion. Comprehensive EOC facilities must meet these same basic standards and, in addition, must be able to provide blood transfusion, anesthesia, and surgical interventions such as cesarean section (WHO 2000b).

Conducting the Facility Audit

Ideally, the data collection team member who conducts the Facility Audit should be a healthcare provider in order to identify and ascertain that equipment is in working order. The facility manager is the respondent for the questions in Section 1 of the Facility Audit (Facility Services). For Sections 2 (Facility Infrastructure) and 3 (Equipment and Supplies for Basic EOC Facilities), the data collector must **observe** each item of equipment, supply, or drug. For each item on the audit, he/she must place an "X" in the YES column if the item or service is available and in working order, or place an "X" in the NO column if the item or service is not available or is not functioning properly.

Completing the Facility Audit Form

Facility ID Number

This number serves to distinctively identify each facility. The ID numbers may be assigned specifically for this survey or an existing ID number may be used. It is important to use the correct ID number since data collection tools for providers are linked to the facility ID number.

Name of Facility Manager

Record the name of the facility manager here.

Name of Evaluator

Record the name of the person who conducts the Facility Audit and the names of any individuals who assist with the audit.

Name of Facility

Record the complete name of the facility here. Verify the correct spelling with the facility manager.

Type of Facility

Verify the facility type (e.g., hospital, health center, maternity clinic) that was provided on the sample list with the facility manager. If there is a discrepancy, enter the most appropriate response based on discussion with the facility manager and make a note on the comments column (ORC Macro 2002b).

Date(s) of Assessment

Record the date(s) the Facility Audit was conducted.

Section 1: Facility Services

Is staff available to treat and refer clients 24 hours a day 7days a week? (Item 101)

Having staff available to treat and refer clients 24 hours a day, 7 days a week means that a skilled provider in maternal and newborn care is on duty or on call at all times, ready to provide maternal and newborn care and/or referral. If healthcare providers are on duty but can leave the premises, and there is either a sign or another staff member who knows how to locate them immediately, they are said to be "on call". If no specific staff is assigned to be on duty or on call at all times, the answer is NO. Verify that there is an on-call or duty roster (ORC Macro 2002b).

Does the facility have an active health committee? (Item 102)

An active health committee should:

- Consist of community members, providers, and administrators (committee composition may vary across countries or regions);
- Have met within the last month;
- Have some decision-making authority in facility operations such as finances, community relations, and how services are provided at the site.

If the health facility has a health committee that satisfies ALL THREE of these criteria, mark YES. Otherwise, mark NO.

Does the facility have a system for reviewing cases of maternal and perinatal deaths and/or complications on a regular basis? (Item 103)

Reviewing maternal and perinatal deaths and complications provides information about why a death or complication occurred, or in the case of a "near miss," how a death was averted. The information obtained from the review is important in evaluating, maintaining, and improving quality of care to avoid future maternal and perinatal deaths. In order to prevent any biases, a committee or group must carry out the review process, rather than a single person.

Types of investigations into maternal or perinatal deaths and/or complications that data collection teams may encounter include medical case reviews and criterion-based clinical audits, among others. In a medical case review, reviewers conduct interviews with those responsible for providing clinical care as well as family members in order to identify factors in the facility and the community that contributed to the complication or death. Facilities may review cases after each adverse event, or they may select a case for review on a regular basis, for example once per month. Criterion-based

clinical audits are a more structured process of investigating adverse events. In this process, investigators at the facility compare actions of healthcare providers to explicit standards. They commonly look at several cases at once to ascertain practices at the facility and identify areas for improvement. In any existing system for reviewing maternal or perinatal deaths, complications, and/or "near misses," the facility must be able to explain how it uses the findings to improve care.

In order to mark YES for this item, the facility must have a system in place for conducting investigations according to a set schedule, for example, after each maternal death, once a month, or once in every quarter.

Section 2: Facility Infrastructure

Client Waiting Area With Shelter (Item 201)

Examine the clinic area, including outside the building. If there is an area specifically designated as a waiting area that provides a roof or other shelter from sun and rain, mark YES, even if clients prefer to wait outside (for example, under a tree) (ORC Macro 2002b).

Exam Room with Adequate Privacy (Item 202)

The conditions of the examination room can dramatically affect the quality of care as well as clients' satisfaction with the facility. It is very important that other clients or healthcare workers cannot see or hear the client during exams and procedures. Observe the exam area to assess whether there is adequate privacy (ORC Macro 2002b).

Water Source (Item 203)

The purpose of this question is to determine if water is consistently available at the facility. Ask the facility supervisor what the main source of water is and if it is a reliable source. If the primary water source is not reliable, verify that a backup system of storage tanks (such as Veronica buckets or basins) is in place and filled with water. If water is *always* available at the facility, either through primary or secondary sources, then place a mark in the YES column. If water is not always available at the facility, place a mark in the NO column.

Light Source (Item 204)

A light source that works consistently is important in the day-to-day functioning of the facility, especially at night. Light sources include kerosene, gas or battery-powered lanterns, and electric or solar-powered lights. Mark YES if any of the light sources are available AND functioning properly.

Section 3: Equipment and Supplies for Basic EOC Facilities

General Equipment and Supplies (Items 301–311)

The equipment and supplies listed are the basic materials necessary for the provision of antenatal, intrapartum, and postpartum and newborn care.

Record Keeping (Items 312–314)

Record keeping is necessary to monitor the woman's or newborn's condition, and for providing continuity of care (Kinzie and Gomez 2004). Records provide documentation concerning the

number of clients receiving care, diagnosis, care received, and the outcome, all of which are important for tracking the quality of care at the facility. Verify that all forms listed on the Facility Audit are available.

Infection Prevention (Items 315–321)

Infection prevention is essential in protecting women and newborn babies from potentially life-threatening infections. Infection prevention procedures also protect healthcare workers from infection and injury. The supplies listed under this heading are the basic equipment needed to effectively implement infection prevention. Sources for boiling water include, among others, gas, wood, electric or solar-powered stoves.

Childbirth Kit/Suture Kit (Items 322–328)

These are the supplies needed to safely perform a vaginal childbirth. Verify that the instruments have been sterilized or high-level disinfected.

Vacuum Extraction (Item 329)

Types of vacuum extractors include: hand-operated, foot-operated, or electric. Verify that at least one of these types is available and that all components of the machine are in place and in working order.

Newborn Resuscitation (Items 330–332)

The ability to resuscitate a newborn is necessary to treat birth asphyxia. The essential supplies for newborn resuscitation are listed under this heading. Appropriate suction equipment includes disposable bulb syringe, DeLee suction catheters, and/or electric suction with disposable suction tubes.

Manual Vacuum Aspiration (Items 333–336)

Since incomplete abortion is believed to account for 13% of maternal mortality (WHO/UNFPA/ UNICEF/World Bank 1999), the ability to remove retained products of conception is a requirement for Basic EOC facilities. All necessary equipment needed to perform manual vacuum aspiration is listed under this heading. Verify that all equipment is available and in working order. For item 334, if a facility has an electric vacuum aspirator instead of a manual vacuum aspiration syringe, mark YES only if all components of the machine are in place and in working order.

Drugs (Items 337–349)

Item 339: Magnesium sulfate is the recommended treatment for severe pre-eclampsia and eclampsia but some countries still use diazepam as a first line treatment. Place an "X" in the YES column if the facility has the first line drug in compliance with the national protocol. For example, if the first line protocol in a country is magnesium sulfate, and a facility in that country does not have magnesium sulfate, place an "X" in the NO column, even if that facility has diazepam available.

Item 349: According to the national protocol, malaria endemic countries may use chloroquine or sulfadoxine-pyrimethamine to prevent malaria during pregnancy. If the Facility

Audit is conducted in a country where malaria is not endemic, write N/A in the COMMENTS column for item 349.

Section 4: Additional Infrastructure, Staff, Equipment, and Supplies for Comprehensive EOC Facilities

As mentioned in the first paragraph of the Facility Audit Guidelines, a comprehensive EOC facility provides the same services and has all the supplies, equipment, and drugs that basic EOC facilities have plus the ability to perform blood transfusion, anesthesia, and cesarean section. The remaining portions of the Facility Audit are concerned with the supplies and equipment needed to provide these two services. They are not applicable to facilities that provide only basic EOC.

Provision of Blood Transfusion (Item 400)

In some cases of postpartum hemorrhage it is necessary to give the woman a blood transfusion. Ask the facility supervisor or check service records to ascertain whether the facility provides blood transfusions. Mark YES if blood transfusion has been provided at the facility for any reason in the past 3 months and go to item 401. If blood transfusion is not performed at the facility, mark NO and skip to item 405.

Laboratory Testing (Items 401–404)

Items 401 to 404 include the necessary laboratory tests that a facility must perform bo be qualified as performing *safe* blood transfusions. Some facilities use blood from the Red Cross or other external blood bank. In this case, the facility itself does not need the capacity to perform these screening tests, as long as the blood bank does it for them. If neither the facility nor the blood bank performs these screening tests, the facility does not offer safe blood transfusion. Therefore, you should mark an "X" in the NO column.

Provision of Cesarean Section (Item 405)

Ask the facility manager or check service records to find out if the facility performs cesarean sections. If the facility has performed a cesarean section in the past 3 months, mark YES and continue with item 406. If the facility has not performed a cesarean section in the last 3 months, mark NO and skip to the end of the Facility Audit form.

Type(s) of Anesthesia Provided in the Last 3 Months (Items 406–410)

In order to perform cesarean section, the facility should provide at least one of these types of anesthesia. Ask the facility manager if the facility has provided each type of anesthesia in the last 3 months. Place an "X" in the YES column next to each type of anesthesia if the facility has used it in the last 3 months, or under the NO column if it has not.

For item **409**, if the facility provides general anesthesia, ask the facility supervisor if the machine is in working order and, if it is, mark YES. If the machine does not function properly, place an "X" in the NO column for item **410**. Change the response to item **409** to NO. If the facility does not provide general anesthesia, write, "Facility does not provide general anesthesia" in the COMMENTS column next to item 410.

Cesarean Section Infrastructure (Item 411)

In order to perform cesarean sections, a facility must have an operating room. If the facility has an operating room that has been used for any procedure in the last 3 months, mark an "X" in the YES column. If there is no operating room or it has not been used in the last 3 months, place an "X" in the NO column.

Availability of Staff to Provide Cesarean Section (Item 412)

In order to perform cesarean sections, several key staff must be available at the facility at all times. Place an "X" in the YES column if ALL of the following staff are available 24 hours a day, 7 days a week, either on duty or on call, according to the definition stated for item 101.

- One anesthetist
- One surgeon
- One surgical assistant
- One scrub nurse
- One circulating nurse

Cesarean Section Supplies (Items 413–424)

Basic surgical instruments are necessary to safely perform a cesarean section. If not already sterilized or packaged, verify that each instrument listed is available at the facility. If the equipment is packaged, rather than opening the sterile packs and in order to prevent contamination, ask the facility supervisor for a list of instruments contained in each set. In the event that a list is unavailable and the supervisor is unable to tell what instruments are included, data collectors may want to open one of the sterile packs to confirm the availability of each instrument.

CALCULATING INDICATORS

Provider-Level Index Indicators

All of the indicators on the Provider-Level Index are phrased in terms of percentage of providers who exceed a certain standard, either for essential knowledge or competence in a skill.

- On the written tests, including knowledge questionnaires and case studies, the provider must answer at least **80%** of the questions correctly in order to meet the standard for having essential knowledge or competence in decision-making skills.
- On the skills checklists, a provider must perform at least **90%** of the steps on the skills checklist competently in order to reach the standard for competence in that skill.

In clinical practice, providers are either able to perform a skill correctly, or they are not. If providers are not able to perform a skill correctly, they may endanger the life or health of a client or their own. As long as providers do not meet the required standard for competence in a skill, there is no significant difference between performing 10% and 50% of the steps of tasks correctly. Both scores indicate potentially dangerous practice. This is why all indicators on the Provider-Level Index measure the percentage of providers who achieve a certain standard rather than, for example, the average percentage of correct items.

The standard for essential knowledge is to be able to answer 80% of the questions correctly. The long-time standard used by JHPIEGO as a passing score on written tests is 85%. Nevertheless, since four out of the six written instruments included in this manual have 10 or fewer steps, the standard for these instruments has been set at 80%. This way, providers can make more than just one mistake and still be considered to have essential knowledge or adequate decision-making skills. The knowledge questionnaires contain basic, need-to-know information and, ideally, providers should have the knowledge to answer every question correctly. However, because these are tests, people may make unintentional mistakes or misinterpret the questions, so the standard is not 100% of correct answers.

The skills checklists found in this manual include only the "critical" steps for each skill. Since each step is critical, providers should in fact perform every step correctly in order to be competent in the skill. However, because this is a testing situation, nervousness may cause providers to make errors they would not normally make. Especially since observers will observe each provider's performance of each skill only once, setting a standard of 90% competence allows the provider a little room for testing error. Observers also have some discretion to rate a provider as "competent" in the skill, even when he/she performed less than 90% of the steps competently, if they strongly feel that the provider demonstrated competence in the skill.

Table 3-3. Required Number of Correct Items Providers Must Have on Each Instrument to Meet the Standard for the Indicator

NAME OF INSTRUMENT	TOTAL NUMBER OF ITEMS ON THE INSTRUMENT	NUMBER OF CORRECT ITEMS NEEDED TO ACHIEVE THE STANDARD
Antenatal Care Knowledge Questionnaire	10	8
Normal Labor, Childbirth, and Immediate Newborn Care Knowledge Questionnaire	20	16
Management of Complications Knowledge Questionnaire	10	8
Postpartum Care (Mother and Baby) Knowledge Questionnaire	10	8
Use of the Partograph Case Study	16	13
Postpartum Hemorrhage Case Study	5	4
Skills Checklist for Interpersonal Communication and Counseling (IPC/C)	18	17
Skills Checklist for Normal Labor, Childbirth, and Immediate Newborn Care	23	21
Skills Checklist for Bimanual Compression of the Uterus and Aortic Compression	15	14
Skills Checklist for Newborn Resuscitation	12	11
Skills Checklist for Manual Vacuum Aspiration (MVA)	48	44

Calculating Indicators 4.1 to 4.4: Essential Knowledge

After collecting knowledge questionnaires from all providers in the survey, the next step in calculating each knowledge indicator is to calculate the number of providers who answered at least 80% of the questions on each questionnaire correctly. In order to calculate the indicator, the researcher then divides the number of providers who have essential knowledge (defined as having at least 80% of answers correct) on each knowledge questionnaire by the total number of providers completing that questionnaire. For example, if 120 providers completed the Antenatal Care Knowledge Questionnaire and 75 providers out of those 120 scored 80% or higher, the calculation for Indicator 4.1 is as follows:

$$\frac{\text{75 providers with essential knowledge in management of normal pregnancy}}{\text{120 respondents that completed the questionnaire}} \times 100 = 62.5\%$$

Thus, 62.5% of providers have essential knowledge in management of normal pregnancy. This example is relevant if researchers do not need to weight the provider responses. Whether it is necessary to weight the provider responses depends on the way the study coordinators designed the sample (refer to the **Sampling** section). If it is necessary to weight provider responses, a statistician will need to adjust the formula to incorporate weighting the responses. The same situation applies to all of the provider indicators.

Calculating Indicator 4.5: Decision-Making Skill

This is the only indicator on the Birth Preparedness and Complication Readiness (BP/CR) Indices that is calculated using data from two different instruments. To calculate this indicator, researchers must use both the Use of the Partograph Case Study and the Postpartum Hemorrhage Case Study. In order to be competent in decision-making, providers must answer at least 80% of the questions correctly on EACH case study. Researchers should score all the Use of the Partograph Case Studies to identify the set of providers who scored at least 80% on this instrument. Then, researchers should score all the Postpartum Hemorrhage Case Studies completed by this sub-set of providers to determine which ones *also* answered at least 80% of the questions right on the Postpartum Hemorrhage (PPH) Case Study. This is the number of providers who are competent in decision-making. To calculate the indicator, the researcher then divides this number by the total number of providers who completed both case studies.

$$\frac{\text{90 providers achieve at least 80\% on the Use of the Partograph Case Study AND at least 80\% on the PPH Case Study}}{\text{120 respondents that completed both case studies}} \times 100 = 75\%$$

Thus, 75% of providers have adequate decision-making skills.

Calculating Indicators 4.6 to 4.10: Interpersonal Communication and Counseling and Psychomotor Skills

To calculate the skills indicators, researchers must determine the number of providers who performed at least 90% of the steps on each skills checklist correctly (or who otherwise received a competent rating by the observer) in order to identify the number of providers competent in each skill. For example, if researchers find that 50 of the providers sampled got at least 90% of the items correct on the Skills Checklist for Normal Labor, Childbirth, and Immediate Newborn Care, the calculation for the indicator is as follows:

$$\frac{\text{50 providers competent in management of normal labor}}{\text{120 respondents that completed the skills checklist}} \times 100 = 41.7\%$$

Thus, 41.7% of providers are competent in management of normal labor.

Facility-Level Index Indicators

Indicator 5.1: Adequate Supplies and Equipment

Sections 3 and 4 of the Facility Audit list the supplies and equipment that facilities need in order to provide essential obstetric care (EOC). This list includes strictly the minimum supplies and equipment required. Facilities must, therefore, have *every* item on the list to be considered to have the necessary supplies and equipment. The indicator has a different calculation for basic EOC and comprehensive EOC facilities. Basic EOC facilities must have *all* items listed, that is, items 301 through 349.

Comprehensive EOC facilities are those facilities that have YES marked for items 400 **and** 405. In order to have the necessary supplies and equipment, these facilities must satisfy **all** of the following criteria:

- YES for **all** items from 301 to 349
- YES for **all** items from 401 to 404
- YES for **at least one** of the items from 406 to 409
- YES for **all** items from 411 to 424

The formula below illustrates how to calculate the indicator when it is not necessary to weight the facility scores.

$$\left(\frac{\text{Number of basic EOC facilities that have necessary supplies and equipment (items 301–349)}}{\text{Number of basic EOC facilities}} + \frac{\text{Number of comprehensive EOC facilities that have necessary supplies and equipment (4 criteria)}}{\text{Number of comprehensive EOC facilities}} \right) \times 100$$

If the facility sample is not self-weighting, a statistician will need to assign weights to each facility and calculate the indicator using the weighted data.

Indicator 5.2: Adequate Staffing

This indicator is calculated differently depending on whether the facility provides cesarean sections. If a facility has NO marked for item 405 on the Facility Audit ("Has the facility provided a cesarean section in the past 3 months?") then this is a facility that does not provide cesarean section. If a facility has YES marked for this item, then it is a facility that provides cesarean section. If a facility does **not** provide cesarean section, in order to be counted as having adequate staffing, it needs to have YES for item 101 on the Facility Audit. However, if a facility does provide cesarean section, then it needs to have YES marked for items 101 **and** 412 to be considered to have adequate staffing. In order to calculate these two groups of facilities into one indicator, use the formula below if it is not necessary to weight the facilities. When it is necessary to weight the facilities, a statistician will need to factor the weights for each facility into the calculation.

$$\left(\frac{\text{Number of facilities that do NOT provide C-section who have YES for item 101}}{\text{Number of facilities that do NOT provide C-section}} + \frac{\text{Number of facilities that provide C-section who have YES for items 101 \textbf{and} 412}}{\text{Number of facilities that provide C-section}} \right) \times 100$$

Indicators 5.3 to 5.5: Availability of a Health Committee, a System to Review Maternal and Perinatal Deaths, and Privacy

These indicators can be calculated in a straightforward manner; each indicator corresponds to only one item on the Facility Audit. To calculate the indicator divide the number of facilities that have YES marked for the item on the questionnaire relevant to the indicator (see below) and divide that number by the total number of facilities surveyed. As with the other facility indicators, a statistician will have to perform the necessary calculations if facility weights are needed.

Indicator 5.3 corresponds to item 102 on the Facility Audit
Indicator 5.4 corresponds to item 103 on the Facility Audit
Indicator 5.5 corresponds to item 202 on the Facility Audit

APPENDICES

APPENDIX A: ESSENTIAL COMPETENCIES FOR BASIC MIDWIFERY PRACTICE*

GENERIC KNOWLEDGE, SKILLS AND BEHAVIOURS FROM THE SOCIAL SCIENCES, PUBLIC HEALTH AND THE HEALTH PROFESSIONS

Competency #1: Midwives have the requisite knowledge and skills from the social sciences, public health, and ethics that form the basis of high quality, culturally relevant, appropriate care for women, newborn, and childbearing families.

Basic Knowledge and Skills:

1. Respect for local culture (customs).
2. Traditional and modern routine health practices (beneficial and harmful).
3. Resources for alarm and transport (emergency care).
4. Direct and indirect causes of maternal and neonatal mortality and morbidity in the local community.
5. Advocacy and empowerment strategies for women.
6. Understanding human rights and their effect on health.
7. Benefits and risks of available birth settings.
8. Strategies for advocating with women for a variety of safe birth settings.
9. Knowledge of the community—its state of health including water supply, housing, environmental hazards, food, common threats to health.
10. Indications and procedures for adult and newborn/infant cardiopulmonary resuscitation.
11. Ability to assemble, use, and maintain equipment and supplies appropriate to setting of practice.

Additional Knowledge and Skills:

12. Principles of epidemiology, sanitation, community diagnosis, and vital statistics or records.
13. National and local health infrastructures; how to access needed resources for midwifery care.
14. Principles of community-based primary care using health promotion and disease prevention strategies.
15. National immunization programs (provision of same or knowledge of how to assist community members to access to immunization services).

Professional Behaviors—The Midwife:

1. Is responsible and accountable for clinical decisions.
2. Maintains knowledge and skills in order to remain current in practice.
3. Uses universal/standard precautions, infection control strategies, and clean technique.

---

* ICM Core Documents: Competencies. 2002. Retrieved in January, 2004, from the International Confederation of Midwives site: http://www.internationalmidwives.org.

4. Uses appropriate consultation and referral during care.
5. Is non-judgmental and culturally respectful.
6. Works in partnership with women and supports them in making informed choices about their health.
7. Uses appropriate communication skills.
8. Works collaboratively with other health workers to improve the delivery of services to women and families.

PRE-PREGNANCY CARE AND FAMILY PLANNING METHODS

Competency #2: Midwives provide high quality, culturally sensitive health education and services to all in the community in order to promote healthy family life, planned pregnancies, and positive parenting.

Basic Knowledge of:

1. Growth and development related to sexuality, sexual development, and sexual activity.
2. Female and male anatomy and physiology related to conception and reproduction.
3. Cultural norms and practices surrounding sexuality, sexual practices, and childbearing.
4. Components of a health history, family history, and relevant genetic history.
5. Physical examination content and investigative laboratory studies that evaluate potential for a healthy pregnancy.
6. Health education content targeted to reproductive health, sexually transmitted diseases (STDs), HIV/AIDS, and child survival.
7. Natural methods for child spacing and other locally available and culturally acceptable methods of family planning.
8. Barrier, steroidal, mechanical, chemical, and surgical methods of contraception and indications for use.
9. Counseling methods for women needing to make decisions about methods of family planning.
10. Signs and symptoms of urinary tract infection and common sexually transmitted diseases in the area.

Additional Knowledge of:

11. Factors involved in decisions relating to unplanned or unwanted pregnancies.
12. Indicators of common acute and chronic disease conditions specific to a geographic area of the world, and referral process for further testing/ treatment.
13. Indicators of and methods of counseling/referral for dysfunctional interpersonal relationships including sexual problems, domestic violence, emotional abuse, and physical neglect.

Basic Skills:

1. Take a comprehensive history.
2. Perform a physical examination focused on the presenting condition of the woman.
3. Order and/or perform and interpret common laboratory studies such as hematocrit, urinalysis, or microscopy.
4. Use health education and basic counseling skills appropriately.
5. Provide locally available and culturally acceptable methods of family planning.
6. Record findings, including what was done and what needs follow-up.

Additional Skills:

7. Use the microscope.
8. Provide all available methods of barrier, steroidal, mechanical, and chemical methods of contraception.
9. Take or order cervical cytology smear (Pap test).

CARE AND COUNSELLING DURING PREGNANCY

Competency #3: Midwives provide high quality antenatal care to maximize the health during pregnancy and that includes early detection and treatment or referral of selected complications.

Basic Knowledge of:

1. Anatomy and physiology of the human body.
2. Menstrual cycle and process of conception.
3. Signs and symptoms of pregnancy.
4. How to confirm a pregnancy.
5. Diagnosis of an ectopic pregnancy and multiple fetuses.
6. Dating pregnancy by menstrual history, size of uterus and/or fundal growth patterns.
7. Components of a health history.
8. Components of a focused physical examination for antenatal visits.
9. Normal findings [results] of basic screening laboratory studies defined by need of area of the world: e.g., iron levels, urine test for sugar, protein, acetone, bacteria.
10. Normal progression of pregnancy: body changes, common discomforts, expected fundal growth patterns.
11. Normal psychological changes in pregnancy and impact of pregnancy on the family.
12. Safe, locally available herbal/non-pharmacological preparations for the relief of common discomforts of pregnancy.

13. How to determine fetal well-being during pregnancy including fetal heart rate and activity patterns.
14. Nutritional requirements of the pregnant woman and fetus.
15. Basic fetal growth and development.
16. Education needs regarding normal body changes during pregnancy, relief of common discomforts, hygiene, sexuality, nutrition, work inside and outside the home.
17. Preparation for labor, birth, and parenting.
18. Preparation of the home/family for the newborn.
19. Indicators of the onset of labor.
20. How to explain and support breastfeeding.
21. Techniques for increasing relaxation and pain relief measures available for labor.
22. Effects of prescribed medications, street drugs, traditional medicines, and over-the-counter drugs on pregnancy and the fetus.
23. Effects of smoking, alcohol use, and illicit drug use on the pregnant woman and fetus.
24. Signs and symptoms of conditions that are life-threatening to the pregnant woman: e.g., pre-eclampsia, vaginal bleeding, premature labor, severe anemia.

Additional Knowledge of:

25. Signs, symptoms, and indications for referral of selected complications and conditions of pregnancy: e.g., asthma, HIV infection, diabetes, cardiac conditions, post-dates pregnancy.
26. Effects of above named chronic and acute conditions on pregnancy and the fetus.

Basic Skills:

1. Take an initial and ongoing history in each antenatal visit.
2. Perform a physical examination and explain findings to the woman.
3. Take and assess maternal vital signs including temperature, blood pressure, pulse.
4. Assess maternal nutrition and its relationship to growth.
5. Perform a complete abdominal assessment, including measuring fundal height, position, lie, and descent of fetus.
6. Assess fetal growth.
7. Listen to the fetal heart rate and palpate uterus for fetal activity pattern.
8. Perform a pelvic examination, including sizing the uterus and determining the adequacy of the bony structures.
9. Calculate the estimated date of delivery.
10. Educate women and families about danger signs and when/how to contact the midwife.
11. Teach and/or demonstrate measures to decrease common discomforts of pregnancy.
12. Provide guidance and basic preparation for labor, birth, and parenting.

13. Identify variations from normal during the course of the pregnancy and institute appropriate interventions for:
    a. low and/or inadequate maternal nutrition
    b. inadequate fetal growth
    c. elevated blood pressure, proteinuria, presence of significant oedema, severe headaches, visual changes, epigastric pain associated with elevated blood pressure
    d. vaginal bleeding
    e. multiple gestation, abnormal lie at term
    f. intrauterine fetal death
    g. rupture of membranes prior to term
14. Perform basic life-saving skills competently.
15. Record findings including what was done and what needs follow-up.

Additional Skills:

16. Counsel women about health habits: e.g., nutrition, exercise, safety, stopping smoking.
17. Perform clinical pelvimetry [evaluation of bony pelvis].
18. Monitor fetal heart rate with doppler.
19. Identify and refer variations from normal during the course of the pregnancy, such as:
    a. small for dates [light]/large for dates [heavy] fetus
    b. suspected polyhydramnios, diabetes, fetal anomaly (e.g., oliguria)
    c. abnormal laboratory results
    d. infections such as sexually transmitted diseases (STDs), vaginitis, urinary tract, upper respiratory
    e. fetal assessment in the post-term pregnancy
20. Treat and/or collaboratively manage above variations from normal based upon local standards and available resources.
21. Perform external version of breech presentation.

CARE DURING LABOR AND BIRTH

Competency #4: Midwives provide high quality, culturally sensitive care during labor, conduct a clean and safe delivery, and handle selected emergency situations to maximize the health of women and their newborn.

Basic Knowledge of:

1. Physiology of labor.
2. Anatomy of fetal skull, critical diameters, and landmarks.
3. Psychological and cultural aspects of labor and birth.

4. Indicators that labor is beginning.
5. Normal progression of labor and how to use the partograph or similar tool.
6. Measures to assess fetal well-being in labor.
7. Measures to assess maternal well-being in labor.
8. Process of fetal passage [descent] through the pelvis during labor and birth.
9. Comfort measures in labor: e.g., family presence/assistance, positioning, hydration, emotional support, non-pharmacological methods of pain relief.
10. Transition of newborn to extra-uterine life.
11. Physical care of the newborn—breathing, warmth, feeding.
12. Promotion of skin-to-skin contact of the newborn with mother when appropriate.
13. Ways to support and promote uninterrupted [exclusive] breastfeeding.
14. Physiological management of the 3rd stage of labor.
15. Indications for emergency measures: e.g., retained placenta, shoulder dystocia, atonic uterine bleeding, neonatal asphyxia.
16. Indications for operative delivery: e.g., fetal distress, cephalo-pelvic disproportion.
17. Indicators of complications in labor: bleeding, labor arrest, malpresentation, eclampsia, maternal distress, fetal distress, infection, prolapsed cord.
18. Principles of active management of 3rd stage of labor.

Basic Skills:

1. Take a specific history and maternal vital signs in labor.
2. Perform a screening physical examination.
3. Do a complete abdominal assessment for fetal position and descent.
4. Time and assess the effectiveness of uterine contractions.
5. Perform a complete and accurate pelvic examination for dilation, descent, presenting part, position, status of membranes, and adequacy of pelvis for baby.
6. Follow progress of labor using the partograph or similar tool for recording.
7. Provide psychological support for woman and family.
8. Provide adequate hydration, nutrition, and comfort measures during labor.
9. Provide for bladder care.
10. Promptly identify abnormal labor patterns with appropriate and timely intervention and/or referral.
11. Perform appropriate hand maneuvers for a vertex delivery.
12. Manage a cord around the baby's neck at delivery.
13. Cut an episiotomy if needed.

14. Repair an episiotomy if needed.
15. Support physiological management of the 3rd stage of labor.
16. Conduct active management of the 3rd stage of labor including:
    a. Administration of oxytocic
    b. Early cord clamping and cutting
    c. Controlled cord traction
17. Guard the uterus from inversion during 3rd stage of labor.
18. Inspect the placenta and membranes for completeness.
19. Estimate maternal blood loss.
20. Inspect the vagina and cervix for lacerations.
21. Repair vaginal/perineal lacerations and episiotomy.
22. Manage postpartum hemorrhage.
23. Provide a safe environment for mother and infant to promote attachment.
24. Initiate breastfeeding as soon as possible after birth and support exclusive breastfeeding.
25. Perform a screening physical examination of the newborn.
26. Record findings including what was done and what needs follow-up.

Additional Skills:

27. Perform appropriate hand maneuvers for face and breech deliveries.
28. Inject local anesthesia.
29. Apply vacuum extraction or forceps.
30. Manage malpresentation, shoulder dystocia, fetal distress initially.
31. Identify and manage a prolapsed cord.
32. Perform manual removal of placenta.
33. Identify and repair cervical lacerations.
34. Perform internal bimanual compression of the uterus to control bleeding.
35. Insert intravenous line, draw blood, perform hematocrit and hemoglobin testing.
36. Prescribe and/or administer pharmacological methods of pain relief when needed.
37. Administer oxytocics appropriately for labor induction or augmentation and treatment of postpartum bleeding.
38. Transfer woman for additional/emergency care in a timely manner.

POSTNATAL CARE OF WOMEN

Competency #5: Midwives provide comprehensive, high quality, culturally sensitive postnatal care for women.

Basic Knowledge of:

1. Normal process of involution and healing following delivery [including after an abortion].
2. Process of lactation and common variations, including engorgement, lack of milk supply, etc.
3. Maternal nutrition, rest, activity, and physiological needs (e.g., bladder).
4. Infant nutritional needs.
5. Parent-infant bonding and attachment: e.g., how to promote positive relationships.
6. Indicators of sub-involution: e.g., persistent uterine bleeding, infection.
7. Indications of breastfeeding problems.
8. Signs and symptoms of life threatening conditions: e.g., persistent vaginal bleeding, urinary retention, incontinence of feces, postpartum pre-eclampsia.

Additional Knowledge of:

9. Indicators of selected complications in the postnatal period: e.g., persistent anemia, hematoma, embolism, mastitis, depression, thrombophlebitis.
10. Care and counseling needs during and after abortion.
11. Signs and symptoms of abortion complications.

Basic Skills:

1. Take a selective history, including details of pregnancy, labor, and birth.
2. Perform a focused physical examination of the mother.
3. Assess for uterine involution and healing of lacerations/repairs.
4. Initiate and support uninterrupted [exclusive] breastfeeding.
5. Educate mother on care of self and infant after delivery including rest and nutrition.
6. Identify hematoma and refer for care as appropriate.
7. Identify maternal infection, treat or refer for treatment as appropriate.
8. Record findings including what was done and what needs follow-up.

Additional Skills:

9. Counsel woman/family on sexuality and family planning post delivery.
10. Counsel and support woman who is post-abortion.
11. Evacuate a hematoma.
12. Provide appropriate antibiotic treatment for infection.
13. Refer for selected complications.

NEWBORN CARE (UP TO 2 MONTHS OF AGE)

Competency #6: Midwives provide high quality, comprehensive care for the essentially healthy infant from birth to two months of age.

Basic Knowledge of:

1. Newborn adaptation to extra-uterine life.
2. Basic needs of newborn: airway, warmth, nutrition, bonding.
3. Elements of assessment of the immediate condition of newborn: e.g., APGAR scoring system for breathing, heart rate, reflexes, muscle tone, and color.
4. Basic newborn appearance and behaviors.
5. Normal newborn and infant growth and development.
6. Selected variations in the normal newborn: e.g., caput, moulding, mongolian spots, hemangiomas, hypoglycemia, hypothermia, dehydration, infection.
7. Elements of health promotion and prevention of disease in newborn and infants.
8. Immunization needs, risks, and benefits for the infant up to 2 months of age.

Additional Knowledge of:

9. Selected newborn complications: e.g., jaundice, hematoma, adverse moulding of the fetal skull, cerebral irritation, non-accidental injuries, causes of sudden infant death.
10. Normal growth and development of the preterm infant up to 2 months of age.

Basic Skills:

1. Clear airway to maintain respirations.
2. Maintain warmth but avoid overheating.
3. Assess the immediate condition of the newborn: e.g., APGAR scoring or other assessment method.
4. Perform a screening physical examination of the newborn for conditions incompatible with life.
5. Position the infant for breastfeeding.
6. Educate parents about danger signs and when to bring the infant for care.
7. Begin emergency measures for respiratory distress (newborn resuscitation), hypothermia, hypoglycemia, cardiac arrest.
8. Transfer newborn to emergency care facility when available.
9. Record findings, including what was done and what needs follow-up.

Additional Skills:

10. Perform a gestational age assessment.
11. Educate parents about normal growth and development, child care.
12. Assist parents to access community resources available to the family.

13. Support parents during grieving process for congenital birth defects, loss of pregnancy, or neonatal death.
14. Support parents during transport/transfer of newborn.
15. Support parents with multiple births.

BACKGROUND TO THE EVIDENCE-BASE OF THE COMPETENCIES

Between 1995 and 1999 a modified Delphi Technique was carried out for seven rounds to establish the Provisional Essential Competencies for Basic Midwifery Practice. As agreed by the International Council (the Confederation's governing body) in 1999, the competencies were field-tested by 17 International Confederation of Midwives (ICM) member associations throughout 2001. The extensive field testing was undertaken by 1,271 practicing midwives, 77 educator groups (total of 312 educators), and 79 senior level midwifery student groups (total of 333 individuals) from 22 countries; and 25 regulators from 20 countries. A total of 214 individual competency statements within six domains were presented for consideration and comment. Almost all of the competencies were supported by a great majority of the persons/groups involved in the testing, with many receiving universal support. In April 2002 the ICM International Council discussed and adopted the Essential Competencies for Basic Midwifery Practice, therewith establishing it as an official ICM document.

APPENDIX B*: MATERNAL AND NEONATAL PROGRAM EFFORT INDEX (MNPI) SCORES

	Policy Sub-Area								Resources Sub-Area				BP/CR Policy-Level Index Score
	1	2	3	4	5	6	7	**Average**	8	9	10	**Average**	
Algeria	56	48	56	54	46	54	36	**50**	52	44	68	**55**	**51**
Angola	79	60	60	75	55	55	59	**63**	55	48	33	**45**	**58**
Bangladesh	75	75	62	55	47	67	73	**65**	45	45	60	**50**	**60**
Benin	81	75	82	77	63	88	59	**75**	50	11	66	**42**	**65**
Bolivia	77	61	53	51	55	63	67	**61**	72	74	50	**65**	**62**
Botswana	83	78	85	87	69	82	72	**80**	77	89	76	**81**	**80**
Brazil	69	68	59	60	50	53	64	**60**	48	44	49	**47**	**56**
Burkina Faso	74	65	71	65	59	66	64	**66**	45	11	56	**37**	**58**
Cameroon	80	74	78	79	63	69	68	**73**	47	11	67	**42**	**64**
Chad	74	74	64	46	40	60	70	**61**	36	12	50	**33**	**53**
China	85	88	68	72	77	77	85	**79**	60	23	38	**41**	**67**
Congo	68	58	68	52	43	84	46	**60**	43	9	60	**37**	**53**
Cote d'Ivoire	68	59	74	46	55	85	61	**64**	40	5	61	**35**	**55**
Dominican Rep.	52	55	50	37	43	62	73	**53**	40	25	73	**46**	**51**
Ecuador	80	79	77	67	69	64	61	**71**	67	77	59	**68**	**70**
Egypt	78	63	73	60	65	79	79	**71**	62	65	74	**67**	**70**
El Salvador	73	67	56	44	65	80	45	**62**	42	44	42	**42**	**56**
Ethiopia	69	52	56	57	40	47	40	**52**	40	28	34	**34**	**46**
Ghana	77	78	79	85	68	84	74	**78**	63	41	59	**54**	**71**
Guatemala	67	53	46	26	37	48	49	**47**	34	49	45	**43**	**45**
Guinea	80	81	73	72	64	71	60	**72**	48	10	40	**33**	**60**
Haiti	55	60	54	32	40	60	55	**51**	33	23	50	**35**	**46**
Honduras	80	79	77	67	69	64	61	**71**	67	77	59	**68**	**70**
India	68	67	60	52	42	60	46	**56**	54	51	64	**56**	**56**
Indonesia	67	70	70	57	53	53	63	**62**	47	26	60	**44**	**57**
Iran	78	58	73	8	64	64	47	**56**	51	45	87	**61**	**57**
Jordan	77	54	57	49	57	69	64	**61**	63	47	77	**62**	**61**
Kenya	65	69	61	58	42	60	46	**57**	42	19	52	**38**	**51**
Madagascar	83	78	78	80	68	76	64	**75**	49	30	52	**44**	**66**
Mauritania	83	74	64	48	58	57	61	**64**	52	9	59	**40**	**57**
Mexico	70	58	57	42	60	73	55	**59**	47	47	55	**49**	**56**

* Data for this appendix are courtesy of John Ross, The Futures Group International.

	Policy Sub-Area								Resources Sub-Area				BP/CR Policy-Level Index Score
	1	2	3	4	5	6	7	**Average**	8	9	10	**Average**	
Morocco	73	62	78	43	56	75	70	**65**	58	50	55	**54**	**62**
Mozambique	80	67	75	71	67	69	60	**70**	42	67	31	**47**	**63**
Myanmar	71	71	69	54	49	66	63	**63**	57	48	65	**57**	**61**
Namibia	71	82	80	36	53	64	65	**64**	78	89	65	**78**	**68**
Nepal	73	73	71	70	57	69	64	**68**	49	43	59	**50**	**63**
Nicaragua	69	48	54	26	42	42	34	**45**	33	30	53	**39**	**43**
Niger	69	64	64	56	45	73	56	**61**	34	11	59	**35**	**53**
Nigeria	78	83	78	57	65	72	57	**70**	45	24	70	**46**	**63**
Pakistan	56	51	42	27	25	45	40	**41**	39	30	65	**45**	**42**
Panama	91	73	74	76	76	75	58	**75**	55	28	64	**49**	**67**
Paraguay	56	47	56	44	41	53	50	**50**	34	25	45	**35**	**45**
Philippines	71	73	75	71	62	64	58	**68**	56	42	64	**54**	**63**
Rwanda	83	73	74	59	60	64	70	**69**	53	14	53	**40**	**60**
Senegal	59	54	57	48	48	71	65	**58**	41	9	43	**31**	**50**
South Africa	77	67	76	83	66	71	52	**70**	49	80	66	**65**	**69**
Sudan	56	45	49	37	31	37	35	**41**	34	17	59	**37**	**40**
Tanzania	82	67	78	73	59	66	68	**71**	54	53	63	**56**	**66**
Uganda	74	70	69	71	62	69	76	**70**	59	49	71	**60**	**67**
Vietnam	83	74	79	80	68	61	69	**74**	65	47	65	**59**	**69**
West Bank	64	71	54	45	54	64	58	**58**	50	42	69	**54**	**57**
Yemen	66	59	70	54	51	66	73	**63**	41	21	48	**37**	**55**
Zaire	68	62	65	45	39	62	60	**57**	25	7	58	**30**	**49**
Zambia	67	71	71	62	52	60	64	**64**	42	44	52	**46**	**59**
Zimbabwe	78	70	74	68	60	73	61	**69**	43	27	74	**48**	**63**

POLICY SUB-AREA INDICATORS

- Ministry of Health policies toward pregnancy and delivery services are adequate
- Policies are developed through adequate consultation with interested parties such as other ministries, NGOs, private practitioners, women's groups
- Policies are reasonable and fair concerning which personnel can provide maternal health services
- A favorable policy exists toward the treatment of complications of abortions, including complications seen from illegal abortions
- Policies are vigorously implemented through regular high-level reviews and updated action plans
- The director of services for maternal health is placed at a high administrative level

- High officials in the government, including the Ministry of Health, issue frequent statements to the press and public to support improvements for safe pregnancy and delivery

RESOURCES SUB-AREA INDICATORS

- The government budget for safe pregnancy, delivery, and postpartum care (for facilities, personnel, supplies, etc.) is adequate for the needs, whether from the Ministry of Health, provincial government or donor support
- All services and drugs are provided free to all clients
- The private sector (doctors, midwives, clinics, maternity homes) is active and covers a substantial share of pregnancy and delivery cases

Source: Bulatao R and J Ross. 2000. Rating Maternal and Neonatal Health Programs in Developing Countries. MEASURE *Evaluation* Working Paper WP-00-26. MEASURE *Evaluation:* Chapel Hill, NC.

REFERENCES

Averting Maternal Death and Disability (AMDD) Program and JHPIEGO/Maternal and Neonatal Health (MNH) Program. 2003. *Emergency Obstetric Care for Doctors and Midwives: Course Notebook for Trainers*. JHPIEGO: Baltimore, MD.

Bailey P et al. 2002. *Improving Emergency Obstetric Care through Criterion-Based Audit*. Averting Maternal Death and Disability: New York.
http://cpmcnet.columbia.edu/dept/sph/popfam/amdd/resources.html.

Bang A et al. 1999. Effect of home-based neonatal care and management of sepsis on Neonatal Mortality: Field Trial in Rural India (comments). *Lancet* 354(9194): 1955–1961.

Barbey A et al. 2001. *Dinajpur SafeMother Initiative Final Evaluation Report*. CARE: Dhaka, Bangladesh.

Bergsjø P. 2001. What is the evidence for the role of antenatal care strategies in the reduction of maternal mortality and morbidity?, in *Safe Motherhood Strategies: A Review of the Evidence—Studies in Health Services Organisation and Policy, 17*. De Brouwere V and W Lerberghe (eds). ITG Press: Antwerp, Belgium, pp. 35–54.

Bergström S. 2001. Appropriate obstetric technologies to deal with maternal complications, in *Safe Motherhood Strategies: A Review of the Evidence—Studies in Health Services Organisation and Policy, 17*. De Brouwere V and W Lerberghe (eds). ITG Press: Antwerp, Belgium, pp. 175–194.

Bertrand J and G Escudero. 2002. Volume 2, Indicators for specific programmatic areas, in *Compendium of Indicators for Evaluating Reproductive Health Programs*. MEASURE *Evaluation*: Chapel Hill, NC.

Bulatao R and J Ross. 2000. *Rating Maternal and Neonatal Health Programs in Developing Countries*. MEASURE *Evaluation* Working Paper WP-00-26. MEASURE *Evaluation:* Chapel Hill, NC.

Curtis S, J Bell, and S Alayon. 2003. *Skilled Attendance at Delivery: A Comparative Survey of Trends in Delivery Care in Six Developing Countries*. Paper presented at Population Association of America Annual Meeting. Minneapolis, MN, 1–3 May.

Das M et al. 1998. Self and tutor evaluations in problem-based learning tutorials: is there a relationship? *Med Educ* 32(4): 411–418.

Elbourne DR et al. 2004. Prophylactic use of oxytocin in the third stage of labour (Cochrane Review), in *The Cochrane Library*, Issue 2. Johns Wiley & Sons, Ltd.: Chichester, UK.

Essien E et al. 1997. Community loan funds and transport services for obstetric emergencies in northern Nigeria. *Int J Gynaecol Obstet* 59(Suppl 2): S237–S244.

Gay J et al. 2003. *What Works: A policy and program guide to the evidence on family planning, safe motherhood, and STI/HIV/AIDS Interventions. Module 1: Safe Motherhood*. Policy Project: Washington DC.

Gbangbade S et al. 2003. *Safe Motherhood Studies—Results from Benin: Competency of Skilled Birth Attendants; The Enabling Environment for Skilled Birth Attendants at Delivery; In-Hospital Delays in Obstetric Care (Documenting the Third Delay)*. Quality Assurance Project: Bethesda, MD.

Graham W et al. 2000. Criteria for clinical audit of the quality of hospital-based obstetric care in developing countries. *Bull World Health Organ*. 78(5): 614–620.

Habicht JP, CG Victora, and JP Vaughan. 1999. Evaluation designs for adequacy, plausibility and probability of public health programme performance and impact. *Int J Epidemiology* 28(1): 10–18.

Heerey M et al. 2003. *Client-Provider Communication: Successful Approaches and Tools* (CD-ROM). Quality Associates, Inc. and The Johns Hopkins Bloomberg School of Public Health Center for Communication Programs: Baltimore, MD.

International Confederation of Midwives. 2002. Professional Essential Competencies for Midwifery Practices. The Hague: The Netherlands.

Iskandar M and S Indrawati. 1996. *Indonesia: Utilization of Completed Operations Research Studies*. Final Report. The Population Council: Jakarta, Indonesia.

JHPIEGO/Maternal and Neonatal Health (MNH) Program. 2004. *Guidelines for Assessment of Skilled Providers after Training in Maternal and Newborn Healthcare*. JHPIEGO: Baltimore, MD.

JHPIEGO/Maternal and Neonatal Health (MNH) Program. 2002. *Learning Resource Package for Managing Complications in Pregnancy and Childbirth: Notebook for Teachers*. JHPIEGO: Baltimore, MD.

JHPIEGO/Maternal and Neonatal Health (MNH) Program. 2001. Birth Preparedness and Complication Readiness: A Matrix of Shared Responsibility. JHPIEGO: Baltimore, MD.

Kak N, B Burkhalter, and M Cooper. 2001. Measuring the competence of healthcare providers. Issue Paper 2(1). Quality Assurance Project: Bethesda, MD.

Kinzie B and P Gomez. 2004. *Basic Maternal and Newborn Care: A Guide for Skilled Providers*. R Chase (ed). JHPIEGO: Baltimore, MD.

Koblinsky M and L Sibley. 2003. *Increasing Use of Skilled Birth Attendance or Emergency Obstetric Care*. IMMPACT: Aberdeen, Scotland.

Kureshi N. 2000. *Review of Select Family and Community Practices for Safe Motherhood*. Report to WHO. MotherCare: Washington, DC and WHO: Geneva.

MacDonald M and A Starrs. 2002. *Skilled Care during Childbirth Information Booklet: Saving Women's Lives, Improving Newborn Health*. Family Care International: New York.

MEASURE *Evaluation*. 2001. *Quick Investigation of Quality (QIQ): A User's Guide to Monitoring Quality of Care in Family Planning*. MEASURE Evaluation Manual Series, No. 2. MEASURE *Evaluation*: Chapel Hill, NC.

Ministry of Health [Kenya], National Council for Population and Development [Kenya], and ORC Macro. 2000. *Kenya Service Provision Assessment, 1999*. ORC Macro: Calverton, MD.

Moore K. 2000. *Safer Motherhood 2000: Toward a Framework for Behavior Change to Reduce Maternal Deaths*. The Communication Initiative: Victoria, BC.

MotherCare. 2000a. MotherCare's Community Assessments. Understanding Family and Community Behaviors and Practices. *MotherCare Matters* 8(3-4): 1–17.

MotherCare. 2000b. Behavioral Dimensions of Health and Survival. *MotherCare Matters* 9(3): 1–19.

National Bureau of Statistics, Dar es Salaam, Tanzania, and MEASURE *Evaluation*. 2000. *Tanzania Reproductive and Child Health Facility Survey, 1999* (MEASURE *Evaluation* Technical Report Series No. 7). Carolina Population Center, University of North Carolina: Chapel Hill, NC.

ORC Macro. 2003. Measure/DHS+ Statcompiler. ORC Macro: Calverton, MD.

ORC Macro. 2002a. *Interviewer's Manual for Use with Model "A" Questionnaire for High Contraceptive Prevalence Countries*. MEASURE DHS+ Basic Documentation No. 3. ORC Macro: Calverton, MD.

ORC Macro. 2002b. *Training Manual for Conducting the Service Provision Assessment (SPA)*. ORC Macro: Calverton, MD. http://www.cpc.unc.edu/ measure/publications/pdf/ms-02-09-tool06-training_manual.pdf

ORC Macro. 2001. *Model "A" Questionnaire With Commentary for High Contraceptive Prevalence Countries*. MEASURE DHS+ Basic Documentation No. 1. ORC Macro: Calverton, MD.

Patton MQ. 1990. *Qualitative Evaluation and Research Methods*, 2nd ed. Sage Publications, Inc.: Thousand Oaks, CA.

Perreira KM et al. 2002. Increasing awareness of danger signs in pregnancy through community- and clinic-based education in Guatemala. *Matern Child Health J* 6(1): 19–28.

The Population Council, Inc. 2000. *Maternity Care Supervisory Aid and Evaluation Tool (OB Guide)*. The Population Council, Inc.: New York.

Rawlins B et al. 2003. *High Performing Reproductive Healthcare Facilities in Kenya: Why They Exceed Expectations* (JHPIEGO Technical Report JHP-22). JHPIEGO: Baltimore, MD.

Ripley DL. 1999. Uterine emergencies: Atony, inversions, and rupture. *Obstet Gynecol Clin North Am* 26(3): 419–434.

Ritchie J and J Lewis (eds). 2003. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. Sage Publications, Inc.: London.

Ronsmans C. 2001. What is the evidence for the role of audits to improve the quality of obstetric care, in *Safe Motherhood Strategies: A Review of the Evidence—Studies in Health Services Organisation and Policy, 17*. De Brouwere V and W Lerberghe (eds). ITG Press: Antwerp, Belgium, pp. 207–228.

Rooney C. 1992. *Antenatal Care and Maternal Health: How Effective is It? A Review of the Evidence*. WHO/MSM/92.4. WHO: Geneva.

Ross J and J Stover.2001. The family planning program effort index: 1999 cycle. *Int Fam Plan Perspect* 27(3): 119–129.

Rossi PH, HE Freeman, and MW Lipsey. 1999. *Evaluation: A Systematic Approach*, 6th ed. Sage Publications, Inc: Thousand Oaks, CA.

Safe Motherhood Inter-Agency Group. 2000. *Implementing the Safe Motherhood Action Agenda: A Resource Guide*. From http://www.safemotherhood.org/smguide/

Samai O and P Sengeh. 1997. Facilitating emergency obstetric care through transportation and communication, Bo, Sierra Leone. The Bo PMM Team. *Int J Gynaecol Obstet* 59(Suppl 2): S157–S164.

Stanton C. 2004. Methodological Issues in the Measurement of Birth Preparedness in Support of Safe Motherhood. *Eval Rev;* 28(3): 179–200.

Starrs A. 1987. *Preventing the Tragedy of Maternal Deaths: A Report on the International Safe Motherhood Conference*. World Bank/WHO/UNFPA: Geneva.

Sullivan R et al. 1998. *Clinical Training Skills for Reproductive Health Professionals*, 2nd ed. JHPIEGO: Baltimore, MD.

Sullivan R. 1995. *The Competency-Based Approach to Training* (Strategy paper #1). JHPIEGO: Baltimore, MD.

Supratikto G et al. 2002. A district-based audit of the causes and circumstances of maternal deaths in South Kalimantan, Indonesia. *Bull World Health Organ*. 80 (3): 228–234.

Thaddeus S and D Maine. 1994. Too far to walk: maternal mortality in context. *Soc Sci Med* 38(8): 1091–1110.

Turner AG et al. 2000. *Sampling Manual for Facility Surveys: For Population, Maternal Health, Child Health and STD Programs in Developing Countries*. Version 5; complete preliminary version. MEASURE *Evaluation* Project: Chapel Hill, NC.

UNFPA. 2001a. Course 6—Reducing Maternal Deaths, Selecting Priorities, Tracking Progress. Module 1: Understanding the Causes of Maternal Deaths, in *Distance Learning Courses on Population Issues*. UNFPA: New York.

UNFPA. 2001b. Course 6—Reducing Maternal Deaths, Selecting Priorities, Tracking Progress. Module 2: Using indicators to assess progress in reducing maternal deaths, in *Distance Learning Courses on Population Issues*. UNFPA: New York.

UNICEF. 2002. *The State of the World's Children*. UNICEF: New York.

USAID. 1998. Handbook of Democracy and Governance Program Indicators: 116-117. Center for Democracy and Governance. USAID: Washington D.C.

Villar J et al. 2001. WHO antenatal care randomized trial for the evaluation of a new model of routine antenatal care. *The Lancet*. 357: 1551–1564.

World Health Organization. 2004. *Beyond the numbers: reviewing maternal deaths and complications to make pregnancy safer*. WHO: Geneva.

World Health Organization. 2000a. *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors*. WHO: Geneva.

World Health Organization. 2000b. Essential Obstetric Care. Fact sheet No. 245. WHO: Geneva. http://www.who.int/mediacentre/factsheets/fs245/en/

World Health Organization. 1998a. Safe Motherhood Needs Assessment. WHO/RHT/MSM/96.18. WHO: Geneva.

World Health Organization. 1998b. Basic newborn resuscitation: A practical guide. WHO/RHT/ MSM/98.1. WHO: Geneva.

World Health Organization. 1996. Essential newborn care. WHO/FRH/MSM/19.13. WHO, Geneva. on http://www.who.int/reproductivehealth/publications/MSM_96_13_table_of_ contents_en.html

World Health Organization and JHPIEGO. 2003. *Effective Teaching: A Guide for Educating Health Providers*. JHPIEGO: Baltimore, MD.

World Health Organization Secretariat. 1985. Measuring Maternal Mortality. Inter-Regional Meeting on Prevention of Maternal Mortality.

WHO/UNFPA/UNICEF/World Bank. 1999. *Reduction of Maternal Mortality: A Joint WHO/UNFPA/UNICEF/World Bank Statement*. WHO: Geneva.

WHO, UNICEF, and UNFPA. 2003. *Maternal Mortality in 2000: Estimates Developed by WHO, UNICEF, and UNFPA*. WHO: Geneva.