Liberia

Demographic and Health Survey

2007

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Liberia Institute of Statistics and
Geo-Information Services (LISGIS)
Monrovia, Liberia

Ministry of Health and Social Welfare
Monrovia, Liberia

National AIDS Control Program
Monrovia, Liberia

Macro International Inc.
Calverton, Maryland, USA

June 2008

This report summarizes the findings of the 2007 Liberia Demographic and Health Survey (LDHS) carried out by the Liberia Institute of Statistics and Geo-Information Services (LISGIS), the Ministry of Health and Social Welfare (MOH), and the National AIDS Control Program (NACP). The Government of Liberia provided financial assistance in terms of funding and in-kind contribution of government staff time, office space, and logistical support. Additional funding for the survey was contributed by the U.S. Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the United Nations Development Program (UNDP) and the United Nations Children's Fund (UNICEF). Macro International provided technical assistance and medical supplies and equipment for the survey through the MEASURE DHS program, which is funded by the USAID and is designed to assist developing countries to collect data on fertility, family planning, and maternal and child health. The UNFPA Country Support Team provided some back-stopping support. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the donor organizations.

Additional information about the survey may be obtained from LISGIS, Statistics House, Tubman Boulevard, Sinkor, P.O. Box 629, Monrovia, Liberia (Telephone: 231-(0)6 810-276; Internet: www.lisgis.org).

Information about the DHS program may be obtained from MEASURE DHS, Macro International Inc., 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, U.S.A. (Telephone: 1-301-572-0200; Fax: 1-301-572-0999; E-mail: reports@macrointernational.com; Internet: www.measuredhs.com).

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FOREWORD

Prior to the civil crisis, the Government of Liberia had conducted three censuses and several demographic surveys. These censuses included the 1962 Population Census and the 1974 and 1984 Population and Housing Censuses, while the surveys included the 1978 National Demographic Survey (NDS) and the 1986 Liberia Demographic and Health Survey (LDHS). With the exception of few hard copies of the 1984 Population and Housing Census Summary results, most census and survey results that were stored on computer tapes and diskettes or printed out in report form, as well as most of the statistical infrastructure of the country, were extensively damaged or looted during the civil crisis.

The economic and demographic situation of Liberia was adversely affected by the civil crisis in substantive terms that are yet to be determined. This state of affairs affected policy decision-making and program development since the precise order of magnitude of population structures and processes were unknown. It was difficult to assess the extent of the large-scale displacement of rural and urban populations, the massive loss of lives caused by the civil crisis, and the destruction of social and physical infrastructure except by recourse to secondary analysis of defective data collected by non-statistical professionals during the crisis. Current information on the demographic processes of mortality and fertility and associated aspect of reproductive health and primary health care was based on projections using unreliable data and dubious data manipulation.

There was therefore a strong and dire need for accurate socio-demographic statistics that would help in understanding the dynamics of the Liberian population within the context of the recommendations of international conferences such as the Africa Population Conference held in Dakar, Senegal in 1992; the International Conference on Population and Development held in Cairo, Egypt in 1994 and the Fourth World Conference on Women held in Beijing, China in 1995.

Within this context, the Government of Liberia, through the Department of Statistics (DOS) of the Ministry of Planning and Economic Affairs, requested its development partners for assistance to conduct a Demographic and Health Survey with the following objectives:

- To contribute towards the construction of a population database for socio-economic development planning as well as for monitoring and evaluating population policy; and

- To contribute towards institutional capacity building for the future conduct of national statistical activities, especially the Population and Housing Census undertaken in March 2008.

The 2007 Liberia Demographic and Health Survey (LDHS) was undertaken in the administration of President Ellen Johnson-Sirleaf of the Unity Party, and constitutes the third LDHS in the Republic of Liberia. The first LDHS was conducted in 1986 as part of the worldwide DHS program; Liberia was the second country in the world and the first in Africa to conduct a DHS under this program. Liberia undertook the second LDHS in 1999/2000 outside the purview of the international DHS program with no assistance from Macro International.

The 2007 LDHS covered the entire country. The survey was designed to collect, compile, analyze and disseminate information on household characteristics, housing, education, maternal health, child health, nutrition, family planning, gender, domestic violence, knowledge and behavior related to HIV/AIDS, and the prevalence of HIV infection.

The planning of the LDHS commenced in 2005 with the signing of a project document by the Government of Liberia and its development partners. Thereafter, a joint management team comprised of personnel from the Liberia Institute of Statistics and Geo-Information Services (LISGIS), Liberia Institute for Biomedical Research (LIBR), National AIDS Control Program (NACP) and Ministry of Planning and Economic Affairs (MPEA) was established. The secretariat of the joint management team was placed in the LISGIS, which also managed the day-to-day affairs of the project. Two committees, the Project Steering Committee (PSC) and the Project Technical Committee (PTC) were established to assist LISGIS manage the project.

The PSC, which consisted of representatives from government ministries/agencies, the University of Liberia, UN agencies and bilateral and multilateral donors, monitored the implementation of the project activities. The PTC, which consisted of representatives from government ministries and agencies, the University of Liberia and local non-government organizations, provided technical advice to the project. The PTC assisted LISGIS to prepare interviewers' and supervisors' manuals, the sample frame and sampling methodology, etc. The UNFPA Country Support Team and especially Macro International provided technical backstopping during the implementation of the project.

The actual activities of the 2007 LDHS commenced in August 2006, with the identification of selected enumeration areas (EAs) and the household listing, which lasted for about four months. The preparation and finalization of the household and individual questionnaires and supervisors' and interviewers' manuals were completed with the assistance of Macro. The recruitment and training of field staff were carried out by Macro and LISGIS staff. The field interview exercise was launched in late December 2006 and lasted until April 2007. The data gathered from the field were electronically processed and edited from January to July 2007.

It is our hope that this report will be useful for advocacy, research, policy decision-making, program development, policy formulation, service delivery and socio-economic development planning. There is more information available in the dataset which is available from LISGIS.

T. Edward Liberty (Ph.D.)
Director General/LISGIS

ACKNOWLEDGMENTS

The 2007 Liberia Demographic and Health Survey (LDHS) was undertaken by the Liberian Institute of Statistic and Geo-Information Services (LISGIS), the Ministry of Health and Social Welfare, the Liberia Institute for Biomedical Research and the National AIDS Control Program (NACP). Macro International Inc. and the United Nations Population Fund (UNFPA) Country Support Team provided technical support.

The survey was conducted because the Government of Liberia was keen to measure the extent of health-related changes in the Liberian society, especially to determine the basic profile of the population by age, sex, and education; fertility and child mortality rates; maternal and child health indicators; knowledge and attitudes of women and men about sexually transmitted diseases and HIV/AIDS; patterns of recent behavior regarding the use of condoms and other contraceptive methods; and the prevalence of HIV infection.

The need to conduct a 2007 LDHS derived from two main factors. The first was the inability to conduct a census since 1984. The second derived from the need to update data collected in the 1986 and 1999-2000 LDHS surveys and to monitor progress made on a number of key indicators related to the Millennium Development Goals (MDGs), reproductive health, gender, and violence against women.

The LISGIS is responsible for conducting national surveys and censuses for policy decision-making and development planning. Unfortunately, LISGIS could not conduct this survey alone due to the following reasons:

- Financial constraints;
- The extensive damage and looting of the then Department of Statistics (DOS) of the Ministry of Planning and Economic Affairs (MPEA)—now known as LISGIS—infrastructure including databases, data processing and transport equipment, office facilities, library and other supplies, etc.; and
- The loss of DOS professional personnel, mostly due to exodus into refugee camps in neighboring and other countries and to death as a result of the civil crisis.

In view of the foregoing, the Government of Liberia through DOS, requested its development partners—the U.S. Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the United Nations Development Programme (UNDP), and the United Nations Children's Fund (UNICEF)—for financial, technical and logistical assistance to conduct the 2007 LDHS. The UNFPA responded positively and quickly to assist LISGIS to prepare the project document for signature by the government and its development partners. LISGIS successfully completed the 2007 LDHS because of the substantial inputs of the government and the four partners mentioned above. The sound management and cooperation of the implementers and the technical support provided by Macro and the UNFPA CST also contributed to the successful completion of the survey.

In addition, the successful conclusion of the 2007 LDHS is owed to many institutions and individuals that contributed immensely at all levels of the implementation of the project activities, and I wish to extend my sincere thanks and appreciation to them for their tireless contributions.

I would like to recognize the President of the Republic of Liberia, Her Excellency Ellen Johnson-Sirleaf, the government and people of Liberia, not only for their support for the 2007 LDHS, but for their support for the development of national official statistics.

Also, I wish to extend my special gratitude to the Chairman and members of the LISGIS Board of Directors and to all the individuals and institutions that contributed immensely to the success of the 2007 LDHS project and those that are listed in Appendix D of this report.

Finally, I wish to extend my sincere thanks and appreciation to the survey respondents who took off time from their busy schedule to complete the survey questionnaires as well as others whose names have not been mentioned, but contributed to the successful completion of the 2007 LDHS project.

T. Edward Liberty (Ph.D.)
Director General/LISGIS

SUMMARY OF FINDINGS

The 2007 Liberia Demographic and Health Survey (LDHS) is the third in a series of DHS surveys to be held in Liberia—the first two having been implemented in 1986 and 1999-2000—and is the first to include HIV testing on a nationally representative sample of adults. Teams visited 298 sample points across Liberia and collected data from a nationally representative sample of more than 7,000 women and 6,000 men age 15-49. The primary purpose of the 2007 LDHS is to provide policymakers and planners with detailed information on fertility, family planning, childhood mortality, maternal and child health, domestic violence, maternal mortality, nutrition, knowledge of HIV/AIDS and other sexually transmitted infections, and HIV prevalence rates.

FERTILITY

Survey results indicate that there has been a steady decline in the total fertility rate over the past two decades, from 6.6 children per woman in 1981-85 to 5.2 children for the three years before the 2007 LDHS (approximately 2004-06). Fertility continues to be far lower in urban areas than in rural areas (3.8 and 6.2 children per woman, respectively). Regional variations in fertility are marked, ranging from a high of almost seven births per woman in South Eastern A to a low of 3.4 births in Monrovia. Women with no education give birth to almost twice as many children as women who have been to secondary school (6.0 vs. 3.3 births). Fertility is also closely associated with wealth, decreasing from 6.5 births among women in the lowest wealth quintile to 2.8 births among women in the highest wealth quintile, a difference of almost four births.

Research has demonstrated that children born too close to a previous birth are at increased risk of dying. In Liberia, 18 percent of births occur less than 24 months after a previous birth. The interval between births is relatively long; the median interval is 36 months.

Childbearing begins early in Liberia. The median age at first birth is 19.1, which is almost unchanged from 19.2 in 1986 and 19.4 in 1999-2000. Over one-quarter of girls age 15-19 have already had a child.

Marriage and sexual initiation patterns are important determinants of fertility levels. Almost two-thirds of women 15-49 are currently married—42 percent are formally married and 22 percent are living together with a man. The proportion of men age 15-49 who are married is lower than for women—57 percent, most probably because men tend to marry later than women. Sixteen percent of married women in Liberia are in polygynous unions.

The median age at first marriage is 18.4 years for women age 25-49 compared with 23.9 for men the same age. Women who are currently in their 20s have a slightly higher median age at first marriage than older women, indicating that younger women may be marrying at later ages than women did in the past.

Women and men generally do not wait until marriage to initiate sexual activity. The median age at first intercourse is 16.2 years among women and 18.2 years among men age 25-49. Although urban and better educated women and men tend to wait longer to get married, the median age at first sexual intercourse is very similar across groups.

There is a considerable desire among Liberian women to control the number and timing of their births. Thirty-one percent of married women do not want any more children or are sterilized and another 34 percent would like to wait at least two years before their next child. On average, Liberian women would like to have 5.0 children, slightly less than the current fertility rate of 5.2 children per woman. One-quarter of recent births were mistimed (wanted later) and 4 percent were not wanted at all. These results indicate that there is a strong need for family planning services, especially for child spacing.

FAMILY PLANNING

Almost all Liberian women and men know of at least one method of contraception. Contraceptive pills, condoms, and injectables are known to more than 74 percent of currently married women and more than 60 percent of married men. A higher proportion of respondents report knowing a modern method than a traditional method.

There has been an increase in awareness of family planning methods among women over the last two decades. The proportion of all women age 15-49 who have heard of at least one method of family planning has increased from 72 percent in 1986 to 87 percent in 2007. Knowledge of specific methods shows even more dramatic increases since 1986. For example, the proportion of women 15-49 who have heard of the pill increased from 64 to 82 percent since 1986, while the proportion who have heard about the male condom increased from 31 percent to 79 percent.

More than one-third of currently married women have ever used a contraceptive method; 31 percent have used a modern method and 11 percent have used a traditional method. However, only about one in nine currently married women (11 percent) is currently using some method of contraception. Modern methods of contraception account for almost all the use, with 10 percent of married women reporting use of a modern method versus only 1 percent using a traditional method. Injectables and pills are the most widely used methods (used by 4 percent of married women each), followed by condoms (2 percent). Contraceptive use has increased from 6 percent of married women in 1986 to 11 percent in 2007.

Current use of contraceptives is slightly higher among all women than among those who are currently married. However, use is far higher among unmarried women who are sexually active (27 percent) than among married women (11 percent) or all women (13 percent).

Married women in urban areas are considerably more likely to use contraception (19 percent) than those in rural areas (8 percent). Use increases with educational attainment, from 8 percent of married women with no education to 21 percent among those who have attended secondary school. Use of contraception also rises as wealth increases, from 4 percent among married women in the lowest wealth category to 20 percent among those in the richest.

About half of women using modern contraceptives (51 percent) obtain their methods from the public sector, mostly from government hospitals (21 percent), government health clinics (19 percent), and government health centers (11 percent). About one-third (31 percent) of women use the private medical sector to get their contraceptives, with the Family Planning Association of Liberia accounting for 10 percent of users and pharmacies for another 10 percent. Eight percent of women using a modern method obtain their method from private hospitals and clinics and 12 percent get their method from other sources, mostly from friends or relatives.

Thirty-four percent of currently married women who are not using contraception say they intend to use family planning in the future, 48 percent do not intend to use, and 17 percent are unsure. The most commonly cited reasons for not intending to use are fear of side effects (mentioned by 27 percent), desire for more children (16 percent), and lack of knowledge of methods (11 percent).

There continues to be considerable scope for increased use of family planning in Liberia. Overall, 36 percent of married women in Liberia have an unmet need for family planning services, most of which is due to a need for spacing births (25 percent) rather than a need for limiting births (11 percent).

CHILD HEALTH

The study of infant and child mortality is critical for assessment of population and health policies and programs. Infant and child mortality rates are also regarded as indices reflecting the degree of poverty and deprivation of a population. Survey data show that over the past 20 years the under-five mortality has been cut in half, from 220 deaths per 1,000 births measured in the 1986 LDHS to 110 in the 2007 LDHS. Still, one in every nine Liberian children dies before reaching age five. For the most recent five-year period before the 2007 survey (approximately calendar years 2002-06), the infant mortality rate is 71 deaths per 1,000 live births

and under-five mortality is 110 deaths per 1,000 live births. The neonatal mortality rate is 32 deaths per 1,000 live births and the postneonatal mortality rate is 39 deaths per 1,000 live births. The child mortality rate is 41 deaths per 1,000 children surviving to age one year.

Mortality rates at all ages of childhood show a strong relationship with length of the preceding birth interval. Under-five mortality is more than twice as high among children born less than two years after a preceding sibling than for those born four or more years after a previous child (208 vs. 91 per 1,000 births).

Survey results show that only 39 percent of Liberian children age 12-23 months are fully vaccinated with BCG, measles, and three doses of DPT and polio. Looking at coverage for specific vaccines, 77 percent of children have received the BCG vaccination, 75 percent the first DPT dose, and 83 percent the first polio dose (Polio 1). Coverage declines for subsequent doses, with only 50 percent of children receiving the recommended three doses of DPT and 49 percent receiving all three doses of polio. Only 63 percent of children receive the measles vaccine. Twelve percent of children have received no vaccinations at all.

Nine percent of children under age five years were reported to have had a cough with short rapid breathing in the two weeks before the survey that was not just due to a blocked or runny nose. About six in ten children with these symptoms were taken to a health facility or provider for treatment. Less likely to be taken for treatment are younger children, rural children, and children whose mothers have less education.

Fever is a symptom of malaria and other acute infections in children. Almost six in ten children with fever are taken to a health facility or provider for treatment, and the same proportion are given antimalarial drugs.

The data indicate that half of the children who were ill with diarrhea in the two weeks before the survey were taken to a health facility or provider. Mothers reported that almost three in four (72 percent) of the children with diarrhea were treated with some form of oral rehydration therapy or increased fluids, and over half were given a solution prepared using a packet of oral rehydration salts.

MATERNAL HEALTH

The survey shows that almost eight in ten mothers (79 percent) in Liberia receive prenatal care from a health professional (doctor, nurse, midwife, or physician's assistant). Sixteen percent of mothers receive prenatal care from a traditional midwife and 4 percent of mothers do not receive any prenatal care.

In Liberia, two-thirds of mothers have four or more prenatal care visits, almost 20 percent have one to three prenatal care visits, and only 4 percent have no prenatal care at all. The survey also shows that women in Liberia receive prenatal care services early during pregnancy. Over half of mothers (59 percent) obtain prenatal care in the first three months of pregnancy, and 24 percent make their first visit in the fourth or fifth month. Only 2 percent of women have their first prenatal care visit in their eighth month of pregnancy or later.

Survey results show that more than three-quarters (76 percent) of women age 15-49 with a live birth in the two years preceding the survey took some kind of antimalarial medicine for prevention of malaria during the last pregnancy. However, in the vast majority of cases, the practice was not in accordance with the national policy, i.e., only 12 percent of women said they took SP/Fansidar—the recommended drug for intermittent preventive treatment of malaria during pregnancy in Liberia—at least once during the pregnancy. This is exactly the same level that was measured in the 2005 Malaria Indicator Survey.

Increasing the proportion of babies delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. LDHS data show that the majority of births in Liberia (61 percent) are delivered at home and 37 percent are delivered in health facilities, mostly public sector facilities. Just under half (46 percent) of births in Liberia are delivered with the help of a health professional (i.e., doctor, nurse/midwife, or physician's assistant), and 48 percent are delivered by a traditional midwife. Very few births are attended by relatives (4 percent) and less than 1 percent of all births are delivered without any type of assistance at all.

Postnatal care coverage is low in Liberia. According to the survey, only 44 percent of mothers receive postnatal care within 4 hours of delivering and almost one-third of mothers (30 percent) do not get any postnatal care.

The maternal mortality ratio as measured in the survey is 994 maternal deaths per 100,000 births for the seven-year period before the survey.

Breastfeeding and Nutrition

Poor nutritional status is one of the most important health and welfare problems facing Liberia today and particularly afflicts women and children. The data show that 39 percent of children under five are stunted or short for their age and 8 percent of children under five are wasted or too thin for their height. Overall, 19 percent of children are underweight, which may reflect stunting, wasting, or both. As for women, at the national level 10 percent of women are considered to be thin (with a body mass index <18.5); however, only 2 percent of women are considered to be severely thin.

Poor breastfeeding and infant feeding practices can have adverse consequences for the health and nutritional status of children. Fortunately, breastfeeding in Liberia is almost universal and generally of fairly long duration; 87 percent of newborns are breastfed within one day after delivery. However, only 29 percent of infants under 6 months are exclusively breastfed, far lower than the recommended 100 percent exclusive breastfeeding for children under 6 months. The median duration of any breastfeeding is 20 months in Liberia, although the median duration of exclusive breastfeeding is extremely short—less than one month.

Infant and young child feeding (IYCF) practices include timely initiation of feeding solid/semisolid foods from age 6 months and increasing the amount and variety of foods and frequency of feeding as the child gets older while still maintaining frequent breastfeeding. Guidelines have been established with respect to IYCF practices for children age 6-23 months. Overall, only one in four Liberian children is fed in accordance with IYCF practices.

Ensuring that children between 6 and 59 months receive enough vitamin A may be the single most effective child survival intervention. Survey results show that 43 percent of children age 6-59 months received a vitamin A supplement in the six months preceding the survey. Moreover, 79 percent of children age 6-35 months living with the mother consumed foods rich in vitamin A in the 24 hours preceding the survey and 65 percent consumed foods rich in iron. With regard to iron supplements, only 17 percent of children age 6-59 months received an iron supplement in the seven days preceding the survey.

HIV/AIDS

The HIV/AIDS pandemic is one of the most serious health concerns in the world today because of its high case fatality rate and the lack of a cure. Awareness of AIDS is almost universal among Liberian adults, with 89 percent of women and 93 percent of men saying that they have heard about AIDS. Nevertheless, only 19 percent of women and 32 percent of men are classified as having "comprehensive knowledge" about AIDS, i.e., knowing that consistent use of condoms and having just one faithful partner can reduce the chance of getting infected, knowing that a healthy-looking person can be infected, and knowing that AIDS cannot be transmitted by sharing food or by mosquito bites. Such a low level of knowledge about AIDS implies that a concerted effort is needed to address misconceptions about HIV transmission. Programs might be focused in rural areas and especially in North Western, South Eastern A, and South Eastern B regions where comprehensive knowledge is lowest. Moreover, a composite indicator on stigma towards HIV-infected people shows that only 13 percent of women and 22 percent of men expressed accepting attitudes toward persons living with HIV/AIDS.

With regard to condom use, only 14 percent of women who had more than one partner in the 12 months before the survey said they used a condom during the most recent sexual intercourse, far lower than the 22 percent reported by men. Among women who reported having had higher-risk intercourse in the past 12 months, only 14 percent used a condom at the last higher-risk sex. For men, the comparable figure is again higher—26 percent.

Overall, only about one-quarter of women age 15-49 years and one-third of men know where to get an HIV test. Even fewer have ever been tested; only 4 percent of women and 6 percent of men have ever had an HIV test and only 2 percent of women and 2 percent of men have been tested and received their test results in the 12 months before the survey.

Several recent studies have shown that male circumcision may have a protective effect against HIV infection. The 2007 LDHS shows that male circumcision is widespread in Liberia, with almost all men being circumcised (98 percent). This is also true for all ages, residence status, and by level of educational achievement.

One of the most important elements in the 2007 LDHS was the inclusion of HIV testing among adults who were interviewed. Overall, HIV tests were conducted for 87 percent of the 7,448 eligible women and 80 percent of the 6,476 eligible men age 15-49.

Results indicate that 1.5 percent of Liberian adults are infected with HIV. HIV prevalence in women age 15-49 is 1.8 percent and for men age 15-49 it is 1.2 percent. There are very few differences in HIV infection levels according to socioeconomic, demographic, and sexual behavior characteristics.

DOMESTIC VIOLENCE

The 2007 LDHS included a module on domestic violence in the Women's Questionnaire. To protect respondents, only one woman per household was selected to respond to these questions and interviewers were instructed to only ask the questions in strict privacy. The data show that 44 percent of women age 15-49 say they have experienced physical violence since the age of 15. The main perpetrators of violence against women are current or former husbands or partners, followed by mothers or stepmothers and fathers or stepfathers. Among ever-married women who have ever been abused, almost 80 percent report that a current or former husband or partner was the perpetrator. Among never-married women, the most common abusers are mothers or stepmothers and fathers or stepfathers.

Eighteen percent of women age 15-49 reported having experienced some form of sexual violence. Sexual violence perpetrated by intimate partners is far more common than sexual violence perpetrated by those who are not intimate partners.

Marital violence refers to violence perpetrated by partners in a marital union. The data show that 35 percent of ever-married women have experienced physical violence by a current or most recent husband or partner, 11 percent have experienced sexual violence, and 36 percent have experienced emotional violence. Overall, just under half (49 percent) of ever-married women have experienced some kind of violence (physical, sexual, or emotional) by a husband or other intimate partner.

LIBERIA


N
Lofa
GUINEA
SIERRA LEONE
Gbarpolu
NORTH WESTERN
Grand Cape
Mount
NORTH CENTRAL
CÔTE D'IVOIRE
Bong
Nimba
Bomi
Margibi
Montserrado
SOUTH CENTRAL
MONROVIA
Grand Bassa
River Cess
Grand Gedeh
SOUTH
EASTERN A
Sinoe
River Gee
Atlantic Ocean
SOUTH
EASTERN B
Grand Kru
0 50 100 200 Kilometers
Maryland

INTRODUCTION 1

1.1 OBJECTIVES AND ORGANIZATION OF THE SURVEY

The 2007 Liberia Demographic and Health Survey (LDHS) was carried out from late December 2006 to April 2007, using a nationally representative sample of over 7,000 households. All women and men age 15-49 years in these households were eligible to be individually interviewed and were asked to provide a blood sample for HIV testing. The blood samples were dried and carried to the National Laboratory of the Ministry of Health and Social Welfare (MOHSW) on the JFK Hospital compound in Monrovia where they were tested for the human immunodeficiency virus (HIV).

The 2007 LDHS was designed to provide data to monitor the population and health situation in Liberia. Specifically, the LDHS collected information on fertility levels, marriage, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutritional status of women and young children, childhood and maternal mortality, maternal and child health, domestic violence, and awareness and behavior regarding HIV/AIDS and other sexually transmitted infections (STIs).

1.2 SURVEY ORGANIZATION

The 2007 LDHS was implemented by the Liberia Institute for Statistics and Geo-Information Services (LISGIS), the MOHSW, and the National AIDS Control Program (NACP). Technical assistance was provided through the MEASURE DHS program, a project sponsored by the United States Agency for International Development (USAID) to carry out population and health surveys in developing countries.

Financial support for the survey was provided by the Government of Liberia and a consortium of donors: namely USAID/Liberia, the United Nations Population Fund (UNFPA), the United Nations Development Program (UNDP), and the United Nations Children's Fund (UNICEF).

1.3 SAMPLE DESIGN

The LDHS sample was designed to produce most of the key indicators for the country as a whole, for urban and rural areas separately, and for Monrovia and each of five regions that were formed by grouping the 15 counties. The regional groups are as follows:

1. Greater Monrovia
2. North Western: Bomi, Grand Cape Mount, and Gbarpolu
3. South Central: Montserrado (outside Monrovia), Margibi, and Grand Bassa
4. South Eastern A: River Cess, Sinoe, and Grand Gedeh
5. South Eastern B: Rivergee, Grand Kru, and Maryland
6. North Central: Bong, Nimba, and Lofa

Thus, the sample was not spread geographically in proportion to the population, but rather more or less equally across the regions. As a result, the LDHS sample is not self-weighting at the national level, and sample weighting factors have been applied to the survey records in order to bring them into proportion.

The survey utilized a two-stage sample design. The first stage involved selecting 300 sample points or clusters from the list of 4,602 enumeration areas (EAs) covered in the 1984 Population Census. This sampling "frame" is more than 20 years old and in the intervening years Liberia has

experienced a civil war and considerable population change. Many people left the country altogether, others lost their lives, and others moved within the country. For example, some households in rural areas relocated into larger villages in order to be better protected. New communities were established and existing communities expanded, contracted, or even disappeared. Furthermore, as urban areas—especially Monrovia—expanded, some EAs that were previously considered rural may have become urban, but this will not be reflected in the sample frame. Taking all these factors into account, it is obvious that the 1984 census frame is not ideal to be used as the sampling frame; however, it is still the only national frame which covers the whole country.

LISGIS conducted a fresh listing of the households residing in the selected sample points and recorded the geographic coordinates (latitude and longitude) of the centre of each cluster (GPS coding). The listing was conducted from March to May 2006. The second stage of selection involved the systematic sampling of 25 of the households listed in each cluster. It later turned out that there was a problem with the sample frame for Monrovia that resulted in two areas being erroneously oversampled. To correct this error, two clusters were dropped altogether, while five others were replaced in order to provide more balance in the selection. Thus, the survey covered a total of 298 clusters—114 urban and 184 rural.

All women and men age 15-49 years who were either permanent residents of the households in the sample or visitors present in the household on the night before the survey were eligible to be interviewed in the survey and to give a few drops of blood for HIV testing.

1.4 QUESTIONNAIRES

Three questionnaires—a Household Questionnaire, a Women's Questionnaire, and a Men's Questionnaire—were used in the survey. The contents of these questionnaires were based on model questionnaires developed by the MEASURE DHS program.

In consultation with a group of stakeholders, LISGIS and Macro staff modified the DHS model questionnaires to reflect relevant issues in population, family planning, HIV/AIDS, and other health issues in Liberia. Given that there are dozens of local languages in Liberia, most of which have no accepted written script and are not taught in the schools, and given that English is widely spoken, it was decided not to attempt to translate the questionnaires into vernaculars. However, many of the questions were broken down into a simpler form of Liberian English that interviewers could use with respondents.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women and men who were eligible for the individual interview. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor and roof of the house, ownership of various durable goods, and ownership and use of mosquito nets. In addition, this questionnaire was also used to record height and weight measurements of women age 15-49 years and of children under the age of 5 years and women's and men's consent to volunteer to give blood samples. The HIV testing procedures are described in detail in the next section.

The Women's Questionnaire was used to collect information from all women age 15-49 years and covered the following topics:

- Background characteristics (education, residential history, media exposure, etc.)
- Reproductive history and child mortality
- Knowledge and use of family planning methods
- Fertility preferences

- Prenatal and delivery care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Woman's work and husband's background characteristics
- Infant and child feeding practices
- Awareness and behavior about HIV/AIDS and other STIs
- Adult mortality including maternal mortality.

The Women's Questionnaire also included a series of questions to obtain information on women's experience of domestic violence. These questions were administered to one woman per household. In households with two or more eligible women, special procedures were followed in order to ensure that there was random selection of the woman to be interviewed and that these questions were administered in privacy.

The Men's Questionnaire collected similar information contained in the Woman's Questionnaire, but was shorter because it did not contain questions on reproductive history, maternal and child health, nutrition, maternal mortality, or domestic violence.

All aspects of the LDHS data collection were pretested in July 2006. For the pretest, LISGIS recruited 19 people to attend the training, most of whom were LISGIS staff with a few from other organizations involved in the survey, e.g., the NACP. Training was held at the Liberia Bible Society for 11 days from June 20 through July 1. Twelve of the 19 participants were selected to implement the pretest interviewing. Two teams were formed for the pretest, each with one supervisor, three female interviewers. and two male interviewers. Each team covered one rural and one urban EA. Because the work was being done during the period of heavy rainfall, the rural areas selected were off a main paved road, about 1-2 hours' drive from Monrovia, and the urban areas were both in Monrovia itself. Pretest interviewing took six days, from July 4 through July 9. In total, the teams completed interviews with 95 households, 82 women and 60 men, and collected 118 blood samples. The pretest resulted in deleting some questions and making modifications in others.

1.5 HIV TESTING

All eligible women and men age 15-49 who were interviewed were asked to voluntarily provide some drops of blood for HIV testing. The protocol for the blood specimen collection and analysis was based on the anonymous linked protocol developed by DHS and approved by Macro International's Institutional Review Board. The protocol for the LDHS was also reviewed and approved by the Liberian National Ethics Committee on Bio-Medical Research. The protocol allows for merging the HIV results with the sociodemographic data collected in the individual questionnaires, provided that the information that could potentially identify an individual is destroyed before the linking is effected. This requires that identification codes be deleted from the data file and that the back page of the Household Questionnaire that contains the bar code labels and names of respondents be destroyed before merging the HIV results with the individual data file.

To obtain informed consent for collection of a blood sample for HIV testing, interviewers explained the procedures, the confidentiality of the data, and the fact that test results could not be linked or made available to the subject, and informed respondents how they could establish their HIV status through voluntary counseling and testing (VCT) services. Interviewers then collected a dried blood spot sample on a filter paper card using blood from a finger prick with a single-use, spring-loaded, sterile lancet. Each blood sample was given a bar code label, with a duplicate label attached to the Household Questionnaire on the line showing consent for that respondent. A third copy of the same bar code label was affixed to a Blood Sample Transmittal Form in order to track the blood samples from the field to the laboratory. Filter papers were dried overnight in a plastic drying box, after which they were packed in individual airtight bags with desiccants and a humidity indicator card and placed in a larger airtight bag for each sample point. Blood samples were periodically collected in

the field. along with the completed questionnaires, and transported to LISGIS headquarters in Monrovia to be logged in, after which they were taken to the National Laboratory of the MOHSW at the JFK Hospital compound for HIV testing.

At the laboratory, the bar code labels on the dried blood spot samples were scanned into the computer using a program developed by Macro that preassigns to each sample a sequential number for ease in tracking. The blood spots were kept refrigerated or frozen depending on how long it would be until they could be tested. After the samples were allowed to attain room temperature, a circle (a completely filled and well saturated spot without blood clot) of at least 6.3 mm in diameter was taken from each filter paper using a hole punch. Each blot was placed into its preassigned well in the elution plate that contained 200 µl of phosphate buffered saline (PBS, pH 7.3-7.4) and left in the refrigerator overnight at 2-8° C. These eluates were then diluted and tested with Vironostika HIV Uniform II Plus O (BioMerieux). All positive samples and 10% of negatives were then tested with the Enzygnost Anti-HIV 1/2 Plus enzyme-linked immunosorbent assay (ELISA) test kit (Dade-Behring). Finally, any discordant samples were tested on Western Blot 2.2 (Abbott) to resolve the discrepancies. Positive samples were also tested with Pepti-Lav 1/2 (BioRad) to differentiate HIV-1 and HIV-2.

Before the survey, the laboratory had some experience using its ELISA machine for measles and yellow fever testing, but no experience with ELISA testing for HIV. Macro laboratory specialists and a consultant worked with the lab staff to purchase and install a new refrigerator and a new freezer, as well as other equipment and supplies, and trained six laboratory technicians in how to run the various tests. In part as a means of training and for checking the validity of the HIV testing protocol, the Macro laboratory specialist also worked with lab staff to conduct a validation study. For this study, after obtaining informed consent, they collected both venous and capillary blood samples from 40 known HIV-positive and 40 known HIV-negative individuals from various sites in Monrovia, including the VCT centre at JFK Hospital, the Catholic Hospital, and an association for HIV-positive individuals (LIGHT). The comparison of the venous and dried blood spot samples showed a very high correlation.

The HIV test results were merged with the individual questionnaire records after the questionnaires were destroyed and the cluster numbers scrambled.

1.6 TRAINING

LISGIS recruited 122 field staff candidates from Monrovia, mostly by word of mouth. Many of the candidates had participated in either the LDHS pretest or a prior survey. LISGIS then organized a four-week training course from November 14 through December 9 at the LISGIS Headquarters in Monrovia. Trainers included four staff who participated in the LDHS pretest and two Macro staff. Training consisted mainly of lectures followed by mock interviews between trainees. Three quizzes were administered, graded, and reviewed.

The third week of training consisted largely of instructions on how to take anthropometric measurements and procedures for HIV testing (how to administer informed consent, how to take blood spot samples, how to dry the filter papers, and how to pack them the next morning). During the final week of training, participants had two field practice sessions in which they were divided into teams and conducted interviews with households located in Monrovia.

After several meetings, senior LDHS staff and the trainers decided on the final assignment of participants to teams. Unfortunately, the pool of candidates did not include a sufficient number of speakers of all the local dialects spoken in the sampled areas. Although English is widely spoken, it is preferable to be able to conduct the interviews in respondents' dialects, given the sensitivity and complexity of some of the questions. Also, because the vehicles could only hold six people, it was decided not to have a field editor on each team and instead ask one of the interviewers to help the supervisor in checking questionnaires when the workload was heavy. The final day of training

consisted of a session with the team supervisors to train them on how to supervise fieldwork and edit completed questionnaires.

1.7 FIELDWORK

A total of 19 teams—each comprising one supervisor, two female interviewers, two male interviewers, and one driver—were organized for the data collection. Two senior staff from LISGIS and one from the NACP were designated as field coordinators and were each assigned a number of teams to monitor. Data collection started on December 25, 2006. Several weeks later, a review of completed questionnaires showed considerable errors, low response rates, and lack of attention to details. Consequently, all teams were recalled to Monrovia for two days of additional training and three teams were relieved of their duties altogether. The remaining 16 teams continued with data collection until April 2007.

A number of challenges were faced by the field teams. There were several road accidents, including one in which the vehicle turned over on Christmas Eve, thankfully causing no serious injuries. In several clusters, many selected households had moved or could not be found.

1.8 DATA PROCESSING

The processing of the LDHS data began a few weeks after the fieldwork commenced. Completed questionnaires were returned periodically from the field to the LISGIS office in Monrovia, where they were coded by data processing personnel recruited and trained for this task. The data processing staff consisted of two supervisors from LISGIS, four questionnaire administrators/coding clerks, and 14 data entry operators, all of whom were trained by Macro staff. Data were entered using the CSPro computer package. All data were entered twice (100 percent verification). The concurrent processing of the data was a distinct advantage for data quality, because LISGIS was able to advise field teams of errors detected during data entry. The data entry and editing phase of the survey was completed in early July 2007.

1.9 RESPONSE RATES

Table 1.1 shows response rates for the 2007 LDHS. A total of 7,471 households were selected in the sample, of which 7,021 were found occupied at the time of the fieldwork. The shortfall is largely due to households that were away for an extended period of time and structures that were found to be vacant or destroyed. Of the existing households, 6,824 were successfully interviewed, yielding a household response rate of 97 percent.

In the households interviewed in the survey, a total of 7,448 eligible women were identified, of whom 7,092 were successfully interviewed, yielding a response rate of 95 percent. With regard to the male survey results, 6,476 eligible men were identified, of whom 6,009 were successfully interviewed, yielding a response rate of 93 percent. The response rates are lower in the urban than rural sample, especially for men.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Liberia 2007

Result	Residence		Total
	Urban	Rural	
Household interviews			
Households selected	2,868	4,603	7,471
Households occupied	2,720	4,301	7,021
Households interviewed	2,606	4,218	6,824
Household response rate[1]	95.8	98.1	97.2
Interviews with women age 15-49			
Number of eligible women	3,376	4,072	7,448
Number of eligible women interviewed	3,194	3,898	7,092
Eligible women response rate[2]	94.6	95.7	95.2
Interviews with men age 15-49			
Number of eligible men	2,801	3,675	6,476
Number of eligible men interviewed	2,531	3,478	6,009
Eligible men response rate[2]	90.4	94.6	92.8

[1] Households interviewed/households occupied
[2] Respondents interviewed/eligible respondents

The principal reason for nonresponse among eligible men and women was the failure to find individuals at home despite repeated visits to the household, followed by refusal to be interviewed. The substantially lower response rate for men reflects the more frequent and longer absence of men from the households.

HOUSEHOLD POPULATION AND HOUSING CHARACTERISTICS

2

The purpose of this chapter is to provide a descriptive summary of some demographic and socioeconomic characteristics of the population in the households sampled in the 2007 Liberia Demographic and Health Survey (LDHS), as well as characteristics of the dwelling units themselves. For the purpose of the 2007 LDHS, a household was defined as a person or a group of persons, related or unrelated, who live together and share a common source of food. The Household Questionnaire (see Appendix E) included a schedule collecting basic demographic and socioeconomic information (e.g., age, sex, educational attainment, and current school attendance) for all usual residents and visitors who spent the night preceding the interview. This method of data collection allows the analysis of the results for either the de jure (usual residents) or de facto (those who are there at the time of the survey) populations. The Household Questionnaire also obtained information on housing facilities (e.g., sources of water supply, sanitation facilities) and household possessions. These latter items are used to create an index of relative wealth, which is described later in this chapter.

The information presented in this chapter is intended to facilitate interpretation of the key demographic, socioeconomic, and health indicators presented later in the report. It is also intended to assist in the assessment of the representativeness of the survey sample.

2.1 POPULATION BY AGE AND SEX

Age and sex are important demographic variables and are the primary basis of demographic classification. The distribution of the de facto household population in the 2007 LDHS is shown in Table 2.1 by five-year age groups, according to sex and residence.

Table 2.1 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Liberia 2007

	Urban			Rural			Total		
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	15.7	13.3	14.4	20.6	18.7	19.6	18.8	16.6	17.7
5-9	14.7	15.0	14.9	17.4	16.6	17.0	16.4	16.0	16.2
10-14	16.3	15.3	15.8	12.9	10.8	11.9	14.1	12.6	13.3
15-19	9.1	11.2	10.2	7.0	6.4	6.7	7.8	8.2	8.0
20-24	9.0	10.3	9.7	5.8	7.7	6.8	6.9	8.7	7.9
25-29	6.6	8.1	7.4	5.6	7.0	6.3	6.0	7.4	6.7
30-34	5.4	6.4	6.0	4.7	5.8	5.3	5.0	6.1	5.5
35-39	5.2	5.7	5.4	5.6	5.9	5.8	5.5	5.8	5.6
40-44	4.5	3.9	4.2	4.3	4.2	4.2	4.3	4.1	4.2
45-49	3.7	2.9	3.3	4.2	4.7	4.4	4.0	4.0	4.0
50-54	3.9	3.2	3.5	3.5	4.0	3.7	3.6	3.7	3.6
55-59	2.2	1.6	1.9	2.6	2.4	2.5	2.5	2.1	2.3
60-64	1.4	1.0	1.2	1.9	1.8	1.8	1.7	1.5	1.6
65-69	1.0	1.0	1.0	1.8	1.5	1.6	1.5	1.3	1.4
70-74	0.6	0.4	0.5	0.7	0.8	0.8	0.7	0.7	0.7
75-79	0.4	0.4	0.4	0.7	0.9	0.8	0.6	0.7	0.7
80 +	0.3	0.3	0.3	0.8	0.6	0.7	0.6	0.5	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	5,942	6,632	12,575	10,365	10,516	20,881	16,307	17,149	33,456

The 2007 LDHS enumerated a population of 33,456 persons. Just under half of the population (49 percent) is male and 51 percent is female. The results indicate an overall sex ratio of 95 males per 100 females. The sex ratio is higher in rural areas (99 males per 100 females) than urban areas (90 males per 100 females).

The population age structure shows a substantially larger proportion of persons in younger age groups than in the older age groups for each sex (Figure 2.1). This is a reflection of the young age structure of the population of Liberia and indicates a population with high fertility. Forty-seven percent of the population are below 15 years of age, 49 percent are in the age group 15-64, and 3 percent are age 65 or older. However, there is an implausibly large drop-off between ages 10-14 and 15-19. Examination of the distribution of the household population by single year of age (Table A.1 and Figure 2.2) shows evidence that interviewers may have intentionally underestimated respondents' ages to be younger than the age cut-off of 15 so as to make them ineligible for the individual interview.

Figure 2.1 Population Pyramid

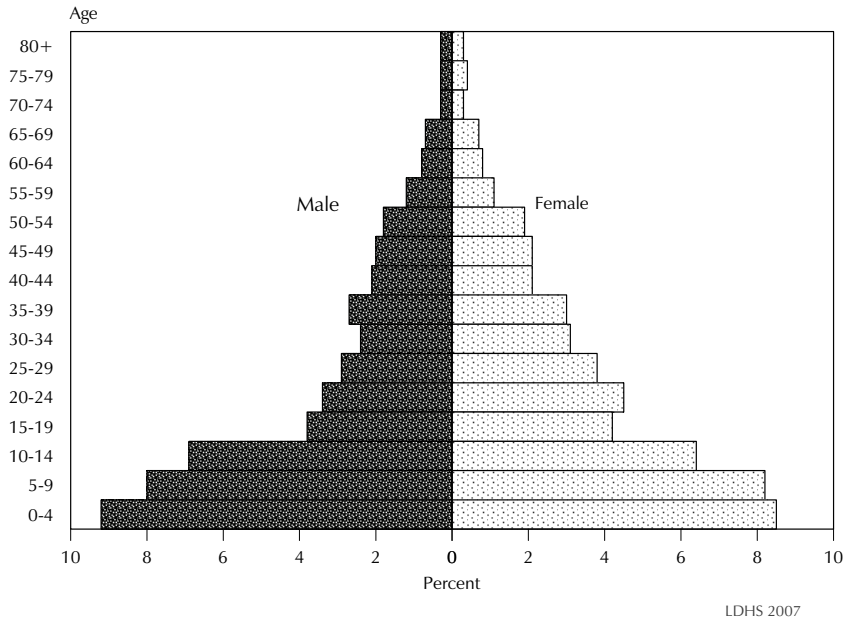
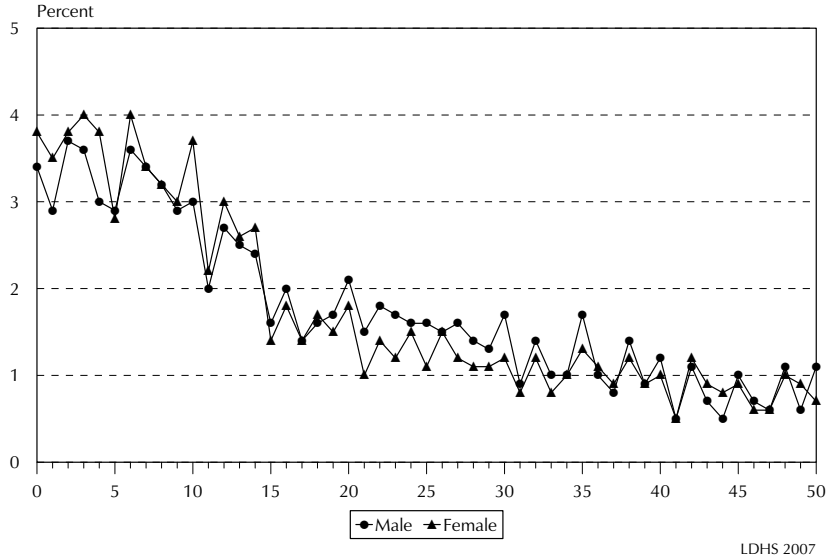


Figure 2.2 Distribution of the Household Population by Single Year of Age



2.2 HOUSEHOLD COMPOSITION

Information on key aspects of the composition of households, including the sex of the head of the household and the size of the household, is presented in Table 2.2. These characteristics are important because they are associated with the welfare of the household. The sex of the head of the household is sometimes related to socio-economic status of the household. Economic resources are often more limited in larger households. Moreover, where the size of the household is large, crowding also can lead to health problems.

Households in Liberia are predominantly male-headed (69 percent), a common feature in African countries. Nevertheless, more than three in ten households are headed by women, and the proportion of female-headed households is higher in urban than rural areas.

Liberian households most commonly consist of four or five members, with the average household size being five persons. Overall, 11 percent of households have nine or more members. Urban households are slightly larger than rural households.

Table 2.2 Household composition

Percent distribution of households by sex of head of household and by household size, mean size of household, and percentage of households with orphans and foster children under 18, according to residence, Liberia 2007

Characteristic	Residence		Total
	Urban	Rural	
Household headship			
Male	64.9	71.2	68.9
Female	35.1	28.8	31.1
Total	100.0	100.0	100.0
Number of usual members			
1	8.2	6.8	7.3
2	8.9	8.5	8.7
3	13.4	14.8	14.3
4	17.1	18.3	17.9
5	15.1	16.6	16.0
6	11.3	11.6	11.5
7	8.0	7.6	7.7
8	5.5	6.1	5.9
9+	12.4	9.5	10.6
Total	100.0	100.0	100.0
Mean size of households	5.2	5.0	5.0
Percentage of households with orphans and foster children under 18			
Foster children[1]	37.7	26.7	30.7
Double orphans	1.7	1.4	1.5
Single orphans	9.6	10.5	10.2
Foster and/or orphan children	40.0	31.4	34.5
Number of households	2,486	4,338	6,824

Note: Table is based on de jure household members, i.e., usual residents.
[1] Foster children are those under age 18 living in households with neither their mother nor their father present.

In Liberia, 31 percent of households have at least one foster child, i.e., a child under 18 years who is not living with either of their natural parents. The proportion is much higher (38 percent) in urban areas than rural areas (27 percent). Ten percent of households have a single orphan and 2 percent have double orphans. Thirty-five percent of households in Liberia have either foster or orphan children. The percentage is much higher (40 percent) in urban areas than in rural areas (31 percent).

Detailed information on households with orphans and foster children less than 18 years is presented in Table 2.3. Just under half (48 percent) of children under 18 live with both of their biological parents, 21 percent live with only their mother, 9 percent live with only their father, and 21 percent live with neither parent. Eighteen percent of children live with only their mothers even though their fathers are alive, 8 percent live with only their fathers even though their mothers are alive, and 18 percent live with neither parent even though both parents are alive. Five percent of children under 18 do not have a father alive and 3 percent do not have a mother alive. Seven percent of children under 18 have either a mother, father, or both dead.

Table 2.3 Children's living arrangements and orphanhood

Percent distribution of de jure children under age 18 by living arrangements and survival status of parents, the percentage of children not living with a biological parent, and the percentage of children with one or both parents dead, according to background characteristics, Liberia 2007

Background characteristic	Living with both parents	Living with mother but not with father		Living with father but not with mother		Not living with either parent				Missing information on father/ mother	Total	Percentage not living with a biological parent	Percentage with one or both parents dead	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead					
Age														
0-4	56.2	25.4	1.9	4.1	0.4	9.1	0.3	0.6	0.2	1.7	100.0	10.2	3.4	6,028
<2	58.9	32.0	0.8	1.5	0.3	4.4	0.2	0.2	0.1	1.6	100.0	5.0	1.6	2,300
2-4	54.6	21.3	2.5	5.8	0.5	12.0	0.3	0.9	0.2	1.8	100.0	13.5	4.6	3,727
5-9	48.0	15.8	2.2	9.2	1.1	19.1	0.9	1.8	0.8	1.2	100.0	22.5	6.8	5,533
10-14	40.5	12.8	3.5	10.9	1.4	24.3	1.6	2.6	1.2	1.1	100.0	29.8	10.4	4,535
15-17	34.7	12.9	4.6	11.0	1.8	24.9	1.0	4.7	1.4	3.0	100.0	32.0	13.7	1,629
Sex														
Male	48.1	17.8	2.5	9.0	1.1	16.4	0.9	1.9	0.7	1.7	100.0	19.9	7.1	8,988
Female	47.2	18.3	2.8	7.1	1.0	18.7	0.8	1.9	0.8	1.4	100.0	22.3	7.3	8,736
Residence														
Urban	38.5	22.1	1.9	8.3	0.5	23.4	1.1	2.0	0.8	1.4	100.0	27.3	6.3	6,512
Rural	52.9	15.6	3.1	7.9	1.3	14.2	0.8	1.8	0.7	1.6	100.0	17.4	7.7	11,212
Region														
Monrovia	36.7	23.0	1.4	8.2	0.5	24.9	1.2	2.0	0.8	1.4	100.0	28.8	5.9	4,755
North Western	43.1	19.6	6.0	5.3	0.6	15.9	1.0	3.9	1.3	3.2	100.0	22.1	12.8	1,399
South Central	51.3	15.8	2.4	9.5	1.3	14.9	0.9	1.5	1.1	1.4	100.0	18.3	7.2	2,541
South Eastern A	56.3	13.9	1.7	9.4	0.6	12.8	1.1	1.3	0.8	2.0	100.0	16.0	5.5	1,188
South Eastern B	52.4	16.5	3.4	6.5	1.0	15.3	1.3	2.0	1.0	0.6	100.0	19.6	8.7	1,312
North Central	52.6	16.0	2.9	8.1	1.5	15.0	0.5	1.6	0.4	1.5	100.0	17.5	6.9	6,529
Wealth quintile														
Lowest	53.6	15.8	3.7	7.3	1.9	13.9	0.7	1.2	0.7	1.3	100.0	16.5	8.2	3,505
Second	57.6	14.7	3.2	7.2	0.9	11.9	0.8	1.5	0.8	1.5	100.0	14.9	7.1	3,560
Middle	49.3	17.9	2.8	7.1	1.0	15.4	1.0	2.0	0.9	2.5	100.0	19.4	7.7	3,605
Fourth	40.2	23.1	2.6	8.0	0.9	20.0	0.8	2.6	0.5	1.3	100.0	23.9	7.5	3,646
Highest	37.3	18.5	1.0	10.8	0.4	27.0	1.1	2.0	0.9	1.1	100.0	31.0	5.4	3,408
Total <15	48.9	18.5	2.4	7.8	0.9	16.8	0.9	1.6	0.7	1.4	100.0	20.0	6.5	16,095
Total <18	47.6	18.0	2.6	8.1	1.0	17.6	0.9	1.9	0.7	1.5	100.0	21.1	7.2	17,724

Note: Table is based on de jure members, i.e., usual residents.

The percentage of children living with both of their biological parents decreases with increasing age of the child. Rural children are more likely to live with both parents than urban children. The highest proportion of children living with both parents is in the South Eastern A region (56 percent) and the lowest proportion is in Monrovia (37 percent). Interestingly, the proportion of children under 18 who are living with both parents generally decreases with increasing wealth.[1] Among children in the highest wealth quintile, more than one-quarter are not living with either of their biological parents even though both are alive.

2.3 EDUCATION OF THE HOUSEHOLD POPULATION

Education is a key determinant of the lifestyle and status an individual enjoys in a society. Studies have consistently shown that educational attainment has a strong effect on health behaviors and attitudes. In general, the higher the level of education a woman has attained, the more knowledgeable she is about the use of health facilities, family planning methods, and the health of her children. Results from the 2007 LDHS can be used to look at educational attainment and current school attendance among household members.

Liberia's education system has been unstable for a little more than 15 years because of the civil crisis; however, a major restructuring of the infrastructure and program is being undertaken by the government. Presently, the government of Liberia has adopted a free primary education policy in all government schools with a special program for female education. The government is undertaking massive renovation of infrastructure damaged during the war and is also restructuring and expanding programs in the educational system.

For the purposes of the analysis presented below, age 6 is used as the age for entry into the primary level. Because of the war, however, many children who should have started school when they reached school-going age never got to start school at all. Officially, primary school consists of six years of education, and junior high school and senior high school each consist of three years.

2.3.1 Educational Attainment

Tables 2.4.1 and 2.4.2 show the percent distribution of the de facto female and male household population age six and over by highest level of education attended, according to background characteristics. The LDHS results show that the majority of Liberians have little education, with females much less educated than males. Fifty-six percent of females and 39 percent of males have never attended any school, and 25 percent of females and 26 percent males have only some primary education. Only 5 percent of females and 13 percent of males have completed secondary or higher education. However, with the introduction of compulsory free primary education in all government schools and renovation and rebuilding of schools that were damaged during the civil war, there will be an improvement in educational attainment as well as a reduction in the gap between male and female educational attainment in the country.

The proportion of the population with no education is high among the youngest children, many of whom may not have yet started school. The proportion decreases with age up to those in their teens and early 20s, after which it increases among the older population. Urban residents tend to be considerably more educated than their rural counterparts. For example, the proportion of women who have attended some secondary school is five times higher in urban than rural areas (29 percent vs. 6 percent, respectively). On a regional basis, the highest proportions of the population with no education are found in North Western region for both females and males, while the lowest proportions are observed for Monrovia. For example, 70 percent of females in North Western have no education, compared with only 34 percent of those in Monrovia. As expected, educational attainment is highly correlated with household wealth. The proportion of women with no education decreases from 77 percent among those in the lowest wealth quintile to 28 percent among those in the highest quintile.

[1] See Section 2.9 for a description of how the wealth index was calculated.

Table 2.4.1 Educational attainment of the female household population

Percent distribution of the de facto female household population age six and over by highest level of schooling attended or completed and median grade completed, according to background characteristics, Liberia 2007

Background characteristic	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary or higher[2]	Don't know/ missing	Total	Number	Median years completed
Age									
6-9	86.5	13.1	0.1	0.0	0.0	0.3	100.0	2,242	0.0
10-14	43.8	50.3	3.3	2.3	0.0	0.3	100.0	2,153	0.3
15-19	19.4	48.8	7.7	22.6	1.0	0.4	100.0	1,414	3.3
20-24	30.1	29.4	6.0	27.3	7.0	0.2	100.0	1,497	3.7
25-29	43.4	25.7	3.7	15.5	11.4	0.3	100.0	1,277	1.4
30-34	50.3	21.2	4.5	11.8	11.6	0.6	100.0	1,039	0.0
35-39	55.1	15.6	4.3	13.3	11.1	0.7	100.0	1,001	0.0
40-44	60.7	13.8	3.5	13.6	7.9	0.5	100.0	697	0.0
45-49	74.6	10.7	1.0	5.8	6.9	1.0	100.0	688	0.0
50-54	78.8	5.9	1.4	4.8	6.3	2.7	100.0	629	0.0
55-59	86.0	5.5	0.4	2.3	5.4	0.3	100.0	365	0.0
60-64	89.5	2.8	0.4	0.2	3.4	3.7	100.0	255	0.0
65+	89.2	1.5	0.4	1.0	1.6	6.4	100.0	540	0.0
Residence									
Urban	37.5	28.1	4.8	18.3	10.6	0.7	100.0	5,597	2.1
Rural	68.2	23.0	2.3	4.7	1.0	0.9	100.0	8,208	0.0
Region									
Monrovia	34.0	27.8	4.9	20.0	12.9	0.4	100.0	4,275	2.9
North Western	70.3	19.5	2.8	5.0	0.9	1.6	100.0	1,077	0.0
South Central	64.3	22.8	2.5	7.7	2.3	0.4	100.0	1,945	0.0
South Eastern A	63.7	25.4	3.6	4.3	0.7	2.2	100.0	776	0.0
South Eastern B	55.2	33.0	3.4	6.9	0.9	0.5	100.0	909	0.0
North Central	67.2	23.1	2.2	5.3	1.1	1.0	100.0	4,824	0.0
Wealth quintile									
Lowest	76.7	18.4	1.6	2.3	0.2	0.8	100.0	2,607	0.0
Second	72.2	20.8	2.1	3.5	0.3	1.1	100.0	2,551	0.0
Middle	58.3	28.2	3.9	7.1	1.3	1.3	100.0	2,664	0.0
Fourth	49.2	27.0	4.0	14.8	4.4	0.7	100.0	2,934	0.0
Highest	28.2	29.7	4.5	20.9	16.4	0.3	100.0	3,049	3.6
Total	55.8	25.0	3.3	10.2	4.9	0.8	100.0	13,805	0.0

[1] Completed grade 6 at the primary level
[2] Completed grade 12 at the secondary level

Comparison of data from 2007 with the 1999-2000 LDHS shows that there has been some improvement in educational attainment.[2] For example, between 1999-2000 and 2007, the proportion of those age 15-19 years who completed primary school increased from 23 to 31 percent for females and from 31 to 36 percent for males. Among those age 20-24, the proportions who completed primary school increased from 34 to 40 percent among women and from 56 to 64 percent among men.

[2] Data for the 1999-2000 LDHS were tabulated for the population age five and over and in terms of the level of education completed; the differences in tabulations make comparisons more difficult.

Table 2.4.2 Educational attainment of the male household population

Percent distribution of the de facto male household population age six and over by highest level of schooling attended or completed and median grade completed, according to background characteristics, Liberia 2007

Background characteristic	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary or higher[2]	Don't know/ missing	Total	Number	Median years completed
Age									
6-9	86.5	12.8	0.1	0.0	0.0	0.7	100.0	2,220	0.0
10-14	42.2	52.2	2.7	2.6	0.0	0.3	100.0	2,304	0.3
15-19	11.4	52.3	8.6	26.5	0.9	0.2	100.0	1,265	3.9
20-24	11.0	25.0	7.3	45.5	11.1	0.1	100.0	1,133	6.5
25-29	22.7	19.0	5.1	33.1	19.6	0.5	100.0	975	6.3
30-34	20.4	20.1	4.6	27.6	27.1	0.1	100.0	811	6.8
35-39	24.2	18.7	6.5	26.1	24.3	0.2	100.0	889	6.0
40-44	22.4	9.8	4.2	26.5	36.2	0.8	100.0	708	8.6
45-49	29.1	16.8	2.3	19.3	31.6	0.9	100.0	655	6.4
50-54	32.6	13.8	4.4	16.3	31.6	1.4	100.0	591	5.6
55-59	45.2	12.2	2.3	15.3	22.8	2.1	100.0	400	1.7
60-64	53.3	13.8	3.7	10.9	14.7	3.6	100.0	277	0.0
65+	68.0	10.0	2.3	9.1	8.2	2.5	100.0	554	0.0
Residence									
Urban	24.7	25.9	4.2	22.0	22.6	0.5	100.0	4,871	4.8
Rural	48.1	26.4	3.8	14.8	6.2	0.7	100.0	7,912	0.0
Region									
Monrovia	21.8	25.8	4.4	22.1	25.4	0.4	100.0	3,679	5.4
North Western	56.8	19.3	3.9	12.5	6.9	0.6	100.0	952	0.0
South Central	43.2	28.7	1.9	16.4	9.3	0.4	100.0	1,814	0.7
South Eastern A	43.3	29.0	3.3	17.5	6.1	0.8	100.0	796	0.7
South Eastern B	35.0	31.7	6.1	18.8	8.1	0.4	100.0	888	2.2
North Central	47.8	25.4	4.1	15.1	6.5	1.0	100.0	4,654	0.1
Wealth quintile									
Lowest	56.5	25.7	3.2	10.9	2.7	1.0	100.0	2,417	0.0
Second	49.4	26.1	5.2	14.5	4.4	0.4	100.0	2,486	0.0
Middle	42.5	27.0	3.6	18.2	7.7	0.9	100.0	2,602	1.0
Fourth	32.8	25.4	3.3	20.7	17.3	0.6	100.0	2,464	3.2
Highest	17.9	26.6	4.3	22.5	28.2	0.4	100.0	2,814	6.0
Total	39.2	26.2	3.9	17.5	12.5	0.7	100.0	12,784	1.7

[1] Completed grade 6 at the primary level
[2] Completed grade 12 at the secondary level

2.3.2 School Attendance Rates

Table 2.5 presents primary school and secondary school net and gross attendance ratios (NAR and GAR) for the school year that started in 2006, by household residence, region, and wealth quintile. The NAR for primary school is the percentage of the primary-school-age (6-11 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school-age (12-17 years) population that is attending secondary school. By definition, the NAR cannot exceed 100 percent. The GAR for primary school is the total number of primary school students, of any age, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, of any age, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of over-age and under-age students at a given level of schooling, the GAR can exceed 100 percent. Youth are considered to be attending school currently if they attended formal academic school at any point during the given school year.

Table 2.5 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de facto household population by sex and level of schooling, and the gender parity index (GPI), according to background characteristics, Liberia 2007

Background characteristic	Net attendance ratio[1]				Gross attendance ratio[2]			
	Male	Female	Total	Gender Parity Index[3]	Male	Female	Total	Gender Parity Index[3]
	PRIMARY SCHOOL							
Residence								
Urban	60.8	54.6	57.5	0.90	109.0	102.7	105.7	0.94
Rural	30.5	27.1	28.9	0.89	73.6	62.0	68.2	0.84
Region								
Monrovia	65.3	56.5	60.6	0.87	110.8	103.7	107.0	0.94
North Western	33.5	30.6	32.0	0.91	70.1	64.3	67.1	0.92
South Central	32.5	30.0	31.2	0.92	74.8	59.0	66.7	0.79
South Eastern A	31.9	28.9	30.6	0.91	78.2	79.3	78.7	1.01
South Eastern B	46.8	41.7	44.3	0.89	110.8	87.9	99.5	0.79
North Central	29.9	28.2	29.1	0.94	73.0	65.9	69.7	0.90
Wealth quintile								
Lowest	25.2	19.8	22.6	0.79	58.3	47.9	53.3	0.82
Second	27.6	24.9	26.4	0.90	72.1	57.7	65.6	0.80
Middle	36.4	38.0	37.1	1.04	82.8	84.0	83.4	1.01
Fourth	47.4	36.8	41.8	0.78	97.3	80.7	88.5	0.83
Highest	69.1	64.1	66.4	0.93	119.2	111.4	115.0	0.93
Total	41.4	38.6	40.0	0.93	86.3	79.1	82.7	0.92
	SECONDARY SCHOOL							
Residence								
Urban	32.2	29.0	30.4	0.90	76.1	57.9	66.0	0.76
Rural	13.1	5.9	9.7	0.45	35.0	18.0	27.0	0.51
Region								
Monrovia	35.9	32.8	34.2	0.91	80.2	62.2	70.1	0.78
North Western	26.6	10.1	19.1	0.38	42.9	15.1	30.3	0.35
South Central	17.2	17.7	17.5	1.02	42.9	39.2	41.1	0.91
South Eastern A	11.2	6.6	8.9	0.59	42.3	19.8	31.2	0.47
South Eastern B	11.4	10.2	10.9	0.90	45.0	22.8	34.6	0.51
North Central	12.1	3.9	8.1	0.32	36.0	19.2	27.9	0.53
Wealth quintile								
Lowest	7.3	1.4	4.5	0.19	25.4	7.8	16.9	0.31
Second	10.7	3.0	7.3	0.28	30.0	14.9	23.3	0.50
Middle	15.3	8.7	12.0	0.57	41.6	21.3	31.5	0.51
Fourth	22.2	19.1	20.5	0.86	56.8	45.6	50.7	0.80
Highest	40.0	36.7	38.2	0.92	88.3	68.3	77.4	0.77
Total	21.3	17.9	19.6	0.84	52.7	38.7	45.5	0.73

[1] The NAR for primary school is the percentage of the primary-school-age (6-11 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school-age (12-17 years) population that is attending secondary school. By definition the NAR cannot exceed 100 percent.
[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of over-age and under-age students at a given level of schooling, the GAR can exceed 100 percent.
[3] The Gender Parity Index for primary school is the ratio of the primary school NAR(GAR) for females to the NAR(GAR) for males. The Gender Parity Index for secondary school is the ratio of the secondary school NAR(GAR) for females to the NAR(GAR) for males.

Table 2.5 shows that only 40 percent of primary-school-age children in Liberia are attending primary school; however, the GAR is considerably higher (83 percent), indicating that there are many primary school students who are not in the official primary school age group. The NAR is higher in urban areas than in rural areas (58 and 29 percent, respectively), as is the GAR (106 and 68 percent, respectively). There is significant variation by region: the NARs in North Western, South Central, South Eastern A, and North Central regions are half of the NAR in Monrovia.

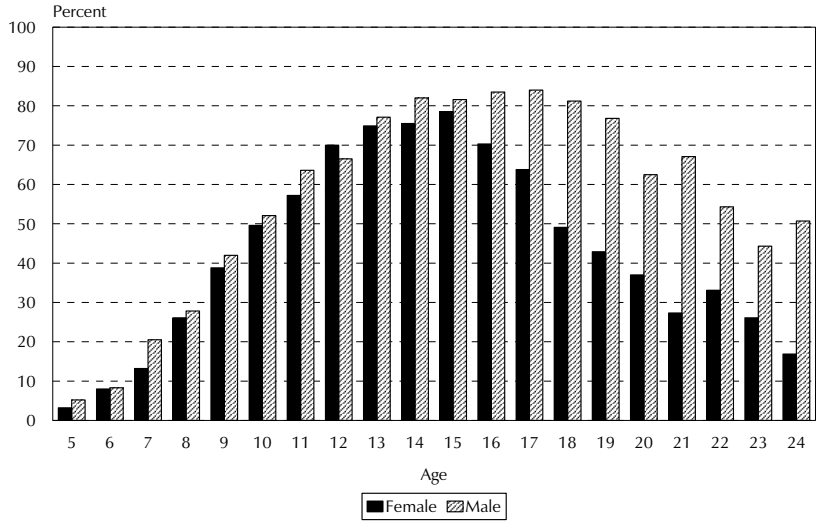
The data in Table 2.5 show that there is a high correlation between economic status of the household and school attendance. For example, the NAR at the primary school level is 23 percent for the poorest households and 66 percent for the wealthiest households. The data indicate that unless the free education policy is effectively implemented by the government, many young Liberians will continue to be denied educational opportunities.

At the secondary school level, the NAR is 20 percent and the GAR is 46 percent. Regional disparities at the secondary school level are even more pronounced than the primary school level; for example, the NAR ranges from a low of 8 percent in North Central region to a high of 34 percent in Monrovia.

The gender parity index (GPI) assesses sex-related differences in school attendance rates and is calculated by dividing the NAR or GAR for females by the NAR or GAR for males. A GPI of less than one indicates a gender disparity in favor of males, i.e., a higher proportion of males than females attends that level of schooling. A GPI greater than one indicates a gender disparity in favor of females. A GPI of one indicates parity or equality between the rates of participation for males and females.

The GPI for the NAR for primary school is 0.93 and for the GAR is 0.92. For secondary school, the GPIs are 0.84 and 0.73, respectively. This means that there is a gender disparity in favor of males in Liberia and that it is stronger at the secondary school level than at the primary level. Girls tend to be more educationally disadvantaged in rural than in urban areas, especially at the secondary level. Once again, regional differentials exist, especially for secondary school; the data indicate that girls residing in North Central and North Western regions are particularly disadvantaged at the secondary school level. Gender disparities in school attendance by age—i.e., the percentage of a given age cohort who attend school, regardless of the level attended (primary, secondary, or higher)—are shown in Figure 2.3.

Figure 2.3 Age-Specific School Attendance Rates



Note: Figure shows percentage of the de jure household population age 5-24 years attending school.

LDHS 2007

Another way to measure school attendance is to ask if school-aged children actually attended school in the previous week. In the LDHS, for all children age 5-14 listed in the household, a question was first asked as to whether the child was "going to school these days." If yes, the respondent was asked how many days the child was absent from school in the last week. For children who were either not going to school these days or who had missed one or more days in the previous week, the

respondent was asked why the child was absent from school. Data are tabulated for children age 6-14, because age 6 is a more common age for starting primary school.

As shown in Table 2.6, more than one-quarter of children age 6-14 were reported as "not going to school these days," and an additional 14 percent were going to school but were absent for one or more days in the preceding week. Slightly more than half of school-aged children were reported to have not been absent from school the previous week. This proportion is far higher than average among urban children and children whose mothers are better educated and who are in the wealthier quintiles.

Table 2.6 School absenteeism

Percent distribution of children age 6-14 years by school attendance in the week preceding the interview, according to background characteristics, Liberia 2007

Background characteristic	School attendance in week preceding survey (%)					Number of children age 6-14
	Present all days	Absent 1+ days	Absent all days	Missing	Total	
Sex						
Male	55.7	14.4	25.9	3.9	100.0	4,636
Female	54.3	13.3	28.7	3.6	100.0	4,491
Age						
6-11 years	52.9	13.7	29.7	3.7	100.0	6,444
12-14 years	60.3	14.4	21.4	3.9	100.0	2,683
Residence						
Urban	66.0	14.9	16.0	3.1	100.0	3,619
Rural	47.8	13.2	34.7	4.2	100.0	5,508
Region						
Monrovia	66.9	14.9	15.5	2.7	100.0	2,689
North Western	60.2	12.2	23.0	4.7	100.0	690
South Central	49.8	18.1	26.8	5.3	100.0	1,227
South Eastern A	54.6	14.0	24.8	6.6	100.0	541
South Eastern B	58.9	10.6	26.0	4.5	100.0	672
North Central	45.6	12.6	38.7	3.2	100.0	3,309
Mother's education						
None	48.5	12.8	35.1	3.6	100.0	2,996
Primary	57.0	16.6	23.5	3.0	100.0	1,214
Secondary or higher	72.6	15.6	8.5	3.3	100.0	1,049
Mother's survival status						
Mother dead/don't know	44.8	14.7	36.3	3.7	100.0	382
Mother not in household	56.8	13.1	35.9	4.2	100.0	3,172
Mother in household, not interviewed	46/0	15/1	33/1	5.8	100.0	311
Wealth quintile						
Lowest	41.6	12.1	42.2	4.1	100.0	1,699
Second	45.0	13.9	35.4	5.7	100.0	1,617
Middle	53.1	16.4	27.3	3.3	100.0	1,832
Fourth	59.2	12.8	25.2	2.8	100.0	1,933
Highest	72.0	14.1	10.5	3.4	100.0	2,046
Total	55.0	13.9	27.3	3.8	100.0	9,127

Table 2.7 shows that important reasons for absence from school are school holidays or vacations, especially for those who are going to school but were absent one or more days the previous week. Among children who are not going to school, by far the main reason is lack of funds for school fees. Clearly, making primary school free and compulsory could increase enrolment.

Table 2.7 Reasons for school absenteeism

Percent distribution of children age 6-14 years who were not going to school or who were absent one or more days in the week preceding the interview, by reason for absence, Liberia 2007

Reason for child's absence from school	School absence in week preceding survey (%)	
	Did not attend school	Attended school 1+ days
Work	0.0	0.9
Did not want to go	3.0	4.7
Mistreated at school	0.1	0.1
Child was sick	2.0	19.5
Had to care for sick relative	0.3	0.5
School is too far	5.2	0.1
Security concerns	0.6	0.8
Vacation, holiday	20.7	35.9
School not open	1.5	2.5
School too far	4.9	0.8
No money for fees	50.2	18.5
Other	8.8	13.1
Missing	2.7	2.7
Total	100.0	100.0
Number of children	2,491	1,267

2.4 CHILD LABOR

Interestingly, having to work is not a significant reason for children's absence from school. Nevertheless, child labor can affect the amount of time available to do homework, play, and sleep. In the 2007 LDHS, respondents to the Household Questionnaire were asked a series of questions about all children age 5-14 in the household, namely, whether the child did any kind of work for someone outside the household in the past week or the past year, whether the child helped with household chores in the past week, and whether the child did any other family work on the farm or in a family business. If the answer to any of these questions was "yes," the respondent was asked whether the work was for pay or unpaid and how many hours the child did that kind of work in the past week.

Table 2.8 shows data on child labor in Liberia. Different criteria were used depending on the age of the child. A child age 5-11 was considered to be working if he/she worked at all, while a child age 12-14 was considered to be working only if he/she worked for 14 hours or more in the previous week.

The data show that one-fifth of children age 5-14 are considered to be engaged in labor (see definition in footnote 2 in Table 2.8). The main contributor to child labor consists of children age 5-11 working in a family business or on the farm. Although older children (age 12-14) also work in the family business or farm, only 3 percent do so for 14 hours a week or more. Nine percent of children age 5-14 work outside the household, mostly in unpaid jobs.

Because of the definition of child labor, it is more common among younger children than older children. Child labor is also more common among rural than urban children and among those in the poorer wealth quintiles.

Table 2.8 Child labor

Percentage of children age 5-14 years who were involved in child labor activities in the past week, by type of work, Liberia 2007

Background characteristic	Working outside the household in past week[1]		Household chores for 28+ hours/ week	Working for family business in past week[1]	Total child labor[2]	Number of children age 5-14 years
	Paid work	Unpaid work				
Sex						
Male	1.2	7.6	0.3	15.9	21.1	5,105
Female	0.6	8.5	0.5	15.4	20.5	5,002
Age						
5-11 years	1.2	10.5	0.4	20.2	27.5	7,424
12-14 years	0.2	1.2	0.6	3.1	2.2	2,683
School participation						
Yes	0.9	8.7	0.5	16.3	21.8	6,976
No	1.0	6.9	0.3	15.0	19.5	2,954
Residence						
Urban	1.2	9.1	0.6	8.6	15.7	3,920
Rural	0.7	7.4	0.3	20.1	24.0	6,186
Region						
Monrovia	1.3	9.9	0.2	7.6	15.6	2,898
North Western	1.2	13.2	0.0	13.0	22.3	784
South Central	0.4	7.1	0.6	13.4	17.4	1,397
South Eastern A	1.4	10.3	1.1	26.9	31.7	612
South Eastern B	0.1	13.4	0.1	20.6	27.2	754
North Central	0.7	4.4	0.5	20.4	22.7	3,662
Mother's education						
None	0.8	7.1	0.3	18.5	22.3	3,392
Primary	0.9	9.0	0.2	18.5	23.7	1,387
Secondary and higher	0.8	8.5	0.9	9.0	16.4	1,147
Mother's survival status						
Mother dead/don't know	0.5	9.6	0.9	8.2	24.4	415
Mother not in household	0.9	8.2	0.5	13.8	19.2	3,426
Mother in household, not interviewed	2.5	8.9	0.0	13.1	19.8	337
Wealth quintile						
Lowest	1.3	8.4	0.5	22.8	26.9	1,922
Second	1.1	8.8	0.2	20.5	25.3	1,851
Middle	0.4	6.9	0.4	16.9	21.2	2,049
Fourth	0.8	8.0	0.7	12.3	18.4	2,113
Highest	1.0	8.3	0.4	7.2	13.5	2,171
Total	0.9	8.1	0.4	15.6	20.8	10,107

Note: Total includes some cases with missing data for school participation

[1] Defined as any such work for children age 5-11 and 14 hours or more of such work for those age 12-14

[2] The numerator to estimate child labor percentage includes: (a) children 5-11 years of age that during the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic chores and (b) children 12-14 years of age that during the week preceding the survey did at least 14 hours of economic activity or at least 28 hours of domestic chores.

2.5 CHILD DISCIPLINE

The manner in which parents and caretakers discipline children can have long-term consequences on their physical and psychological development and well-being. In an effort to identify the types of child discipline methods used in Liberia, the 2007 LDHS included questions on this topic. The questions were aimed at only one randomly selected child age 2-14 in the household. Interviewers were instructed how to use the "Kish" grid at the back of the Household Questionnaire to randomly select one child in households with two or more eligible children. Interviewers then posed questions to the household respondent about whether the respondent or anyone else in the household used any of a list of methods to discipline the child in the previous month. The methods asked about ranged from "Gave him/her something else to do" to "Beat him/her with an implement over and over as hard as one could."

Data in Table 2.9 show that the vast majority of children receive psychological punishment such as yelling and name calling (83 percent) or minor physical punishment such as shaking, spanking, hitting with a hard object, or slapping on the face, head, arm, or leg (76 percent). Fifteen percent of children age 2-14 received severe physical punishment in the previous month, namely severe beating with an implement. Almost all children (94 percent) were punished with some type of psychological or physical method. One in 20 children was not disciplined or punished at all in the previous month or received only nonviolent discipline such as taking away privileges, explaining why something the child did was wrong, or giving him/her something else to do. Differences in the use of the various methods of child discipline by background characteristics are notably minor. One exception is age of the child, with the youngest children (2-4 years) slightly more likely than older children to not be disciplined at all.

Table 2.9 Child discipline

Percentage of children age 2-14 years who experience various methods of discipline, according to background characteristics, Liberia 2007

Background characteristic	Only non-violent discipline	Psycho-logical punish-ment	Minor physical punish-ment[1]	Severe physical punish-ment[1]	Any psycho-logical or physical punish-ment	No discipline or punish-ment	Respondent believes the child needs to be physically punished	Number of children age 2-14 years
Sex								
Male	4.3	83.5	76.3	16.2	94.0	4.8	60.7	2,731
Female	4.8	81.6	74.7	14.2	94.0	4.6	61.8	2,660
Age								
2-4 years	4.1	78.7	73.4	11.2	89.2	8.3	57.6	1,604
5-9 years	3.9	85.5	79.0	16.5	97.2	2.4	63.3	2,137
10-14 years	5.8	82.6	73.1	17.5	94.7	4.2	62.0	1,650
Residence								
Urban	3.4	86.4	79.9	18.2	94.6	4.3	65.4	1,946
Rural	5.2	80.4	73.0	13.5	93.7	4.9	58.9	3,444
Region								
Monrovia	2.4	88.5	81.3	19.2	94.2	4.8	65.1	1,473
North Western	5.4	87.6	63.6	12.5	97.0	1.5	50.0	460
South Central	4.6	84.2	78.8	11.2	97.2	2.4	71.1	800
South Eastern A	7.7	81.6	69.9	16.1	94.6	4.1	59.7	349
South Eastern B	4.1	82.4	69.5	12.6	89.3	9.7	70.4	362
North Central	5.5	76.5	74.8	14.8	92.6	5.6	55.5	1,947
Mother's education								
None	4.0	82.3	76.3	16.8	94.4	4.1	61.9	1,885
Primary	4.2	80.5	74.7	12.5	90.6	7.5	58.8	908
Secondary and higher	2.3	89.0	81.5	16.2	95.9	3.1	70.3	621
Mother's survival status								
Mother dead/don't know	4.0	82.5	72.8	13.7	94.3	5.6	57.3	203
Mother not in household	6.3	82.1	73.0	15.5	94.6	4.5	59.5	1,567
Mother in household, not interviewed	5.1	77.9	75.0	9.2	94.8	3.7	56.8	205
Wealth quintile								
Lowest	6.1	76.1	69.9	12.2	90.8	7.5	56.9	1,162
Second	5.1	80.9	74.8	14.8	94.7	4.4	59.2	1,101
Middle	4.8	84.4	75.3	14.2	95.4	3.2	60.0	1,049
Fourth	2.8	87.4	80.9	19.4	95.7	2.8	68.4	1,065
Highest	3.8	84.9	77.4	15.8	93.6	5.4	62.2	1,014
Total	4.5	82.6	75.5	15.2	94.0	4.7	61.2	5,391

Note: In households with more than one child aged 2-14, one child was randomly selected as the subject for the questions.

[1] The DHS definition of minor and severe physical punishment varies slightly with the UNICEF definition due to question wording. The UNICEF Multiple Indicator Cluster Survey questionnaire includes two questions: "Hit or slapped him/her on the face, head or ears" and "Hit or slapped him/her on the hand, arm or leg", with the former considered to be severe physical punishment and the latter to be minor physical punishment. The two questions were combined in the LDHS into: "Slapped him/her on the face, head, arm or leg". In this table, this method is included in the minor physical punishment category.

Table 2.9 also shows that six in ten household respondents believe that the child needs to be physically punished in order to be brought up properly. Belief in physical punishment is more prevalent among respondents in urban areas, in South Central and South Eastern B regions, and among those with at least some secondary education.

2.6 BIRTH REGISTRATION

The registration of births is the inscription of the facts of the birth into an official log kept at the registrar's office. A birth certificate is issued at the time of registration or later as proof of the registration of the birth. Birth registration is basic to ensuring a child's legal status and, therefore, their basic rights and services (UNICEF, 2006; United Nations General Assembly, 2002).

Table 2.10 gives the percentage of children under age five whose births were officially registered and the percentage who had a birth certificate at the time of the survey. Not all children who are registered may have a birth certificate because some certificates may have been lost or were never issued. However, all children with a certificate have been registered.

The results show that only 4 percent of Liberian children under age five have birth certificates. Birth certificates are more common among children in South Central region and among those in the higher wealth quintiles.

Table 2.10 Birth registration of children under age five

Percent distribution of de jure children under five years of age by whether they have a birth certificate, according to background characteristics, Liberia 2007

Background characteristic	Percent distribution of children who have a birth certificate: Has a birth certificate	Does not have a birth certificate	Missing	Total	Number of children
Age					
<2	3.7	89.4	6.9	100.0	2,300
2-4	3.5	86.1	10.4	100.0	3,727
Sex					
Male	3.2	87.4	9.4	100.0	3,128
Female	4.0	87.3	8.7	100.0	2,900
Residence					
Urban	5.3	83.5	11.2	100.0	1,834
Rural	2.8	89.0	8.1	100.0	4,194
Region					
Monrovia	3.9	83.9	12.2	100.0	1,291
North Western	1.7	91.5	6.8	100.0	536
South Central	6.8	88.5	4.7	100.0	946
South Eastern A	1.6	91.4	7.0	100.0	487
South Eastern B	1.0	89.9	9.2	100.0	435
North Central	3.4	86.5	10.1	100.0	2,333
Wealth quintile					
Lowest	1.2	89.0	9.8	100.0	1,378
Second	2.4	90.0	7.6	100.0	1,445
Middle	4.6	88.2	7.2	100.0	1,238
Fourth	4.2	84.8	10.9	100.0	1,182
Highest	7.3	81.9	10.8	100.0	784
Total	3.6	87.3	9.1	100.0	6,028

2.7 HOUSEHOLD ENVIRONMENT

The physical characteristics of the dwelling in which a household lives are important determinants of the health status of household members, especially children. They can also be used as indicators of the socioeconomic status of households. LDHS respondents were asked a number of questions about their household environment, including questions on the source of drinking water;

type of sanitation facility; type of flooring, walls, and roof; and number of rooms in the dwelling. The results are presented both in terms of households and of the de jure population.

2.7.1 Drinking Water

Increasing access to improved drinking water is one of the Millennium Development Goals that Liberia, along with other nations worldwide, has adopted (United Nations General Assembly, 2001). Table 2.11 includes a number of indicators that are useful in monitoring household access to improved drinking water (WHO and UNICEF, 2005). The source of drinking water is an indicator of whether it is suitable for consumption. Sources that are likely to provide water suitable for drinking are identified as improved sources in Table 2.11. They include a piped source within the dwelling or plot, public tap, tube well or borehole, protected well or spring, and rainwater.[3] Lack of ready access to a water source may limit the quantity of suitable drinking water that is available to a household. Even if the water is obtained from an improved source, water that must be fetched from a source that is not immediately accessible to the household may be contaminated during transport or storage. Another factor in considering the accessibility of water sources is the fact that the burden of going for water often falls disproportionately on female members of the household. Finally, home water treatment can be effective in improving the quality of household drinking water.

The 2007 LDHS shows that only two-thirds (65 percent) of Liberian households have an improved source of drinking water. By far, the most common single source of water is protected dug wells (54 percent of households). Urban households are much more likely than rural households to use an improved source of drinking water (82 vs. 56 percent, respectively). One-fifth of rural households get their drinking water from lakes and ponds (surface water).

Eleven percent of Liberian households have water in their households or on the premises, and 80 percent take less than 30 minutes to go to their source of drinking water, get water, and come home. Interestingly, urban households are slightly more likely than rural households to take more than 30 minutes to get their drinking water.

Table 2.11 also shows that women are disproportionately more likely than men to collect the drinking water. In half of the households, adult women usually get the drinking water, compared with 11 percent of households in which adult men usually get it.

Survey results indicate that very few Liberian households take any measures to treat their water before drinking it. Eighty-two percent of households do not treat their water, and only 16 percent treat their water with bleach or chlorine.

Comparisons with the 1999-2000 LDHS are difficult because of variations in the classifications of water sources. Nevertheless, it appears that there has been some improvement in sources of water. Although the proportion of households using piped water has decreased slightly from 11 to 7 percent since 1999-2000 and the proportion getting drinking water from a tube well or borehole has also decreased from 16 to 3 percent, the proportion getting water from a protected dug well or spring has increased from 28 to 56 percent and the proportion getting water from unprotected dug wells, unprotected springs, and surface water has decreased from 38 to 30 percent.

[3] The classification of improved and nonimproved sources of drinking water follows that proposed by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (WHO and UNICEF, 2004).

Table 2.11 Household drinking water

Percent distribution of households and de jure population by source, time to collect, and person who usually collects drinking water; and percentage of households and the de jure population by treatment of drinking water, according to residence, Liberia 2007

Characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source	**81.5**	**55.9**	**65.2**	**83.5**	**55.8**	**66.1**
Piped water into dwelling/yard/plot	7.1	0.1	2.6	7.5	0.1	2.9
Public tap/standpipe	11.0	0.2	4.1	11.8	0.3	4.6
Tube well or borehole	3.7	2.3	2.8	4.0	2.5	3.0
Protected dug well	59.6	51.2	54.3	60.1	50.8	54.3
Protected spring	0.1	2.0	1.3	0.1	2.1	1.4
Nonimproved source	**14.0**	**43.9**	**33.0**	**12.7**	**44.0**	**32.3**
Unprotected dug well	6.4	13.1	10.6	6.8	14.1	11.4
Unprotected spring	0.4	9.7	6.3	0.3	9.5	6.1
Tanker truck/cart with small tank	6.7	0.1	2.5	5.1	0.1	2.0
Surface water	0.5	20.9	13.5	0.5	20.3	12.9
Bottled water, improved source for cooking/washing[1]	0.3	0.0	0.1	0.2	0.0	0.1
Bottled water, nonimproved source for cooking/washing[1]	0.1	0.0	0.0	0.1	0.0	0.0
Other	4.1	0.1	1.6	3.6	0.1	1.4
Missing	0.0	0.1	0.1	0.0	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using any improved source of drinking water	81.8	55.9	65.3	83.7	55.8	66.2
Time to get drinking water (round trip)						
Water on premises	15.2	8.0	10.6	16.1	8.2	11.2
Less than 30 minutes	72.5	84.1	79.9	71.1	83.7	79.0
30 minutes or longer	10.4	6.5	7.9	11.2	6.9	8.5
Don't know/missing	2.0	1.4	1.6	1.6	1.3	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Person who usually gets drinking water						
Adult female 15+	34.5	58.2	49.5	31.6	58.0	48.2
Adult male 15+	15.8	8.7	11.3	12.0	5.3	7.8
Female child under age 15	11.1	7.1	8.5	13.0	7.5	9.6
Male child under age 15	7.2	4.6	5.6	7.6	4.9	5.9
Female and male children equally	12.5	9.9	10.9	16.6	13.2	14.5
Other	3.1	2.0	2.4	2.3	1.2	1.6
Water on premises	15.2	8.0	10.6	16.1	8.2	11.2
Missing	0.7	1.5	1.2	0.7	1.6	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Water treatment[2]						
Boiled	0.3	0.0	0.1	0.3	0.0	0.1
Bleach/chlorine	23.3	11.0	15.5	25.7	11.2	16.6
Strained through cloth	0.4	0.6	0.5	0.4	0.7	0.6
Other	0.8	0.6	0.6	0.7	0.8	0.7
No treatment	74.1	85.9	81.6	71.9	85.8	80.6
Percentage using an appropriate treatment method[3]	23.8	11.6	16.1	26.0	12.0	17.2
Number	2,486	4,338	6,824	12,814	21,512	34,326

[1] Because the quality of bottled water is not known, households using bottled water for drinking are classified as using an improved or nonimproved source according to their water source for cooking and washing.
[2] Respondents may report multiple treatment methods so the sum of treatment may exceed 100 percent.
[3] Appropriate water treatment methods include boiling, bleaching, straining, filtering, and solar disinfecting.

2.7.2 Household Sanitation Facilities

Ensuring adequate sanitation facilities is another one of the Millennium Development Goals that Liberia shares with other countries. A household is classified as having an improved toilet if the toilet is used only by members of one household (i.e., it is not shared) and if the facility used by the household separates the waste from human contact (WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation, 2004).

Table 2.12 shows that only 10 percent of Liberian households use an improved, unshared toilet facility, and 90 percent have access to a nonimproved facility. Over half (55 percent) of the households do not use any toilet facility. These results indicate that considerable resources, dedication, and effort are needed to improve toilet facilities in Liberia.

There has been no improvement in toilet facilities since 1999-2000, when 11 percent of households had access to flush toilets.

Table 2.12 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities, according to residence, Liberia 2007

	Households			Population		
Type of toilet/latrine facility	Urban	Rural	Total	Urban	Rural	Total
Improved, not shared facility						
Flush/pour flush to piped sewer system	4.6	0.4	1.9	4.4	0.5	2.0
Flush/pour flush to septic tank	14.3	1.2	6.0	15.7	1.3	6.7
Flush/pour flush to pit latrine	0.4	0.0	0.2	0.6	0.0	0.2
Ventilated improved pit (VIP) latrine	1.1	0.8	0.9	1.3	0.9	1.1
Pit latrine with slab	0.9	1.0	1.0	1.0	1.3	1.2
Nonimproved facility						
Any facility shared with other households	24.6	13.6	17.6	23.4	12.4	16.5
Flush/pour flush not to sewer/septic tank/ pit latrine	1.3	0.4	0.8	1.1	0.4	0.7
Pit latrine without slab/open pit	12.6	8.6	10.1	12.9	8.8	10.3
Bucket	0.6	0.2	0.3	0.7	0.1	0.3
Hanging toilet/hanging latrine	8.4	3.3	5.1	7.8	3.0	4.8
No facility/bush/field	27.7	69.8	54.5	28.2	70.5	54.7
Other	2.6	0.3	1.1	2.1	0.3	1.0
Missing	0.7	0.4	0.5	0.8	0.4	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	2,486	4,338	6,824	12,814	21,512	34,326

2.7.3 Housing Characteristics

Table 2.13 presents information on a number of characteristics of the dwelling in which LDHS households live. These characteristics reflect the household's socioeconomic situation. They also may influence environmental conditions—for example, exposure to indoor pollution with the use of biomass fuels—that have a direct bearing on the health and welfare of household members.

Ninety-seven percent of Liberian households do not have electricity. The 3 percent that have electricity are mostly located in the urban areas. The reason for the low level of access to electricity is that the entire electric grid of the country was destroyed during the civil crisis and only a tiny fraction of Monrovia has been restored to the electric grid that is being developed.

The type of material used for flooring is an indicator of the economic situation of households and the potential exposure of household members to disease-causing agents. Fifty-five percent of households in Liberia live in dwellings with earth, sand, or mud floors, and 40 percent live in dwellings with concrete or cement floors. Three-quarters of urban households have concrete or cement floors, and just over three-quarters of rural households have earthen floors.

With regard to the type of walls in the dwelling, 54 percent of households live in structures with mud walls, and 28 percent live in structures with cement or stone blocks for walls. As is the case for flooring materials, the materials of the walls are more likely to be cement or stone blocks in urban areas and mud and sticks in rural areas.

Table 2.13 Household characteristics

Percent distribution of households and de jure population by housing characteristics and percentage using solid fuel for cooking, according to residence, Liberia 2007

Housing characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Electricity						
Yes	6.9	0.8	3.0	7.0	1.0	3.3
No	92.9	99.2	96.9	92.8	98.9	96.6
Missing	0.2	0.1	0.1	0.2	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Flooring material						
Earth, sand, mud	14.8	78.1	55.0	15.1	77.0	53.9
Wood planks	0.9	0.2	0.5	1.0	0.3	0.5
Parquet, polished wood	0.2	0.1	0.1	0.2	0.1	0.2
Floor mat, linoleum, vinyl	2.1	0.2	0.9	1.9	0.2	0.8
Ceramic tiles	5.5	1.0	2.6	6.1	0.9	2.8
Concrete, cement	75.3	20.2	40.3	74.3	21.2	41.0
Carpet	0.3	0.0	0.1	0.2	0.0	0.1
Other	0.4	0.0	0.1	0.5	0.0	0.2
Missing	0.6	0.2	0.4	0.7	0.3	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wall material						
Mud and sticks	11.7	77.5	53.5	11.6	76.2	52.1
Cane/palm/trunks	0.6	0.2	0.4	0.6	0.2	0.3
Straw, thatch mats	3.3	0.3	1.4	3.0	0.2	1.3
Mud bricks	7.3	9.9	9.0	8.5	10.7	9.9
Plywood, reused wood	0.3	0.0	0.1	0.3	0.0	0.1
Cardboard, plastic	0.0	0.0	0.0	0.0	0.0	0.0
Zinc, metal	9.8	0.2	3.7	9.8	0.2	3.8
Cement or stone blocks	60.1	9.0	27.6	60.0	8.8	27.9
Bricks	4.5	2.4	3.2	4.3	3.2	3.6
Wood planks/shingles	0.8	0.2	0.4	0.7	0.3	0.4
Other	1.1	0.0	0.4	1.0	0.0	0.4
Missing	0.4	0.2	0.3	0.4	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Roofing material						
Thatch/palm leaf	3.4	43.4	28.8	3.6	41.8	27.6
Palm/bamboo/mats	0.3	1.7	1.2	0.2	1.9	1.3
Wood planks	0.0	0.0	0.0	0.1	0.1	0.1
Tarpaulin, plastic	4.9	1.6	2.8	4.5	1.6	2.7
Zinc, metal	83.3	49.7	62.0	84.2	50.5	63.1
Wood	0.2	0.1	0.1	0.2	0.1	0.2
Ceramic tiles	0.4	0.1	0.2	0.4	0.1	0.2
Concrete, cement	4.7	0.3	1.9	3.8	0.3	1.6
Asbestos sheets, shingles	2.0	2.6	2.4	2.2	3.1	2.8
Other	0.3	0.2	0.2	0.4	0.1	0.2
Missing	0.4	0.2	0.3	0.3	0.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Rooms used for sleeping						
One	42.6	35.2	37.9	30.0	25.2	27.0
Two	24.7	28.6	27.2	27.4	29.5	28.7
Three or more	31.3	33.5	32.7	41.2	42.3	41.9
Missing	1.4	2.7	2.2	1.3	3.1	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Continued…

Table 2.13—*Continued*

Housing characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Place for cooking						
In the house	27.7	13.7	18.8	27.7	13.9	19.1
In separate kitchen	17.5	8.5	11.8	18.1	8.6	12.1
Not in separate kitchen	10.2	5.2	7.0	9.7	5.3	6.9
Porch	16.9	4.2	8.8	17.0	4.0	8.9
In a separate building	5.7	18.2	13.6	6.9	18.3	14.1
Outdoors	47.5	62.2	56.9	47.2	62.5	56.8
Other	0.1	0.1	0.1	0.1	0.1	0.1
Missing	2.2	1.5	1.8	1.1	1.1	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Cooking fuel						
Electricity	0.0	0.0	0.0	0.0	0.0	0.0
Gas cylinder	0.2	0.0	0.1	0.1	0.0	0.0
Kerosene stove	0.1	0.0	0.0	0.0	0.0	0.0
Fire coal/coal/charcoal	85.3	13.1	39.4	85.6	13.6	40.5
Wood	12.6	86.1	59.4	13.6	86.0	58.9
No food cooked in household	1.6	0.7	1.0	0.4	0.3	0.4
Missing	0.2	0.1	0.1	0.2	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	97.9	99.2	98.7	99.2	99.5	99.4
Number of households	2,486	4,338	6,824	12,814	21,512	34,326

[1] Includes coal, charcoal, and wood

More than three in five households in Liberia live in dwellings with zinc or metal roofs. Most of the remainder live in dwellings with roofs made of thatch or palm leaf (29 percent). Although thatched roofs are more common among rural than urban households, the most common type of roof in both rural and urban areas is metal.

The number of rooms a household uses for sleeping is an indicator of socioeconomic level, but also can be used to assess crowding that can facilitate the spread of disease. In the 2007 LDHS, household respondents were asked how many rooms were used for sleeping, regardless of whether they were bedrooms or not. In Liberia, 38 percent of households have only one room for sleeping, 27 percent have two rooms, and 33 percent have three or more rooms. Urban households have more crowded sleeping arrangements than rural households; not only are urban households slightly larger in terms of the average number of members (see Table 2.2), but they are also more likely than rural households to have only one room for sleeping.

Table 2.13 also shows the distribution of households by the type of place for cooking and the type of fuel used for cooking. Over half of Liberian households (57 percent) cook outdoors, and three in five households (59 percent) use wood for fuel. Sizeable proportions of urban households cook in their dwellings (28 percent) or on a porch (17 percent); however, almost half (48 percent) cook outdoors. The majority of rural households (62 percent) cook outdoors, though 18 percent have a separate building for cooking. Almost all urban households use charcoal for cooking, and almost all rural households use wood.

2.8 HOUSEHOLD POSSESSIONS

The availability of durable consumer goods is a good indicator of a household's socioeconomic status. Moreover, particular goods have specific benefits. For instance, having access to a radio or a television exposes household members to innovative ideas, a refrigerator prolongs the wholesomeness of foods, and a means of transport allows greater access to many services away from the local area. Table 2.14 shows the availability of selected consumer goods by residence.

Table 2.14 Household durable goods

Percentage of households and de jure population possessing various household effects, means of transportation, and livestock/farm animals, by residence, Liberia 2007

	Households			Population		
Possession	Urban	Rural	Total	Urban	Rural	Total
Radio	72.7	39.3	51.5	74.3	42.6	54.5
Television	17.4	1.0	7.0	18.9	1.3	7.9
Mobile telephone	63.0	9.0	28.7	65.9	10.5	31.2
Refrigerator (ice box)	4.1	0.6	1.8	4.3	0.9	2.1
Generator	22.9	1.5	9.3	23.8	1.7	10.0
Table	79.9	47.2	59.1	81.1	50.0	61.6
Chairs	75.4	50.7	59.7	77.0	53.3	62.2
Cupboard	30.7	3.6	13.5	30.6	3.8	13.8
Mattress	86.9	41.8	58.2	87.0	44.5	60.4
Sewing machine	4.1	0.7	2.0	5.0	0.9	2.4
Computer	2.0	0.1	0.8	2.5	0.1	1.0
Watch	59.2	27.5	39.1	62.9	30.5	42.6
Bicycle	7.0	2.4	4.1	8.2	2.6	4.7
Motorcycle/scooter	3.0	1.0	1.7	2.8	1.0	1.7
Car/truck	5.2	0.3	2.1	5.6	0.3	2.3
Boat or canoe	0.4	1.0	0.8	0.4	1.0	0.8
Ownership of farm animals[1]	21.1	41.8	34.3	25.4	46.2	38.4
Number	2,486	4,338	6,824	12,814	21,512	34,326

[1] Cows, pigs, goats, sheep, or chickens

Of the 17 selected household durable goods, chairs, tables, mattresses, and radios stand out as the most commonly owned by households; all four items are owned by more than half of Liberian households. Almost four in ten households have a watch, and just over one-third own farm animals. It is interesting to note that more than one-quarter of households (29 percent) have a mobile phone. Ownership of the remaining items is rarer; only 14 percent of households own a cupboard, 9 percent have a generator, and 7 percent have televisions. Two percent of households have sewing machines or refrigerators, and less than 1 percent own a computer. With regard to means of transport, 4 percent of households have a bicycle; 2 percent have either a car, truck, or motorcycle; and less than 1 percent have a boat or canoe.

There is noticeable urban-rural variation in the proportion of households owning durable goods. The largest discrepancies between urban and rural households are in ownership of mobile phones and generators. It is worth noting that several interviewers remarked that they thought some respondents might be reluctant to report all of the household's possessions. One reason for this might be that they hoped that the survey teams might provide them with some items like chairs or mosquito bednets.

2.9 WEALTH INDEX

The wealth index is a background characteristic that is used throughout the report as a proxy for long-term standard of living of the household. It is based on the data on the household's ownership of consumer goods, dwelling characteristics, source of drinking water, toilet facilities, and other characteristics that are related to a household's socioeconomic status. To construct the index, each of these assets was assigned a weight (factor score) generated through principal component analysis, and the resulting asset scores were standardized in relation to a standard normal distribution with a mean of zero and standard deviation of one (Gwatkin et al., 2000). Each household was then assigned a score for each asset, and the scores were summed for each household. Individuals were ranked according to the total score of the household in which they resided. The sample was then divided into quintiles from one (lowest) to five (highest). A single asset index was developed on the basis of data from the entire country sample and this index is used in all the tabulations presented.

Table 2.15 shows the distribution of the de jure household population into five wealth levels (quintiles) based on the wealth index by residence. These distributions indicate the degree to which wealth is evenly (or unevenly) distributed by geographic areas.

The table shows that, according to the wealth index, urban respondents and those in Monrovia are much more likely to fall in the higher wealth quintiles. Only 1 percent of the urban population falls in the lowest wealth quintile, compared with 31 percent of the rural population. Residents of South Eastern A region are more than twice as likely as average to fall into the poorest wealth quintile.

Table 2.15 Wealth quintiles

Percent distribution of the de jure population by wealth quintiles, according to residence and region, Liberia 2007

	Wealth quintile						
Residence/region	Lowest	Second	Middle	Fourth	Highest	Total	Number
Residence							
Urban	1.0	3.6	14.2	34.3	46.8	100.0	12,814
Rural	31.3	29.8	23.4	11.5	4.0	100.0	21,512
Region							
Monrovia	0.1	0.9	8.0	34.6	56.4	100.0	9,552
North Western	21.9	33.1	31.4	12.6	1.0	100.0	2,716
South Central	25.0	19.4	20.3	21.1	14.2	100.0	5,025
South Eastern A	47.3	27.4	16.4	6.9	2.0	100.0	2,294
South Eastern B	32.0	27.1	24.8	12.4	3.8	100.0	2,362
North Central	25.6	29.4	26.3	13.9	4.8	100.0	12,377
Total	20.0	20.0	20.0	20.0	20.0	100.0	34,326

CHARACTERISTICS OF RESPONDENTS 3

This chapter provides a profile of the respondents who were interviewed in the 2007 Liberia Demographic and Health Survey (LDHS), i.e., women and men age 15-49. First, information is presented on a number of basic characteristics including age at the time of the survey, religion, marital status, residence, education, literacy, and media access. Then, the chapter explores adults' employment status, occupation, and earnings. An analysis of these variables provides the socioeconomic context within which demographic and reproductive health issues are examined in the subsequent chapters.

3.1 CHARACTERISTICS OF SURVEY RESPONDENTS

Table 3.1 presents the distribution of women and men age 15-49 by age, religion, marital status, urban-rural residence, region, education level, and wealth quintile. The proportion of respondents in each age group generally decreases as age increases, reflecting the comparatively young age structure of the population (see Chapter 2). The slightly lower proportion of women age 15-19 than age 20-24 could be evidence of a decline in fertility; however, a more plausible explanation is deliberate age misreporting on the part of interviewers. As shown in Appendix Table C.1, there were almost 50 percent more girls listed on the Household Questionnaire as being age 14 than age 15 (408 vs. 274). The problem is even more severe among boys. This pattern is almost certainly due to interviewers deliberately displacing the ages of these adolescents in order to avoid having to do an individual interview. To the extent that this displacement affects only those in the 15-19 age group, it might not have a large impact on the major survey indicators like fertility and family planning. However, it reflects a disturbing lack of commitment on the part of interviewers that may affect other aspects of data quality.

The overwhelming majority of Liberian adults (more than 80 percent) are Christian and 10-12 percent are Muslim. Almost two-thirds of women (64 percent) are either currently married or living with a man, compared with 57 percent of men. The difference is mainly because men tend to marry later than women. This is reflected in the fact that only 26 percent of women have never married, compared with 38 percent of men. Women are also more likely than men to be divorced, separated, or widowed, which is probably due to the fact that men are more likely than women to remarry when a relationship ends.

In terms of urban-rural residence, about 40 percent of women and men are urban and 58 to 60 percent are rural. The distribution of respondents by region shows that about one-third of respondents live in Monrovia and another one-third live in the North Central region (Bong, Nimba, and Lofa counties). Regions with the smallest proportion of respondents are South Eastern A (River Cess, Sinoe, and Grand Gedeh counties), South Eastern B (Rivergee, Grand Kru, and Maryland counties), and North Western (Bomi, Grand Cape Mount, and Gbarpolu counties).

Men are considerably more likely than women to be educated. For example, 42 percent of women age 15-49 have never been to school, compared with only 18 percent of men. At the other end of the spectrum, men are twice as likely as women to have been to secondary school (51 percent of men vs. 25 percent of women). By definition, roughly one-fifth of respondents fall into each wealth quintile.

Table 3.1 Background characteristics of respondents

Percent distribution of women and men age 15-49 by selected background characteristics, Liberia 2007

Background characteristic	Women			Men		
	Weighted percent	Weighted	Unweighted	Weighted percent	Weighted	Unweighted
Age						
15-19	18.5	1,312	1,340	19.2	1,156	1,178
20-24	19.2	1,363	1,386	17.3	1,039	1,065
25-29	16.4	1,166	1,161	15.3	917	897
30-34	13.5	956	1,003	12.8	766	768
35-39	13.5	956	927	13.8	830	819
40-44	9.4	665	671	11.4	687	657
45-49	9.5	674	604	10.2	613	625
Religion						
Christian	84.7	6,005	6,116	81.9	4,919	5,023
Muslim	10.4	734	694	11.8	711	685
Traditional religion	0.6	44	28	2.4	147	88
No religion	3.4	239	184	3.3	199	182
Other/missing	1.0	69	70	0.6	34	31
Marital status						
Never married	26.1	1,853	1,906	37.8	2,274	2,368
Married	41.6	2,953	2,913	32.6	1,960	2,004
Living together	22.4	1,587	1,595	24.2	1,452	1,325
Divorced/separated	7.3	514	511	4.6	279	279
Widowed	2.6	185	167	0.7	40	31
Residence						
Urban	42.3	2,998	3,194	40.4	2,426	2,531
Rural	57.7	4,094	3,898	59.6	3,583	3,478
Region						
Monrovia	32.8	2,329	1,858	31.0	1,862	1,428
North Western	7.2	509	765	6.7	405	654
South Central	14.3	1,011	1,071	14.9	894	934
South Eastern A	5.3	375	803	5.9	357	724
South Eastern B	6.4	451	1,244	6.8	407	1,120
North Central	34.1	2,417	1,351	34.7	2,084	1,149
Education						
No education	42.4	3,005	2,961	17.6	1,056	943
Primary	32.2	2,280	2,425	31.5	1,895	2,025
Secondary and higher	25.4	1,799	1,700	50.9	3,056	3,037
Wealth quintile						
Lowest	17.6	1,251	1,346	17.7	1,062	1,187
Second	18.8	1,332	1,383	19.6	1,181	1,215
Middle	19.2	1,359	1,396	19.5	1,170	1,195
Fourth	22.3	1,580	1,564	19.3	1,160	1,152
Highest	22.1	1,569	1,403	23.9	1,437	1,260
Total 15-49	100.0	7,092	7,092	100.0	6,009	6,009

Note: Education categories refer to the highest level of education attended, whether or not that level was completed. Total includes a small number of cases with missing values.

3.2 EDUCATIONAL ATTAINMENT BY BACKGROUND CHARACTERISTICS

Tables 3.2.1 and 3.2.2 present an overview of the relationship between the respondent's level of education and other background characteristics. The results show large differences between women and men age 15-49. As mentioned above, the proportion who have never been to school is twice as high among women than men (42 percent vs. 18 percent). Another measure of the differences by gender is that the median years of education is 1.6 for women and 5.8 for men.

Table 3.2.1 Educational attainment: Women

Percent distribution of women age 15-49 by highest level of schooling attended or completed, and median grade completed, according to background characteristics, Liberia 2007

Background characteristic	Highest level of schooling: No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Missing	Total	Median years completed	Number of women
Age										
15-24	22.9	39.2	7.6	25.9	3.3	1.0	0.0	100.0	3.7	2,675
15-19	16.9	49.3	8.5	23.8	1.0	0.5	0.0	100.0	3.5	1,312
20-24	28.8	29.5	6.7	28.0	5.4	1.5	0.1	100.0	4.0	1,363
25-29	43.0	26.5	4.3	14.9	8.9	2.3	0.0	100.0	1.4	1,166
30-34	47.4	24.0	4.5	12.7	7.3	3.9	0.2	100.0	0.5	956
35-39	54.5	16.6	4.2	13.5	8.6	2.3	0.3	100.0	0.0	956
40-44	61.5	14.2	3.7	13.1	5.0	2.3	0.3	100.0	0.0	665
45-49	75.2	10.6	0.9	6.9	4.0	2.3	0.0	100.0	0.0	674
Residence										
Urban	24.3	22.9	6.8	29.3	11.9	4.5	0.1	100.0	5.3	2,998
Rural	55.6	29.9	4.0	9.1	1.1	0.2	0.1	100.0	0.0	4,094
Region										
Monrovia	20.8	21.5	6.8	31.3	14.3	5.2	0.1	100.0	5.9	2,329
North Western	60.3	23.7	4.8	9.6	1.6	0.0	0.0	100.0	0.0	509
South Central	51.7	28.8	2.4	13.6	2.4	0.9	0.2	100.0	0.0	1,011
South Eastern A	47.3	35.6	7.3	8.5	1.0	0.3	0.1	100.0	0.1	375
South Eastern B	41.3	38.6	7.1	11.3	1.3	0.4	0.0	100.0	1.6	451
North Central	54.9	28.6	4.2	10.5	1.2	0.4	0.1	100.0	0.0	2,417
Wealth quintile										
Lowest	65.3	26.1	2.9	5.1	0.3	0.0	0.2	100.0	0.0	1,251
Second	60.8	28.9	3.4	6.6	0.3	0.0	0.0	100.0	0.0	1,332
Middle	44.4	33.8	6.3	13.3	1.7	0.3	0.1	100.0	1.0	1,359
Fourth	34.0	26.5	6.4	25.8	6.1	1.0	0.0	100.0	3.5	1,580
Highest	15.0	20.5	6.3	32.5	17.6	7.9	0.1	100.0	6.9	1,569
Total	42.4	27.0	5.2	17.6	5.7	2.0	0.1	100.0	1.6	7,092

Note: Total includes a small fraction of information missing on educational attainment.
[1] Completed 6 grade at the primary level
[2] Completed 12 grade at the secondary level

Among women, younger persons have generally reached higher levels of school than older people; however, among men, the median years of education show little change across age groups. For both women and men, urban residents are better educated than rural residents. For example, the median number of years of school is 5.3 for urban women and 0 for rural women.

Among the regions, Monrovia has by far the largest proportion of women and men who have attended secondary school and above. The educational level of both women and men in North Western region is particularly low, with 60 percent of women and 39 percent of men having no schooling at all. As expected, the level of education increases with the wealth index. For example, among the poorest quintile of women, only 5 percent have at least some secondary education, compared with 58 percent of those in the richest category.

Table 3.2.2 Educational attainment: Men

Percent distribution of men age 15-49 by highest level of schooling attended or completed, and median grade completed, according to background characteristics, Liberia 2007

Background characteristic	Highest level of schooling							Total	Median years completed	Number of men
	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Missing			
Age										
15-24	8.0	41.7	6.7	37.2	4.5	1.9	0.0	100.0	4.9	2,195
15-19	6.8	56.0	7.2	29.1	0.8	0.2	0.0	100.0	3.9	1,156
20-24	9.4	25.7	6.1	46.2	8.6	3.8	0.1	100.0	6.7	1,039
25-29	21.5	19.6	5.0	34.2	13.2	6.5	0.1	100.0	6.3	917
30-34	20.7	21.4	3.5	28.4	16.7	9.4	0.0	100.0	6.4	766
35-39	23.8	19.3	5.1	30.0	13.4	8.4	0.0	100.0	6.1	830
40-44	22.4	11.4	3.0	27.0	22.1	14.0	0.0	100.0	8.3	687
45-49	28.2	16.7	2.1	22.0	20.4	10.4	0.2	100.0	6.7	613
Residence										
Urban	8.4	16.1	4.7	37.7	19.5	13.5	0.1	100.0	8.4	2,426
Rural	23.8	33.7	5.1	28.0	7.3	2.1	0.0	100.0	4.0	3,583
Region										
Monrovia	7.7	14.6	4.7	36.4	20.5	16.0	0.1	100.0	8.8	1,862
North Western	39.1	21.3	4.8	25.8	7.7	1.3	0.0	100.0	2.7	405
South Central	23.3	32.9	2.2	28.8	10.3	2.6	0.0	100.0	4.1	894
South Eastern A	11.4	37.5	5.9	34.9	8.0	2.1	0.2	100.0	5.0	357
South Eastern B	8.9	34.7	8.1	36.5	10.1	1.6	0.0	100.0	5.5	407
North Central	22.5	32.2	5.5	29.0	7.7	3.1	0.0	100.0	4.3	2,084
Wealth quintile										
Lowest	31.6	37.7	4.5	22.5	3.3	0.4	0.0	100.0	2.4	1,062
Second	25.1	34.8	6.7	27.0	5.4	1.0	0.0	100.0	3.7	1,181
Middle	18.3	29.9	4.2	35.6	9.6	2.2	0.1	100.0	5.2	1,170
Fourth	11.7	20.5	5.0	36.6	19.6	6.5	0.1	100.0	7.3	1,160
Highest	5.1	13.9	4.2	36.1	20.7	19.9	0.1	100.0	9.5	1,437
Total 15-49	17.6	26.6	4.9	31.9	12.2	6.7	0.0	100.0	5.8	6,009

[1] Completed grade 6 at the primary level
[2] Completed grade 12 at the secondary level

3.3 LITERACY

The ability to read and write is an important personal asset, allowing individuals increased opportunities in life. Knowing the distribution of the literate population can help program managers, especially for health and family planning, know how to reach women and men with their messages. Unlike previous surveys, in which respondents were asked if they could read, the 2007 LDHS assessed the ability to read among women and men who had never been to school or who had attended only the primary level by asking respondents to read a simple, short sentence.[1] Tables 3.3.1 and 3.3.2 show the percent distribution of female and male respondents, respectively, by level of literacy and percent literate according to background characteristics.

The data show that literacy among adult women is far lower (41 percent) than for men (70 percent). The difference is much larger at older ages; only 17 percent of women age 45-49 are literate, compared with 62 percent of men. Although the discrepancies in literacy by sex have declined among the younger generation, there are still large gaps; only 58 percent of women age 15-19 are literate, compared with 73 percent of men age 15-19.

[1] . These sentences include the following: 1. The child is reading a book; 2. Farming is hard work; 3. Parents should care for their children; 4. The rains were heavy this year.

For both sexes, there is a strong urban-rural differential in literacy, with far more urban than rural residents being literate. Monrovia has the highest proportion of women and men who are literate, while North Western region has the lowest. Literacy increases as wealth increases. For example, the proportion of women age 15-49 who can read increases from 18 percent among those in the lowest wealth quintile to 73 percent of those in the highest quintile. This pattern also holds for men.

Table 3.3.1 Literacy: Women

Percent distribution of women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Liberia 2007

		No schooling or primary school								
Background characteristic	Secondary school or higher	Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language	Blind/ visually impaired	Missing	Total	Percent-age literate[1]	Number of women
Age										
15-19	25.3	10.9	22.2	40.8	0.0	0.0	0.7	100.0	58.4	1,312
20-24	34.9	5.3	11.6	47.4	0.1	0.0	0.7	100.0	51.9	1,363
25-29	26.2	2.8	10.0	60.2	0.2	0.1	0.6	100.0	39.0	1,166
30-34	23.9	3.9	8.2	62.0	0.4	0.1	1.4	100.0	36.1	956
35-39	24.4	2.4	7.4	64.4	0.1	0.0	1.1	100.0	34.3	956
40-44	20.4	1.6	4.4	73.1	0.1	0.0	0.4	100.0	26.3	665
45-49	13.2	1.6	2.4	80.9	0.5	0.3	1.0	100.0	17.2	674
Residence										
Urban	45.8	5.6	9.7	38.1	0.2	0.0	0.6	100.0	61.2	2,998
Rural	10.4	4.0	11.5	72.8	0.2	0.1	1.0	100.0	25.9	4,094
Region										
Monrovia	50.8	4.7	9.7	34.1	0.1	0.0	0.6	100.0	65.2	2,329
North Western	11.2	2.1	9.2	77.0	0.0	0.2	0.2	100.0	22.6	509
South Central	17.0	3.0	6.5	73.0	0.4	0.0	0.1	100.0	26.5	1,011
South Eastern A	9.8	6.0	11.3	71.6	0.0	0.8	0.5	100.0	27.1	375
South Eastern B	13.0	7.1	12.5	67.0	0.1	0.2	0.2	100.0	32.5	451
North Central	12.1	5.2	13.5	67.3	0.3	0.0	1.6	100.0	30.8	2,417
Wealth quintile										
Lowest	5.4	4.0	8.7	81.0	0.1	0.2	0.6	100.0	18.1	1,251
Second	6.9	3.2	11.7	76.8	0.2	0.1	1.2	100.0	21.8	1,332
Middle	15.3	5.1	14.3	64.0	0.2	0.1	1.0	100.0	34.7	1,359
Fourth	33.0	5.1	9.7	51.2	0.3	0.0	0.7	100.0	47.8	1,580
Highest	58.0	5.7	9.5	26.0	0.2	0.0	0.6	100.0	73.2	1,569
Total	25.4	4.7	10.7	58.1	0.2	0.1	0.8	100.0	40.8	7,092

[1] Refers to women who attended secondary school or higher and women who can read a whole sentence or part of a sentence

Table 3.3.2 Literacy: Men

Percent distribution of men age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Liberia 2007

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	No schooling or primary school: No card with required language	No schooling or primary school: Blind/ visually impaired	Missing	Total	Percent-age literate[1]	Number of men
Age										
15-19	30.0	17.1	25.6	26.7	0.2	0.0	0.4	100.0	72.7	1,156
20-24	58.6	7.0	13.5	19.0	0.5	0.0	1.4	100.0	79.1	1,039
25-29	53.9	5.6	8.1	31.6	0.2	0.0	0.6	100.0	67.6	917
30-34	54.5	4.5	8.7	31.9	0.0	0.0	0.4	100.0	67.7	766
35-39	51.8	5.2	7.7	34.0	0.8	0.1	0.4	100.0	64.8	830
40-44	63.1	3.9	6.5	25.9	0.1	0.1	0.4	100.0	73.5	687
45-49	52.9	3.9	4.9	37.2	0.4	0.4	0.5	100.0	61.7	613
Residence										
Urban	70.7	6.7	8.2	13.4	0.4	0.1	0.5	100.0	85.6	2,426
Rural	37.4	8.1	14.4	39.2	0.3	0.1	0.6	100.0	59.9	3,583
Region										
Monrovia	72.9	6.4	7.6	12.1	0.3	0.1	0.6	100.0	86.9	1,862
North Western	34.8	6.7	11.7	45.7	0.9	0.0	0.1	100.0	53.3	405
South Central	41.7	6.3	12.1	39.1	0.3	0.1	0.3	100.0	60.1	894
South Eastern A	44.9	8.1	16.4	30.0	0.1	0.2	0.3	100.0	69.4	357
South Eastern B	48.3	8.3	13.2	29.6	0.2	0.2	0.4	100.0	69.7	407
North Central	39.7	8.8	14.7	35.5	0.3	0.0	0.9	100.0	63.3	2,084
Wealth quintile										
Lowest	26.2	7.8	14.0	51.5	0.3	0.0	0.2	100.0	48.0	1,062
Second	33.4	8.0	16.0	42.2	0.1	0.0	0.3	100.0	57.4	1,181
Middle	47.4	7.4	13.8	29.3	0.6	0.1	1.4	100.0	68.6	1,170
Fourth	62.7	8.3	8.7	19.2	0.5	0.1	0.5	100.0	79.7	1,160
Highest	76.6	6.4	8.0	8.2	0.2	0.0	0.6	100.0	91.0	1,437
Total 15-49	50.9	7.5	11.9	28.8	0.3	0.1	0.6	100.0	70.3	6,009

[1] Refers to men who attended secondary school or higher and men who can read a whole sentence or part of a sentence

3.4 ACCESS TO MASS MEDIA

Access to information is essential in increasing people's knowledge and awareness of what is taking place around them, which may eventually affect their perceptions and behavior. It is important to know the types of persons who are more or less likely to be reached by the media for purposes of planning programs intended to spread information about health and family planning. In the survey, exposure to the media was assessed by asking how often a respondent reads a newspaper, watches television, or listens to a radio. Tables 3.4.1 and 3.4.2 show the percentage of women and men who were exposed to different types of media by age, urban-rural residence, region, level of education, and wealth quintile.

Table 3.4.1 Exposure to mass media: Women

Percentage of women age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Liberia 2007

Background characteristic	At least once a week				No media	Number of women
	Reads a newspaper	Watches television	Listens to the radio	All three media		
Age						
15-19	17.3	42.7	49.0	12.0	37.0	1,312
20-24	19.8	36.2	51.9	13.6	40.0	1,363
25-29	14.9	30.0	51.6	10.0	42.3	1,166
30-34	14.5	25.7	50.5	9.3	44.2	956
35-39	15.3	23.5	49.2	10.9	46.4	956
40-44	11.3	17.8	43.8	7.6	53.7	665
45-49	8.3	11.7	35.9	4.7	60.8	674
Residence						
Urban	29.2	51.4	70.6	21.8	21.0	2,998
Rural	5.2	13.0	32.3	2.0	61.8	4,094
Region						
Monrovia	33.5	57.7	72.6	26.1	18.6	2,329
North Western	4.5	22.4	32.3	3.2	61.1	509
South Central	10.5	23.3	47.6	6.4	45.9	1,011
South Eastern A	5.1	18.2	42.7	2.4	51.8	375
South Eastern B	9.7	13.3	34.8	2.8	60.2	451
North Central	4.8	10.4	32.5	1.1	61.4	2,417
Education						
No education	0.0	12.7	32.8	0.0	63.0	3,005
Primary	6.9	29.0	45.6	3.5	44.3	2,280
Secondary and higher	51.6	57.2	78.4	36.5	14.0	1,799
Wealth quintile						
Lowest	2.6	4.8	20.7	0.3	75.9	1,251
Second	2.8	12.3	34.1	0.6	60.9	1,332
Middle	8.4	18.3	43.6	3.0	47.9	1,359
Fourth	17.5	36.1	56.6	11.2	34.4	1,580
Highest	39.9	65.7	78.9	32.2	12.9	1,569
Total	15.3	29.2	48.5	10.4	44.5	7,092

In general, women are less likely than men to have access to mass media; this is true for all types of media (Figure 3.1). Only 15 percent of women and 32 percent of men read newspapers at least once a week, while 29 percent of women and 38 percent of men watch television at least once a week, and 49 percent of women and 73 percent of men listen to the radio once a week. Only 10 percent of women and 20 percent of men are exposed to all three of these media sources. Almost half of women (45 percent) and 23 percent of men have no access to mass media.

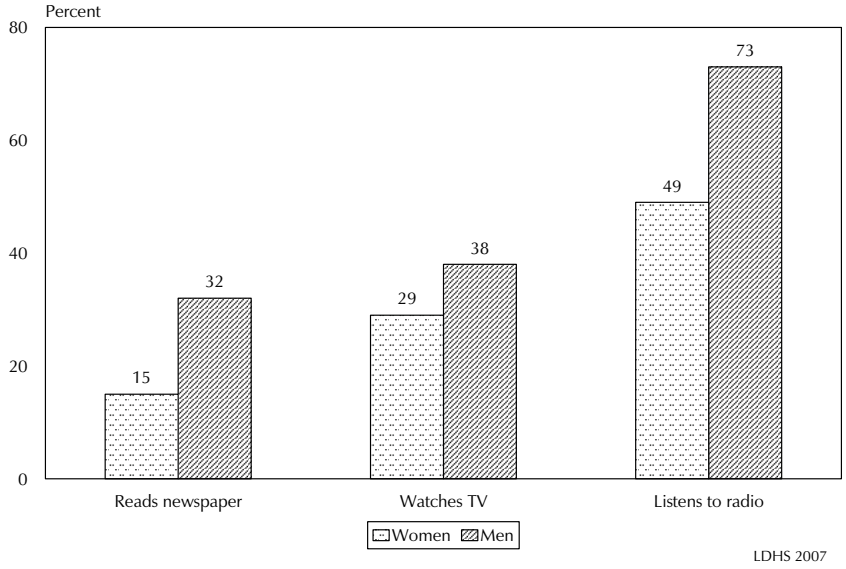
Urban residents are far more likely to have access to mass media than rural residents. For example, 22 percent of urban women are exposed to all three media at least once a week, compared with only 2 percent of rural women. Similarly, Monrovia has the highest proportion of women and men who have access to all three media. Exposure to media is positively associated with educational attainment; the proportion exposed to all three media outlets increases with increasing education level of respondents. Similarly, access to all three media outlets increases as wealth increases for both sexes.

Table 3.4.2 Exposure to mass media: Men

Percentage of men age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Liberia 2007

Background characteristic	At least once a week					Number of men
	Reads a newspaper	Watches television	Listens to the radio	All three media	No media	
Age						
15-19	21.8	48.6	63.2	15.1	27.4	1,156
20-24	38.9	50.9	74.5	27.3	18.2	1,039
25-29	32.1	38.1	71.7	21.5	23.9	917
30-34	34.2	36.4	76.3	21.1	21.2	766
35-39	29.9	28.0	74.0	16.8	23.4	830
40-44	40.3	30.5	80.2	22.7	18.3	687
45-49	29.7	23.0	72.6	14.6	25.1	613
Residence						
Urban	55.4	64.3	89.3	40.5	5.8	2,426
Rural	16.1	20.7	61.2	6.1	34.0	3,583
Region						
Monrovia	60.7	70.1	91.6	46.5	3.7	1,862
North Western	18.5	22.6	68.5	8.6	27.3	405
South Central	23.1	34.0	64.9	14.2	30.4	894
South Eastern A	19.8	24.0	65.2	7.6	28.9	357
South Eastern B	23.1	25.6	56.5	7.0	35.1	407
North Central	16.4	19.6	63.9	5.7	31.9	2,084
Education						
No education	0.8	17.8	53.8	0.7	43.8	1,056
Primary	9.4	31.4	59.7	5.9	33.7	1,895
Secondary and higher	56.6	49.7	86.9	35.4	8.5	3,056
Wealth quintile						
Lowest	9.4	10.0	47.0	2.0	49.3	1,062
Second	13.0	18.0	62.0	4.5	34.3	1,181
Middle	25.1	31.7	71.8	11.1	22.6	1,170
Fourth	41.6	48.9	83.4	25.0	9.6	1,160
Highest	61.9	72.7	91.8	49.2	3.9	1,437
Total 15-49	31.9	38.3	72.5	20.0	22.6	6,009

Figure 3.1 Exposure to Mass Media at Least Once a Week among Women and Men



3.5 EMPLOYMENT

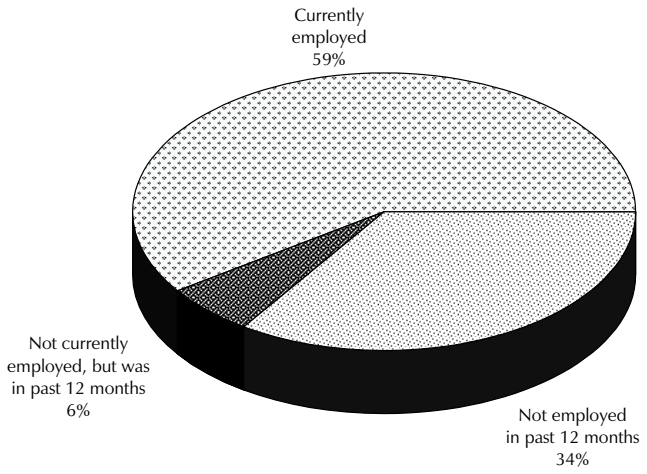
Male and female respondents age 15 and older were asked whether they were employed at the time of the survey and, if not, whether they were employed in the 12 months that preceded the survey. The measurement of employment, however, is difficult because some work, especially work on family farms, family businesses, or in the informal sector, is often not perceived as employment, and hence not reported as such. To avoid underestimating respondent's employment, the DHS asks respondents several questions to probe for their employment status and to ensure complete coverage of employment in both the formal and informal sectors. Respondents are asked a number of questions to elicit their current employment status and continuity of employment in the 12 months before the survey. Employed individuals are those who say that they are currently working (i.e., worked in the past seven days) and those who worked at any time during the 12 months before the survey.

Tables 3.5.1 and 3.5.2 show the percent distribution of adult women and men according to current and recent employment. The data show that 59 percent of women and 78 percent of men were currently employed, and 6 percent of women and 4 percent of men were not employed at the time of the survey but had been employed within the previous year (Figure 3.2).

The proportion currently employed generally increases with age and number of living children. As expected, women and men who have never married are less likely to be currently employed than those who are currently married or divorced, separated, or widowed. Rural women and men are more likely to be currently employed than urban residents.

There are notable regional variations in the proportion employed. Women in North Central region and men in South Eastern B and South Eastern A are the most likely to have been employed in the previous 12 months, and women in Monrovia and men in North Western and Monrovia are the least likely to be employed. Current employment generally declines with increasing education. The proportion currently employed generally decreases as wealth status of the respondent increases.

Figure 3.2 **Women's Employment Status in the Past 12 Months**



LDHS 2007

Table 3.5.1 Employment status: Women

Percent distribution of women age 15-49 by employment status, according to background characteristics, Liberia 2007

Background characteristic	Employed in the 12 months preceding the survey: Currently employed[1]	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Missing/ don't know	Total	Number of women
Age						
15-19	33.7	1.9	64.3	0.0	100.0	1,312
20-24	47.8	5.8	46.3	0.1	100.0	1,363
25-29	61.9	7.4	30.3	0.4	100.0	1,166
30-34	71.8	8.0	20.1	0.1	100.0	956
35-39	72.8	6.8	19.3	1.1	100.0	956
40-44	71.1	11.0	17.9	0.0	100.0	665
45-49	77.9	7.1	14.6	0.3	100.0	674
Marital status						
Never married	34.6	2.7	62.6	0.1	100.0	1,853
Married or living together	67.7	8.0	23.9	0.4	100.0	4,540
Divorced/separated/widowed	68.7	5.8	25.4	0.1	100.0	699
Number of living children						
0	34.5	2.5	62.8	0.3	100.0	1,514
1-2	58.3	6.3	35.3	0.1	100.0	2,496
3-4	70.7	8.5	20.6	0.3	100.0	1,746
5+	73.7	8.1	17.5	0.7	100.0	1,336
Residence						
Urban	44.4	5.4	50.1	0.1	100.0	2,998
Rural	70.0	7.1	22.5	0.4	100.0	4,094
Region						
Monrovia	44.5	5.0	50.4	0.0	100.0	2,329
North Western	44.1	22.2	33.6	0.0	100.0	509
South Central	60.6	2.4	36.5	0.5	100.0	1,011
South Eastern A	62.8	6.2	30.1	0.9	100.0	375
South Eastern B	60.3	8.3	31.0	0.4	100.0	451
North Central	75.1	5.7	18.9	0.4	100.0	2,417
Education						
No education	71.6	7.2	20.7	0.4	100.0	3,005
Primary	53.5	6.4	39.8	0.3	100.0	2,280
Secondary and higher	45.7	4.8	49.3	0.1	100.0	1,799
Wealth quintile						
Lowest	75.5	8.3	15.5	0.7	100.0	1,251
Second	71.6	7.9	20.3	0.3	100.0	1,332
Middle	59.6	7.5	32.9	0.1	100.0	1,359
Fourth	51.0	4.5	44.2	0.2	100.0	1,580
Highest	43.5	4.5	51.8	0.2	100.0	1,569
Total	59.2	6.4	34.2	0.3	100.0	7,092

Note: Total row includes a few cases with information missing.

[1] "Currently employed" is defined as having done work in the past seven days. Includes persons who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

Table 3.5.2 Employment status: Men

Percent distribution of men age 15-49 by employment status, according to background characteristics, Liberia 2007

Background characteristic	Employed in the 12 months preceding the survey: Currently employed[1]	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Missing/ don't know	Total	Number of men
Age						
15-19	47.0	5.1	47.8	0.0	100.0	1,156
20-24	65.6	4.1	30.1	0.2	100.0	1,039
25-29	82.6	3.2	14.2	0.0	100.0	917
30-34	89.4	3.3	7.2	0.0	100.0	766
35-39	94.6	2.1	3.2	0.1	100.0	830
40-44	92.0	3.3	4.7	0.0	100.0	687
45-49	93.4	3.0	3.6	0.0	100.0	613
Marital status						
Never married	54.3	4.6	41.0	0.1	100.0	2,274
Married or living together	92.4	2.9	4.6	0.1	100.0	3,413
Divorced/separated/widowed	83.4	3.6	12.9	0.0	100.0	319
Number of living children						
0	55.9	4.6	39.4	0.1	100.0	2,275
1-2	85.9	3.6	10.4	0.1	100.0	1,493
3-4	93.6	2.2	4.2	0.0	100.0	1,153
5+	94.1	2.8	2.9	0.1	100.0	1,088
Residence						
Urban	66.3	4.1	29.5	0.1	100.0	2,426
Rural	85.1	3.2	11.6	0.1	100.0	3,583
Region						
Monrovia	66.7	2.9	30.4	0.1	100.0	1,862
North Western	82.4	6.4	11.2	0.0	100.0	405
South Central	77.1	3.6	19.2	0.1	100.0	894
South Eastern A	84.8	7.6	7.6	0.1	100.0	357
South Eastern B	89.7	2.7	7.4	0.2	100.0	407
North Central	82.8	3.1	14.0	0.1	100.0	2,084
Education						
No education	91.3	2.7	6.0	0.0	100.0	1,056
Primary	73.0	3.5	23.4	0.1	100.0	1,895
Secondary and higher	75.6	3.9	20.5	0.1	100.0	3,056
Wealth quintile						
Lowest	89.6	3.3	7.0	0.0	100.0	1,062
Second	89.1	2.5	8.2	0.2	100.0	1,181
Middle	79.6	4.6	15.8	0.0	100.0	1,170
Fourth	69.9	4.1	25.9	0.1	100.0	1,160
Highest	63.5	3.3	33.2	0.0	100.0	1,437
Total 15-49	77.5	3.6	18.8	0.1	100.0	6,009

Note: Total row includes a few cases with missing information.

[1] "Currently employed" is defined as having done work in the past seven days. Includes persons who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

3.6 OCCUPATION

Respondents who are currently employed were asked to state their occupation, and the results are presented in Tables 3.6.1 and 3.6.2. Over half of working women (55 percent) and men (53 percent) are engaged in agricultural occupations. The next most common category of occupation is the sales and service sector (37 percent of women and 21 percent of men). For men, skilled manual jobs is the third major occupation category, employing 11 percent of all working men. Only 3 percent of employed Liberian women work in professional, technical, or managerial fields, compared with 8 percent of employed men.

Table 3.6.1 Occupation: Women

Percent distribution of women age 15-49 employed in the 12 months preceding the survey, by occupation, according to background characteristics, Liberia 2007

Background characteristic	Profes-sional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Domestic service	Agricul-ture	Missing	Total	Number of women
Age										
15-19	0.4	0.0	39.7	1.3	0.9	0.1	54.3	3.2	100.0	468
20-24	1.3	0.0	37.4	0.5	0.6	0.5	55.9	3.7	100.0	730
25-29	3.5	0.1	37.7	1.5	0.7	0.9	52.8	2.7	100.0	808
30-34	2.9	0.3	42.1	2.1	0.1	0.6	49.7	2.1	100.0	763
35-39	3.3	0.0	41.0	0.7	0.3	0.9	51.6	2.1	100.0	761
40-44	3.3	0.0	34.0	1.2	0.1	0.4	59.0	2.0	100.0	546
45-49	3.4	0.0	27.3	0.1	0.0	0.0	67.9	1.1	100.0	573
Marital status										
Never married	3.4	0.1	48.3	1.4	0.5	0.1	41.2	4.9	100.0	692
Married or living together	2.5	0.1	34.0	0.7	0.3	0.4	60.0	2.0	100.0	3,436
Divorced/separated/ widowed	3.2	0.0	45.3	3.5	0.7	2.0	43.0	2.2	100.0	521
Number of living children										
0	3.0	0.3	42.1	1.1	0.3	0.5	48.6	4.2	100.0	559
1-2	3.1	0.0	43.4	1.0	0.8	0.8	48.4	2.6	100.0	1,614
3-4	2.6	0.1	34.5	1.6	0.2	0.2	58.8	2.0	100.0	1,382
5+	2.1	0.0	29.8	0.7	0.2	0.6	64.6	2.0	100.0	1,093
Residence										
Urban	5.7	0.2	81.2	1.8	0.2	1.5	5.1	4.2	100.0	1,492
Rural	1.3	0.0	16.7	0.8	0.5	0.1	79.1	1.6	100.0	3,156
Region										
Monrovia	6.7	0.1	85.6	1.5	0.3	1.7	1.0	3.2	100.0	1,154
North Western	0.8	0.0	35.3	3.7	0.0	0.0	58.1	2.2	100.0	338
South Central	1.7	0.1	37.7	0.7	1.9	0.4	54.8	2.8	100.0	637
South Eastern A	1.5	0.0	29.3	0.7	0.0	0.8	64.1	3.8	100.0	259
South Eastern B	2.7	0.1	9.8	0.1	0.1	0.0	85.9	1.4	100.0	309
North Central	1.2	0.1	14.6	0.7	0.1	0.1	81.2	1.9	100.0	1,951
Education										
No education	0.4	0.0	26.3	0.6	0.5	0.3	70.7	1.1	100.0	2,369
Primary	0.2	0.0	38.8	1.3	0.1	0.9	56.0	2.7	100.0	1,366
Secondary and higher	12.4	0.4	63.9	1.9	0.6	0.6	14.5	5.6	100.0	910
Wealth quintile										
Lowest	0.7	0.0	6.9	0.7	0.1	0.1	91.0	0.5	100.0	1,048
Second	0.9	0.0	13.2	0.2	0.2	0.1	83.4	2.0	100.0	1,058
Middle	1.6	0.0	33.7	1.3	0.9	0.3	59.8	2.3	100.0	911
Fourth	2.1	0.0	70.5	2.5	0.4	1.3	20.0	3.2	100.0	877
Highest	9.9	0.4	79.7	1.0	0.5	1.2	2.1	5.1	100.0	754
Total	2.7	0.1	37.4	1.1	0.4	0.5	55.3	2.5	100.0	4,648

Differences by background characteristics show that, as expected, rural women and men are more likely than urban residents to be employed in agricultural jobs. Similarly, those living in Monrovia are less likely to have agricultural occupations. Better educated and wealthier respondents are more likely than others to be employed in sales and service or in professional, technical, or managerial jobs.

Table 3.6.2 Occupation: Men

Percent distribution of men age 15-49 employed in the 12 months preceding the survey, by occupation, according to background characteristics, Liberia 2007

Background characteristic	Profes-sional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Domestic service	Agricul-ture	Missing	Total	Number of men
Age										
15-19	1.1	0.1	16.4	10.6	5.9	0.1	54.7	11.2	100.0	603
20-24	3.5	0.3	25.3	12.5	3.6	0.4	48.1	6.4	100.0	724
25-29	4.5	2.0	20.0	12.1	2.9	0.3	54.4	3.9	100.0	786
30-34	7.4	2.1	24.2	12.3	1.0	0.2	51.0	1.7	100.0	711
35-39	11.1	1.7	20.5	11.1	1.8	0.1	53.1	0.6	100.0	803
40-44	13.9	1.0	20.0	8.9	2.1	0.4	52.0	1.5	100.0	655
45-49	15.2	2.2	15.7	10.0	0.6	0.0	55.5	0.8	100.0	591
Marital status										
Never married	4.7	0.9	23.0	13.2	4.5	0.3	44.4	9.0	100.0	1,340
Married or living together	9.3	1.4	19.9	9.8	1.6	0.2	56.4	1.4	100.0	3,251
Divorced/separated/ widowed	9.3	3.0	15.7	17.0	3.9	0.0	48.4	2.6	100.0	277
Number of living children										
0	4.2	0.4	20.7	13.1	4.7	0.3	48.1	8.5	100.0	1,377
1-2	7.3	1.9	24.1	12.2	2.1	0.2	49.2	3.1	100.0	1,335
3-4	9.5	1.8	19.9	9.9	2.1	0.3	55.2	1.2	100.0	1,105
5+	12.3	1.5	16.4	8.6	0.7	0.0	60.1	0.4	100.0	1,056
Residence										
Urban	14.4	2.8	45.2	19.0	3.7	0.5	7.6	6.8	100.0	1,709
Rural	4.6	0.6	7.2	6.9	1.9	0.0	76.9	1.9	100.0	3,163
Region										
Monrovia	15.6	2.4	50.9	17.8	3.5	0.4	2.0	7.4	100.0	1,296
North Western	2.1	1.3	7.1	16.9	2.3	0.2	62.2	7.8	100.0	360
South Central	5.5	1.6	14.1	11.3	3.2	0.2	61.5	2.6	100.0	721
South Eastern A	6.9	0.8	11.0	10.3	5.1	0.1	62.9	2.9	100.0	330
South Eastern B	7.3	1.4	9.1	6.6	2.1	0.3	71.4	1.9	100.0	376
North Central	5.1	0.6	7.9	6.2	1.3	0.0	77.9	0.9	100.0	1,791
Education										
No education	0.8	0.0	11.7	14.0	0.7	0.0	72.3	0.5	100.0	993
Primary	0.6	0.1	14.2	8.2	3.9	0.1	70.4	2.5	100.0	1,450
Secondary and higher	15.4	2.7	27.9	11.7	2.5	0.3	34.0	5.5	100.0	2,428
Wealth quintile										
Lowest	3.1	0.2	3.1	5.3	1.6	0.0	85.6	1.1	100.0	987
Second	2.3	0.3	5.9	6.3	1.6	0.1	82.1	1.5	100.0	1,081
Middle	6.2	1.1	13.9	13.1	2.9	0.2	58.3	4.2	100.0	985
Fourth	8.6	2.1	36.7	18.7	3.9	0.5	24.0	5.4	100.0	858
Highest	20.7	3.3	47.2	13.8	3.1	0.3	5.2	6.4	100.0	961
Total 15-49	8.0	1.4	20.5	11.1	2.5	0.2	52.6	3.6	100.0	4,873

3.7 EARNINGS AND TYPE OF EMPLOYMENT

Table 3.7 presents the percent distribution of employed women age 15-49, by type of earnings and employer characteristics, according to type of employment (agricultural or nonagricultural). Sixty-two percent of women receive cash for their work, and one in three is not paid. Women are more likely to be paid in cash and kind or not paid at all if they are employed in agricultural activities.

The vast majority (86 percent) of working women are self-employed, with only 5 percent employed by a non-family member and 9 percent employed within the family. Women are more

likely to be employed by a non-family member if they are doing nonagricultural work than if they are engaged in agricultural work.

Just over two-thirds of working women are employed throughout the year, and 28 percent have seasonal jobs. Women are more prone to seasonal work if they are employed in agricultural activities than if they are in nonagricultural occupations and, conversely, continuity of employment is more assured for women who are engaged in nonagricultural work.

Table 3.7 Type of employment: Women

Percent distribution of women age 15-49 employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural), Liberia 2007

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	6.6	59.0	29.4
Cash and in-kind	41.9	20.2	32.1
In-kind only	4.7	1.7	3.4
Not paid	46.4	17.4	34.0
Missing	0.4	1.6	1.1
Total	100.0	100.0	100.0
Type of employer			
Employed by family member	8.6	8.1	8.6
Employed by non-family member	2.2	8.1	5.0
Self-employed	89.1	83.0	85.9
Missing	0.1	0.8	0.6
Total	100.0	100.0	100.0
Continuity of employment			
All year	54.2	84.2	67.0
Seasonal	43.1	9.3	28.3
Occasional	1.9	5.5	3.7
Missing	0.8	1.0	1.1
Total	100.0	100.0	100.0
Number of women employed during the last 12 months	2,572	1,963	4,648

Note: Total includes women with missing information on type of employment who are not shown separately.

3.8 KNOWLEDGE AND ATTITUDES CONCERNING TUBERCULOSIS

The 2007 LDHS collected data on women's and men's knowledge and attitudes concerning tuberculosis (TB). Tables 3.8.1 and 3.8.2 show the percentage of women and men who have heard of TB, and among those who have heard of TB, the percentage who know that TB is spread through air by coughing, the percentage who believe that TB can be cured, and the percentage who would want a family member's TB to be kept a secret.

Table 3.8.1 Knowledge and attitudes concerning tuberculosis: Women

Percentage of women age 15-49 who have heard of tuberculosis (TB), and among women who have heard of TB, the percentage who know that TB is spread through the air by coughing, the percentage who believe that TB can be cured, and the percentage who would want to keep secret that a family member has TB, by background characteristics, Liberia 2007

Background characteristic	Among all respondents		Among respondents who have heard of TB:			
	Percentage who have heard of TB	Number	Percentage who report that TB is spread through the air by coughing	Percentage who believe that TB can be cured	Percentage who would want a family member's TB kept secret	Number
Age						
15-19	86.5	1,312	58.2	69.9	15.1	1,135
20-24	91.6	1,363	61.2	73.4	19.3	1,249
25-29	89.5	1,166	61.0	76.6	14.2	1,044
30-34	92.6	956	59.6	76.6	12.8	886
35-39	91.8	956	59.5	81.3	18.0	877
40-44	92.2	665	60.2	77.2	12.9	613
45-49	88.5	674	51.4	75.5	14.2	596
Residence						
Urban	97.3	2,998	67.0	83.3	15.3	2,918
Rural	85.1	4,094	52.6	68.7	15.8	3,483
Region						
Monrovia	99.1	2,329	68.1	84.2	14.6	2,309
North Western	90.5	509	57.9	66.2	15.1	461
South Central	92.4	1,011	56.7	70.3	23.0	934
South Eastern A	89.9	375	63.9	64.3	17.1	338
South Eastern B	86.5	451	61.5	71.8	8.5	390
North Central	81.5	2,417	48.9	72.3	14.4	1,970
Education						
No education	85.8	3,005	50.6	67.5	14.4	2,579
Primary	90.2	2,280	57.2	73.0	14.6	2,058
Secondary and higher	97.7	1,799	74.0	89.7	18.4	1,757
Wealth quintile						
Lowest	79.5	1,251	46.8	61.5	16.1	994
Second	85.4	1,332	54.9	68.8	18.4	1,138
Middle	88.9	1,359	57.1	74.5	14.6	1,209
Fourth	96.2	1,580	60.2	79.7	11.4	1,521
Highest	98.1	1,569	70.8	85.7	18.0	1,539
Total	90.3	7,092	59.2	75.4	15.6	6,401

More than nine in ten women and men in Liberia have heard of TB. The youngest respondents, those in rural areas, and those in North Central region are somewhat less likely than others to have heard of TB. Similarly, respondents with less education and less wealth are also less likely to know about TB, though the differences are not large.

Among women and men who have heard of TB, a majority know that TB is spread through the air by coughing (59 percent of women and 69 percent of men). About three-quarters of respondents know that TB can be cured. As with knowledge of TB in general, knowledge that TB is spread through the air by coughing and knowledge that it can be cured is generally lower among the youngest respondents, those with less education, and those in the lower wealth quintiles.

Fortunately, there is apparently little stigma related to TB. Only 16 percent of women and 11 percent of men said that if a family member had TB, they would want it to remain a secret.

Table 3.8.2 Knowledge and attitudes concerning tuberculosis: Men

Percentage of men age 15-49 who have heard of tuberculosis (TB), and among men who have heard of TB, the percentage who know that TB is spread through the air by coughing, the percentage who believe that TB can be cured, and the percentage who would want to keep secret that a family member has TB, by background characteristics, Liberia 2007

Background characteristic	Among all respondents		Among respondents who have heard of TB:			
	Percentage who have heard of TB	Number	Percentage who report that TB is spread through the air by coughing	Percentage who believe that TB can be cured	Percentage who would want a family member's TB kept secret	Number
Age						
15-19	78.3	1,156	59.8	67.4	16.1	905
20-24	90.9	1,039	68.7	71.1	13.4	945
25-29	94.1	917	67.9	70.4	10.2	863
30-34	96.4	766	67.4	73.0	9.3	739
35-39	96.0	830	70.9	73.0	7.8	798
40-44	97.8	687	75.3	79.2	9.3	672
45-49	97.6	613	74.2	76.3	11.5	598
Residence						
Urban	95.7	2,426	75.9	82.0	12.8	2,323
Rural	89.2	3,583	63.4	65.5	10.2	3,196
Region						
Monrovia	96.3	1,862	77.7	82.8	12.5	1,794
North Western	93.5	405	66.5	77.6	3.8	379
South Central	97.1	894	64.5	69.0	11.8	868
South Eastern A	88.4	357	63.7	66.5	10.9	315
South Eastern B	87.3	407	74.9	69.2	6.7	355
North Central	86.8	2,084	61.8	64.4	12.4	1,808
Education						
No education	89.4	1,056	61.9	59.4	9.0	943
Primary	85.4	1,895	57.8	60.9	12.4	1,617
Secondary and higher	96.7	3,056	76.7	82.9	11.4	2,955
Wealth quintile						
Lowest	88.6	1,062	62.7	56.4	8.7	941
Second	88.5	1,181	60.9	63.7	9.8	1,045
Middle	90.2	1,170	66.6	70.8	11.7	1,055
Fourth	94.8	1,160	74.6	82.3	12.6	1,099
Highest	96.0	1,437	75.4	83.5	12.8	1,379
Total 15-49	91.8	6,009	68.7	72.5	11.3	5,519

3.9 SMOKING

In order to measure the extent of smoking among Liberian adults, women and men who were interviewed in the 2007 LDHS were asked if they currently smoked cigarettes or used tobacco. Only 2 percent of women said they used tobacco of any kind and only 1 percent said they smoked cigarettes (data not shown). Twenty percent of men use tobacco products, with 15 percent saying that they smoke cigarettes. Although the proportion of women who smoke is too small to show details, Table 3.9 shows differentials in smoking among men.

Younger men are far less likely to smoke than men in their 30s and 40s. Similarly, urban men, men in Monrovia, men with more education, and men in the higher wealth quintiles are less likely than other men to smoke. Among men who smoke cigarettes, one-fifth say they smoke 10 or more cigarettes per day, one-quarter say they smoke 6-9 cigarettes per day, and one-third say they smoke only 3-5 cigarettes per day.

Table 3.9 Use of tobacco: Men

Percentage of men age 15-49 who smoke cigarettes or a pipe or use other tobacco products, and the percent distribution of cigarette smokers by number of cigarettes smoked in the preceding 24 hours, according to background characteristics, Liberia 2007

Background characteristic	Cigarettes	Pipe	Other tobacco	Does not use tobacco	Number of men	Number of cigarettes in the past 24 hours: 0	1-2	3-5	6-9	10+	Don't know/ missing	Total	Number of cigarette smokers
Age													
15-19	0.8	0.0	0.3	98.9	1,156	*	*	*	*	*	*	100.0	10
20-24	4.2	0.5	1.9	94.8	1,039	(0.0)	(20.3)	(36.3)	(22.6)	(18.2)	(2.6)	100.0	43
25-29	15.8	1.0	5.0	82.5	917	3.1	20.2	20.4	31.2	20.8	4.4	100.0	145
30-34	21.2	1.2	7.4	77.5	766	3.0	22.9	29.7	28.1	16.3	0.1	100.0	162
35-39	24.8	1.1	5.5	74.2	830	0.4	15.2	35.2	25.1	20.2	3.8	100.0	206
40-44	28.1	0.9	5.3	71.3	687	1.2	11.3	39.6	21.6	25.8	0.5	100.0	193
45-49	24.6	1.3	5.6	72.9	613	1.3	11.8	31.7	32.6	22.2	0.3	100.0	151
Residence													
Urban	11.3	0.8	2.3	87.9	2,426	1.4	8.8	26.9	34.2	26.8	1.9	100.0	274
Rural	17.8	0.8	5.2	81.0	3,583	1.7	19.2	35.1	23.5	18.6	1.9	100.0	636
Region													
Monrovia	11.6	1.0	2.2	87.6	1,862	1.6	6.2	22.2	39.9	28.6	1.4	100.0	216
North Western	25.7	1.1	2.5	73.5	405	2.2	13.6	45.1	20.9	16.5	1.7	100.0	104
South Central	16.9	0.9	5.8	82.3	894	1.4	12.7	37.9	28.6	17.8	1.6	100.0	151
South Eastern A	21.0	0.2	8.2	77.5	357	2.1	13.5	30.7	23.2	29.2	1.3	100.0	75
South Eastern B	15.1	1.2	4.0	83.0	407	0.6	22.6	40.2	17.0	16.2	3.4	100.0	61
North Central	14.5	0.5	4.4	84.1	2,084	1.6	24.9	32.1	21.3	17.9	2.3	100.0	303
Education													
No education	29.4	1.0	7.5	68.2	1,056	1.9	15.1	31.9	23.1	25.4	2.6	100.0	311
Primary	14.1	0.4	4.5	85.2	1,895	0.6	20.2	35.8	27.4	15.3	0.7	100.0	267
Secondary and higher	10.9	0.9	2.5	88.3	3,056	2.1	13.7	30.8	29.7	21.5	2.1	100.0	332
Wealth quintile													
Lowest	20.4	0.9	7.4	78.6	1,062	0.7	26.1	35.9	20.6	15.7	1.0	100.0	217
Second	20.9	0.8	5.7	77.7	1,181	1.8	18.0	31.7	24.8	22.3	1.4	100.0	247
Middle	14.8	0.7	4.0	83.3	1,170	2.2	10.9	41.7	23.5	19.9	1.7	100.0	173
Fourth	11.6	0.8	2.6	87.7	1,160	0.3	15.5	32.2	29.8	19.4	2.8	100.0	134
Highest	9.8	0.8	1.3	89.8	1,437	3.1	4.0	18.6	40.6	30.2	3.5	100.0	140
Total 15-49	15.2	0.8	4.0	83.8	6,009	1.6	16.1	32.6	26.7	21.1	1.9	100.0	911

Note: Numbers in parentheses are based on 25-49 unweighted men; an asterisk denotes a figure based on fewer than 25 unweighted men that has been suppressed.

FERTILITY LEVELS, TRENDS, AND DIFFERENTIALS 4

This chapter looks at a number of fertility indicators including levels, patterns, and trends in both current and cumulative fertility; the length of birth intervals; and the age at which women initiate childbearing. Information on current and cumulative fertility is essential in monitoring population growth. The data on birth intervals are important because short intervals are strongly associated with childhood mortality. The age at which childbearing begins can also have a major impact on the health and well-being of both the mother and the child.

Data on fertility were collected in several ways. Each woman interviewed was asked about all of the births she had had in her lifetime. To ensure completeness of the responses, the duration, the month and year of termination, and the result of the pregnancy were recorded for each pregnancy. In addition, questions were asked separately about sons and daughters who live with the mother, those who live elsewhere, and those who have died. Subsequently, a list of all births was recorded along with name, age if still alive, and age at death if dead. Finally, information was collected on whether women were pregnant at the time of the survey.

4.1 CURRENT FERTILITY

The level of current fertility is one of the most important topics in this report because of its direct relevance to population policies and programs. Current fertility can be measured using the age-specific fertility rate (ASFR), the total fertility rate (TFR), the general fertility rate, and the crude birth rate. The ASFR provides the age pattern of fertility, and the TFR refers to the number of live births that a woman would have had if she were subject to the current ASFRs throughout the reproductive ages (15-49 years). The general fertility rate is expressed as the number of live births per 1,000 women of reproductive age, and the crude birth rate is expressed as the number of live births per 1,000 population. The measures of fertility presented in this chapter refer to the period three years before the survey. This generates a sufficient number of births to provide robust and current estimates. Current estimates of fertility levels are presented in Table 4.1 by urban-rural residence.

Table 4.1 Current fertility

Age-specific and total fertility rate (TFR), the general fertility rate (GBR), and the crude birth rate (CBR) for the three years preceding the survey, by residence, Liberia 2007

	Residence		
Age group	Urban	Rural	Total
15-19	101	182	141
20-24	193	281	243
25-29	168	269	226
30-34	135	222	187
35-39	104	165	142
40-44	45	87	72
45-49	17	33	29
TFR	3.8	6.2	5.2
GFR	134	214	180
CBR	32.5	40.4	37.6

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months before the interview.
TFR: Total fertility rate, expressed per woman
GFR: General fertility rate, expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

Table 4.1 shows a TFR of 5.2 children per woman for the three-year period preceding the survey (roughly 2004 through 2006). A TFR of 5.2 means that a Liberian woman who is at the beginning of her childbearing years would give birth to an average of just over five children by the end of her reproductive period if fertility levels remained constant at the levels observed in the three-year period before the 2007 Liberia Demographic and Health Survey (LDHS). The TFR of 6.2 for women in rural areas is more than two births higher than the rate of 3.8 for women in urban areas.

The peak childbearing years are 20-24, followed by 25-29. Women age 20-24 and 25-29 years contribute 23 and 22 percent, respectively, to the TFR. In the rural areas, fertility peaks at ages 20-24, 25-29, and 30-34 years, and then sharply declines at ages 40-44 and 45-49 years. In the urban area, fertility follows a similar pattern. Fertility at each age is higher in rural than in urban areas (Figure

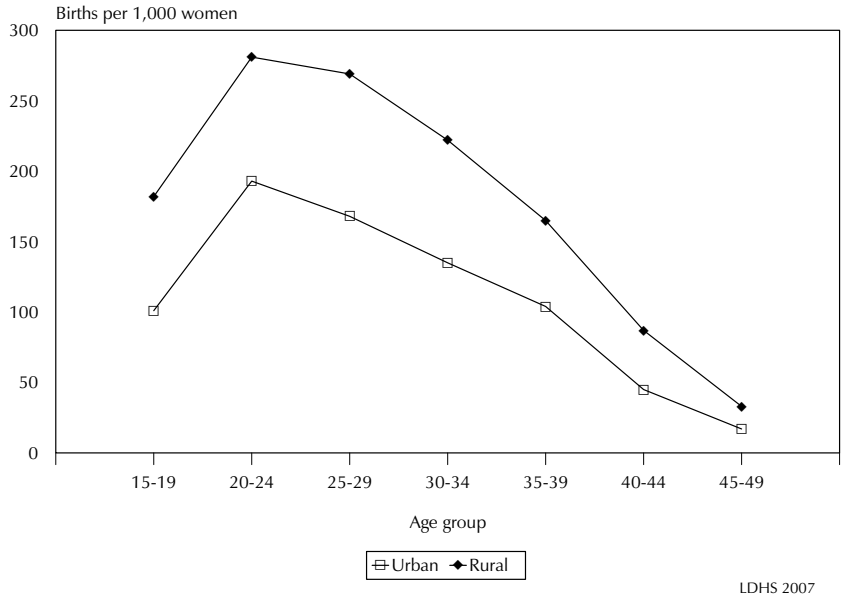
4.1). Adolescent fertility is very high, with teenage girls contributing about 14 percent of the TFR in Liberia.

The general fertility rate is 180. This means that there were 180 births for every 1,000 women during the three-year period preceding the survey. There is a clear differential in this rate by residence: 214 births per 1,000 women age 15-44 years in the rural areas versus 134 births per 1,000 women age 15-44 years in the urban areas.

The crude birth rate for Liberia is 38 births per 1,000 population. As with the general fertility rate, there is also a clear differential by residence: 40 births per 1,000 population in the urban areas versus 33 births per 1,000 population in the urban areas.

The survey results also point to the extreme youthfulness of childbearing in Liberia. Indeed, women under 25 years of age contribute about two-fifths of the TFR in Liberia.

Figure 4.1 Age-Specific Fertility Rates by Urban-Rural Residence



4.2 Fertility Differentials by Background Characteristics

Fertility is known to vary by residence, educational background, and other background characteristics of a woman. Table 4.2 shows several different indicators of fertility—the TFR, the mean number of births to women age 40-49, and the percentage currently pregnant—by residence, region, education, and wealth quintile. The mean number of births to women age 40-49 is an indicator of cumulative fertility; it reflects the fertility performance of older women who are nearing the end of their reproductive period. If fertility remains stable over time, the two fertility measures, TFR, and children ever born tend to be very similar. The percentage pregnant provides a useful additional measure of current fertility, although it is recognized that it may not capture all pregnancies in an early stage.

As mentioned above, the data in Table 4.2 show a strong urban-rural differential in fertility. Regional variations in fertility are marked, ranging from a high of almost seven births per woman in South Eastern A to a low of three in Monrovia. The TFR is inversely related to the level of education. Women with no education give birth to almost twice as many children as women who have been to

secondary school (6.0 vs. 3.3 births). Fertility is also closely associated with wealth, decreasing with increasing wealth. Table 4.2 shows that the TFR decreases from 6.5 births among women in the lowest wealth quintile to 2.8 births among women in the highest wealth quintile, a difference of almost four births.

Just under 11 percent of the women interviewed at the time of the survey said they were pregnant. Rural women are much more likely to be pregnant (13 percent) than urban women (8 percent). Current pregnancy is highest in South Eastern B (15 percent) and lowest in Monrovia (8 percent). The percentage of women currently pregnant is lower among women with at least some secondary school (7 percent) than among those with either no education or only primary education (both 12 percent). Also, the percentage of currently pregnant women is highest (15 percent) among the poorest segment of women and is lowest (8 percent) among the richest.

Table 4.2 also shows the mean number of children ever born by women age 40-49 years. Overall, women age 40-49 years have given birth to an average of 6.2 children. Differences in the mean number of children ever born generally follow a similar pattern to that for the TFR and the percentage currently pregnant.

Table 4.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Liberia 2007

Background characteristic	Total fertility rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	3.8	7.7	5.6
Rural	6.2	12.9	6.5
Region			
Monrovia	3.4	8.0	5.3
North Western	(6.5)	13.3	6.0
South Central	5.8	9.9	6.9
South Eastern A	(6.9)	11.6	7.1
South Eastern B	6.0	15.3	6.6
North Central	6.0	12.2	6.4
Education			
No education	6.0	11.9	6.4
Primary	5.9	11.9	6.4
Secondary and higher	3.3	7.3	5.3
Wealth quintile			
Lowest	6.5	15.1	6.3
Second	6.5	12.2	6.4
Middle	6.0	11.3	6.8
Fourth	4.7	8.1	6.2
Highest	2.8	8.2	5.1
Total	5.2	10.7	6.2

Note: Total fertility rates are for the period 1-36 months before the interview. Total fertility rates in parentheses are based on 500-999 unweighted women.

4.3 FERTILITY TRENDS

Table 4.3 examines trends in fertility in Liberia by comparing the results of the 2007 LDHS with the two earlier LDHS surveys (1986 and 1999-2000). This comparison is appropriate because all three surveys used similar methods of data collection, although the current fertility rates for the 1986 LDHS are based on births in the five years preceding the survey and those for the 1999-2000 LDHS and the 2007 LDHS are based on births in the three years preceding the survey.

Table 4.3 Trends in fertility from various surveys

Age-specific fertility rates from various surveys, Liberia 1981-85 to 2004-06

Mother's age at birth/ approximate calendar period	Survey 1986 LDHS 1981-1985	1999-2000 LDHS 1997-1999	2007 LDHS 2004-2006
15-19	184	135	141
20-24	285	279	243
25-29	272	241	226
30-34	223	211	187
35-39	181	171	142
40-44	114	112	72
45-49	63	83	29
Total fertility rate	6.6	6.2	5.2

Note: Age-specific fertility rates are per 1,000 women.
Source: Chieh-Johnson et al., 1988; MPEA et al., 2000

The data show a steady decrease in the fertility rates across all three surveys and for all age groups. The TFR decreased from 6.6 in the five years preceding the 1986 LDHS (roughly equivalent to 1981-85) to 5.2 for the three years before the 2007 LDHS (approximately 2004-06), a decrease of more than 20 percent (Figure 4.2). Surprisingly, the rate of decline has been greater in the more recent period than for the much longer period between the first two surveys.

Figure 4.2 Trends in Total Fertility Rates

Source: Chieh-Johnson et al. 1988 and MPEA et al., 2000

Another way to examine trends in fertility is based on the birth histories from the 2007 survey. Table 4.4 uses information from the retrospective birth histories obtained from LDHS respondents to examine trends in ASFRs for successive five-year periods before the survey. To calculate these rates, births were classified according to the period of time in which the birth occurred and the mother's age at the time of birth. Because birth histories were not collected for women over age 50, the rates for older age groups become progressively more truncated for periods more distant from the survey date. For example, rates cannot be calculated for women age 45-49 for five to nine years or more before the survey because women in that age group would have been 50 years or over at the time of the survey. Table 4.4 also shows evidence of decreasing fertility, although the decreases are not large.

Table 4.4 Trends in age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Liberia 2007

Mother's age at birth	Number of years preceding survey			
	0-4	5-9	10-14	15-19
15-19	137	152	161	163
20-24	241	249	257	239
25-29	230	245	250	267
30-34	199	220	241	[227]
35-39	151	185	[202]	
40-44	81	[123]		
45-49	[40]			

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates exclude the month of interview.

4.4 Children Ever Born and Living

Table 4.5 presents the distribution of all women and currently married women by number of children ever born, according to five-year age groups. The table also shows the mean number of children ever born. Data on the number of children ever born reflect the accumulation of births to women over their entire reproductive years and therefore have limited reference to current fertility levels, particularly when a country has experienced a decrease in fertility.

However, the information on children ever born is useful for observing how average family size varies across age groups and for observing the level of primary infertility.

The data show that early childbearing is common in Liberia. Over one-quarter of girls age 15-19 have already given birth; by age 20-24, almost 8 in 10 have had a baby. Only 1 percent of women at the end of their reproductive age remain childless, indicating that childbearing among Liberian women is almost universal. Because deliberate childlessness is rare in Liberia, the 1 percent of women who have never had a child can be interpreted as a rough measure of the level of primary infertility or the inability to bear children.

Table 4.5 Children ever born and living

Percent distribution of all women and currently married women by number of children ever born, mean number of children ever born, and mean number of living children, according to age group, Liberia 2007

Age	Number of children ever born											Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	74.0	22.2	3.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,312	0.30	0.28
20-24	21.8	38.3	26.6	10.0	2.4	0.6	0.2	0.0	0.0	0.0	0.0	100.0	1,363	1.36	1.19
25-29	5.5	17.0	26.2	24.6	14.8	7.6	2.6	1.3	0.2	0.2	0.0	100.0	1,166	2.68	2.29
30-34	2.0	9.8	12.8	23.3	20.3	14.3	9.2	5.3	1.8	0.8	0.3	100.0	956	3.76	3.13
35-39	2.5	3.4	9.3	13.1	14.6	18.5	12.9	12.9	6.6	3.3	2.8	100.0	956	4.92	3.92
40-44	1.1	2.8	6.2	11.7	10.9	15.0	10.9	13.2	11.3	6.5	10.4	100.0	665	5.86	4.61
45-49	1.1	1.4	4.6	8.5	10.4	11.6	13.8	12.3	9.8	9.7	16.9	100.0	674	6.56	4.93
Total	19.6	16.4	14.1	12.8	9.6	8.3	5.8	5.1	3.2	2.1	3.0	100.0	7,092	3.10	2.51
CURRENTLY MARRIED WOMEN															
15-19	31.3	53.8	13.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	251	0.85	0.79
20-24	10.4	34.7	34.7	15.1	3.7	1.2	0.1	0.0	0.0	0.0	0.0	100.0	739	1.71	1.50
25-29	3.1	13.1	24.3	26.2	18.4	9.3	3.6	1.6	0.2	0.2	0.0	100.0	847	2.97	2.54
30-34	1.7	7.6	12.5	22.1	21.0	16.1	10.1	6.1	1.7	1.0	0.1	100.0	805	3.90	3.26
35-39	2.4	2.5	8.0	13.1	14.9	17.7	12.7	14.5	7.3	3.8	3.1	100.0	812	5.09	4.05
40-44	1.3	2.4	5.9	11.6	10.4	13.7	10.5	14.8	11.4	7.5	10.4	100.0	545	5.96	4.65
45-49	1.4	1.7	3.9	7.8	9.7	11.2	13.7	11.9	11.3	10.2	17.2	100.0	541	6.67	4.98
Total	5.1	13.4	15.7	16.0	12.8	10.9	7.6	7.2	4.4	3.0	3.9	100.0	4,540	3.99	3.22

On average, Liberian women attain a parity of 6.6 children per woman at the end of their childbearing. This number is considerably higher than the TFR of 5.2 per woman, a discrepancy that is attributable to the decrease in fertility.

The same pattern is replicated for currently married women, except that young married women are much more likely than all young women to have had at least one child. This difference in the tempo of childbearing can be explained by the presence in the all-women category of many young and unmarried women who are known to exhibit extremely low fertility.

Consonant with expectations, the mean number of children ever born rises monotonically with increasing age of women, thus presupposing minimal or no recall lapse, which heightens confidence in the birth history reports. Women in their early twenties have given birth to more than one child on average, women in their late 30s have had five births, and those age 45-49 have borne 6.6 children each. As expected, women above 40 years have much higher parities, with substantial proportions having 10 or more births by the end of their childbearing years.

4.5 BIRTH INTERVALS

A birth interval is defined as the length of time between two live births. The study of birth intervals is important in understanding the health status of young children. Research has shown that short birth intervals are closely associated with poor health of children, especially during infancy. Children born too close to a previous birth, especially if the interval between the births is less than two years, are at increased risk of health problems and dying at an early age. Longer birth intervals, on the other hand, contribute to the improved health status of both mother and child.

The study of birth intervals is done using two measures: median birth interval and proportion of non-first births that occur 24 months or more after the previous birth. Table 4.6 presents the distribution of second and higher-order births in the five years preceding the survey by the number of months since the previous birth, according to background characteristics. The table also presents the median number of months since the preceding birth.

Table 4.6 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Liberia 2007

Background characteristic	Months since preceding birth						Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48-59	60+			
Age									
15-19	11.8	35.0	35.3	14.8	1.0	2.1	100.0	53	26.6
20-29	7.6	12.3	35.9	20.9	10.7	12.7	100.0	1,879	33.8
30-39	6.5	8.0	29.4	19.4	13.3	23.5	100.0	1,798	39.1
40-49	8.5	9.3	22.3	18.0	14.8	27.2	100.0	588	41.4
Birth order									
2-3	6.3	10.8	29.3	21.3	11.6	20.7	100.0	1,908	37.3
4-6	7.5	9.5	32.2	19.8	12.1	18.9	100.0	1,637	36.3
7+	9.1	11.2	34.4	16.2	13.6	15.4	100.0	773	34.4
Sex of preceding birth									
Male	8.2	10.8	30.1	19.5	12.0	19.4	100.0	2,186	36.3
Female	6.4	9.9	32.5	20.2	12.4	18.7	100.0	2,132	36.5
Survival of preceding birth									
Living	6.5	10.1	31.5	20.1	12.4	19.4	100.0	3,711	36.7
Dead	11.9	12.1	30.5	17.8	11.0	16.7	100.0	607	33.7
Residence									
Urban	5.2	7.8	25.2	21.9	11.7	28.2	100.0	1,199	42.1
Rural	8.1	11.3	33.7	19.0	12.4	15.5	100.0	3,119	34.8
Region									
Monrovia	3.6	6.7	24.5	21.7	12.0	31.4	100.0	803	44.1
North Western	9.6	13.7	33.9	16.5	9.9	16.5	100.0	423	34.3
South Central	9.7	13.9	29.6	19.0	12.2	15.4	100.0	704	34.4
South Eastern A	10.8	10.8	31.6	20.6	12.5	13.7	100.0	330	34.6
South Eastern B	9.0	12.4	35.8	20.1	10.8	11.8	100.0	333	32.6
North Central	6.4	9.3	33.6	19.8	13.0	17.8	100.0	1,725	36.2
Education									
No education	8.7	11.8	31.5	18.7	11.6	17.7	100.0	2,328	35.2
Primary	6.3	10.5	34.0	22.1	12.2	14.9	100.0	1,381	35.7
Secondary and higher	3.9	4.5	24.4	19.2	14.5	33.5	100.0	602	46.3
Wealth quintile									
Lowest	10.3	10.2	33.7	18.2	12.9	14.7	100.0	992	34.4
Second	7.3	13.8	34.0	19.0	11.6	14.4	100.0	1,105	34.1
Middle	7.6	10.1	31.8	22.1	13.3	15.2	100.0	906	36.2
Fourth	5.0	9.2	28.8	19.9	10.8	26.3	100.0	872	40.4
Highest	4.6	4.9	23.4	20.6	12.5	34.0	100.0	443	45.7
Total	7.3	10.4	31.3	19.8	12.2	19.0	100.0	4,318	36.4

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes some women with information missing on education

Table 4.6 shows that the median birth interval is 36 months, that is, half of non-first births to women in Liberia occur within three years after a previous birth. The median birth interval increases with age from 27 months for births to women age 15-19 years to 41 months for births to women age 40-49 years. The longer birth interval among older women may be attributed to the decrease in fecundity as women grow older.

There are no significant differences in the median birth interval by sex of the child and birth order. Surprisingly, the median birth interval is only slightly shorter if the previous child has died than if the previous child survived. The median interval between births to urban women is seven months longer (42 months) than for rural women (35 months). The median birth interval ranges from a low of 33 months in South Eastern B region to 44 months in Monrovia. The median number of months since the preceding birth is longer among non-first births to women with at least some secondary education (46 months) than among women with no education or only primary schooling (35-36 months), and is longer among women in the highest wealth quintile (46 months) than women in the lowest two wealth quintiles (34 months).

Comparison with previous data implies that the birth intervals in Liberia are lengthening. The median number of months between births has increased from 29 in the 1999-2000 LDHS to 36 months in the 2007 LDHS. It is unclear whether some of this difference could be due to methods of calculating medians.

4.6 Age at First Birth

The age at which childbearing commences is an important determinant of the overall level of fertility as well as the health and welfare of the mother and the child. In some societies, postponement of first births due to an increase in age at marriage has contributed to overall fertility decline. Table 4.7 shows the percentage of women who have given birth by specific ages, according to age at the time of the survey.

Table 4.7 Age at first birth

Percentage of women age 15-49 who gave birth by exact ages, percentage who have never given birth, and median age at first birth, according to current age, Liberia 2007

	Percentage who gave birth by exact age					Percentage who have never given	Number of	Median age at first
Current age	15	18	20	22	25	birth	women	birth
15-19	2.8	na	na	na	na	74.0	1,312	a
20-24	5.9	33.4	55.4	na	na	21.8	1,363	19.5
25-29	6.5	36.6	60.7	77.5	90.6	5.5	1,166	19.1
30-34	8.3	37.5	59.3	78.0	90.3	2.0	956	19.1
35-39	8.3	40.6	59.7	72.9	86.1	2.5	956	18.9
40-44	11.0	47.6	64.8	77.8	88.1	1.1	665	18.3
45-49	8.1	39.6	57.4	69.1	83.5	1.1	674	19.0
20-49	7.6	38.3	59.1	na	na	7.3	5,780	19.1
25-49	8.2	39.8	60.3	75.4	88.1	2.8	4,417	18.9

na = Not applicable
a = Omitted because less than 50 percent of women had a birth before reaching the beginning of the age group

The data show that the median age at first birth in Liberia fluctuates between 18 years and 20 years across age groups of women. This implies that there has been no trend towards later age at birth, though women age 20-24 have the highest median age at first birth (19.5). The percentage of women who gave birth before age 15 and 18 years generally shows some postponement of first birth by younger cohorts of mothers. For example, only 3 percent of women age 15-19 years had given birth by age 15 years, compared with at least 8 percent of those age 30 years and older.

Other evidence that age at first birth has not changed over time comes from comparison with previous surveys. The median age at first birth among women age 20-49 was 19.2 in 1986, 19.4 in 1999-2000 and 19.1 in 2007.

Table 4.8 presents differences in the median age at first birth across age cohorts for key subgroups as measured in the 2007 survey. The measures are presented for women age 20-49 to ensure that half of the women have already had a birth.

The data show no significant difference between urban and rural women in the median age at first birth. Among the six geographic regions of Liberia, childbearing starts later in North Western region (20 years) than in South Eastern A and B (18 years). Median age at first birth increases with educational attainment from 19 years among women with no education to 20 years among women with at least some secondary education. The data are somewhat erratic by wealth quintile.

Table 4.8 Median age at first birth

Median age at first birth among women age 20-49 years, according to background characteristics, Liberia 2007

Background characteristic	Age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	a	19.1	19.1	19.1	17.9	18.3	19.2	18.9
Rural	19.0	19.1	19.0	18.8	18.4	19.4	19.0	18.9
Region								
Monrovia	a	19.4	19.2	19.3	18.4	18.3	19.5	19.1
North Western	18.6	19.9	20.0	20.0	18.8	19.9	19.4	19.8
South Central	19.3	18.4	18.2	18.8	17.9	18.8	18.7	18.5
South Eastern A	18.0	18.8	18.3	18.6	17.6	18.1	18.2	18.3
South Eastern B	19.1	18.5	18.5	18.1	18.1	18.0	18.6	18.4
North Central	19.1	19.2	19.7	18.6	18.5	19.9	19.1	19.1
Education								
No education	18.5	18.7	18.6	18.8	18.2	19.0	18.7	18.7
Primary	18.9	18.9	19.3	18.1	18.4	19.0	18.9	18.8
Secondary and higher	a	20.1	19.7	19.8	18.3	18.8	a	19.7
Wealth quintile								
Lowest	18.9	19.3	19.1	18.9	19.3	19.9	19.2	19.3
Second	18.1	18.8	18.6	18.8	18.2	18.9	18.5	18.7
Middle	19.7	19.3	19.3	18.4	17.8	19.7	19.2	18.9
Fourth	19.5	18.7	19.0	18.4	17.6	18.1	18.8	18.5
Highest	a	19.8	19.3	19.8	19.2	17.9	19.8	19.4
Total	19.5	19.1	19.1	18.9	18.3	19.0	19.1	18.9

a = Omitted because less than 50 percent of the women had a birth before reaching the beginning of the age group

4.7 TEENAGE PREGNANCY AND MOTHERHOOD

Teenage pregnancy is a major health concern because of its association with higher morbidity and mortality for both the mother and child. Childbearing during the teenage years also frequently has adverse social consequences, particularly on female educational attainment because women who become mothers in their teens are more likely to curtail education.

Using information from the 2007 LDHS, Table 4.9 shows the percentage of women age 15-19 who are mothers or who are pregnant with their first child. The table shows that 26 percent of adolescents have had a birth and another 6 percent are currently pregnant with their first child. This means that just under one-third of girls age 15-19 have begun childbearing.

The proportion of adolescents already on the path to family formation increases rapidly with age, from 5 percent at age 15 years to 59 percent at age 19 years. Rural adolescents tend to start childbearing earlier than their urban counterparts. Forty-two percent of adolescents in rural areas have begun childbearing, compared with 24 percent of their counterparts in the urban areas. By region, the percentage of women 15-19 years who have begun childbearing ranges from a low of 22 percent in Monrovia to a high of 48 percent in South Eastern A region. Table 4.8 also shows that childbearing among adolescents decreases with higher education—58 percent among adolescents with no education versus 17 percent among those with at least some secondary education. Childbearing also decreases from 46 percent among adolescents in the lowest wealth quintile to 18 percent among those in the highest wealth quintile.

Comparison with similar data from 1999-2000 shows that early childbearing has increased over the last few years. The proportion of women age 15-19 who have already had a child or are pregnant with their first child increased from 29 percent to 32 percent between 1999-2000 and 2007. The proportion has increased at almost every age. For example, in 1999-2000 37 percent of 18-year-olds had begun childbearing, compared with 48 percent in 2007.

Table 4.9 Teenage pregnancy and motherhood

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and percentage who have begun childbearing, by background characteristics, Liberia 2007

Background characteristic	Percentage who: Have had a live birth	Percentage who: Are pregnant with first child	Percentage who have begun childbearing	Number of women
Age				
15	3.0	2.2	5.2	234
16	13.0	5.3	18.2	342
17	21.9	7.2	29.2	203
18	38.1	10.2	48.2	252
19	53.0	6.1	59.1	281
Residence				
Urban	19.1	4.7	23.7	695
Rural	33.7	7.8	41.6	616
Region				
Monrovia	16.7	5.4	22.1	550
North Western	29.2	8.9	38.2	68
South Central	34.2	3.0	37.2	161
South Eastern A	42.1	5.9	48.0	60
South Eastern B	26.3	10.9	37.2	85
North Central	32.5	7.1	39.6	389
Education				
No education	47.1	11.3	58.4	222
Primary	24.7	6.4	31.1	759
Secondary and higher	14.7	2.1	16.9	332
Wealth quintile				
Lowest	35.9	10.1	45.9	149
Second	35.4	8.5	43.9	196
Middle	33.1	7.0	40.1	243
Fourth	24.9	5.2	30.1	316
Highest	14.4	3.8	18.2	408
Total	26.0	6.1	32.1	1,312

FAMILY PLANNING 5

This chapter presents results from the 2007 Liberia Demographic and Health Survey (LDHS) regarding aspects of contraceptive knowledge, attitudes, and behavior. Although the focus is on women, some results from the male survey are discussed because men play an important role in the realization of reproductive goals. To get an indication of interspousal communication and agreement in knowledge and attitudes of couples regarding family planning, the study compares the responses of men, where possible, with responses of their wives in the same household. Comparisons are also made, where feasible, with findings from previous surveys to evaluate trends over time.

5.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

One major objective of the 2007 LDHS was to assess the level of knowledge of contraceptive methods among women and men. Individuals who have adequate information about the available methods of contraception are better able to develop a rational approach to planning their families. Information on knowledge of contraception was collected in the survey by asking female and male respondents to name ways or methods by which a couple could delay or avoid pregnancy. If the respondent failed to mention a particular method spontaneously, the interviewer described the method and asked whether the respondent had heard of it. Contraceptive methods are grouped into two types in the table: modern and traditional. Modern methods include female sterilization, male sterilization, the pill, intrauterine device (IUD), injectables, implants, male condom, female condom, and emergency contraception. Traditional methods include rhythm method (periodic abstinence) and withdrawal. Provision was also made in the questionnaire to record any other methods, including folk methods named spontaneously by the respondent.

Table 5.1 shows data on the extent of knowledge of contraceptive methods among all women and men age 15-49, as well as among those who are currently married and those who are not married but sexually active. According to Table 5.1, 87 percent of all women have heard of a method of contraception, compared with 92 percent of all men. Knowledge of a modern method is more widespread than knowledge of traditional methods. For example, 87 percent of all women have heard of a modern method, compared with just 38 percent who have heard of a traditional method.

Among all groups of women and men, the two best known methods are the pill and the male condom. Eight in ten women have heard of the pill, compared with six in ten men. However, eight in ten women have heard of the male condom, compared with nine in ten men. The least well-known methods are implants, emergency contraception, and male sterilization. In general, women are more likely to know about female-oriented methods and men are more likely to know about male-oriented methods; exceptions are for female sterilization and female condoms, which are known by a greater percentage of men than women. About one-quarter to half of respondents report knowing about rhythm method and withdrawal.

Awareness of specific family planning methods is very similar among all women and those who are currently married, but it tends to be highest among women who are unmarried but sexually active. Among men, those who are currently married are generally most likely to have heard of specific methods.

Table 5.1 Knowledge of contraceptive methods

Percentage of all respondents, currently married respondents, and sexually active unmarried respondents age 15-49 who know any contraceptive method, by specific method, Liberia 2007

	Women			Men		
Method	All women	Currently married women	Sexually active unmarried women[1]	All men	Currently married men	Sexually active unmarried men[1]
Any method	86.8	87.0	93.7	91.6	95.2	95.7
Any modern method	86.5	86.7	93.7	91.5	95.0	95.7
Female sterilization	28.2	28.2	32.2	41.1	49.0	39.8
Male sterilization	10.4	9.9	13.5	18.4	22.1	19.4
Pill	82.3	83.1	88.7	61.7	70.4	65.2
IUD	29.5	28.6	38.1	20.7	26.1	21.0
Injectables	74.1	74.1	84.2	54.2	63.3	56.9
Implants	6.2	6.0	7.2	5.8	6.9	7.1
Male condom	78.9	76.9	90.2	90.3	93.6	95.2
Female condom	23.8	20.9	35.2	34.7	37.6	42.3
Emergency contraception	12.9	11.5	17.8	13.2	15.1	15.2
Any traditional method	38.4	36.6	48.7	54.5	63.3	59.8
Rhythm	28.8	25.6	41.3	37.8	44.4	40.0
Withdrawal	26.2	24.2	36.7	46.0	53.0	52.5
Folk method	6.3	7.4	2.7	5.9	7.6	5.0
Mean number of methods known by respondents 15-49	4.1	4.0	4.9	4.3	4.9	4.6
Number of respondents	7,092	4,540	1,045	6,009	3,413	1,171

[1] Had last sexual intercourse within 30 days preceding the survey

Table 5.2 shows differentials in awareness of any contraceptive method and any modern method by background characteristics. Knowledge of at least one method is high in almost all categories. Nevertheless, it is lower among women and men in rural areas than in urban areas, and lower among women and men in South Eastern A and South Eastern B regions. Knowledge of at least one method increases with education level and wealth quintile. For example, only 72 percent of women in the lowest wealth quintile have heard of any method of family planning, compared with 99 percent of those in the highest wealth quintile.

There has been an increase in awareness of family planning methods among women over the last two decades. As shown in Figure 5.1, the proportion of all women aged 15-49 who have heard of at least one method of family planning has increased from 72 percent in 1986 to 87 percent in 2007 (Chieh-Johnson et al., 1988). Knowledge of specific methods shows even more dramatic increases since 1986. For example, the proportion of women 15-49 who have heard of the pill increased from 64 to 82 percent since 1986, and the proportion who have heard about the male condom increased from 31 percent to 79 percent. This is particularly encouraging because the 1999/2000 LDHS indicated that there had been a decline since 1986 in the proportion of women who had heard of family planning methods, although the 1999/2000 survey was based on women aged 13-49, which complicates comparisons (MPEA, 2000).

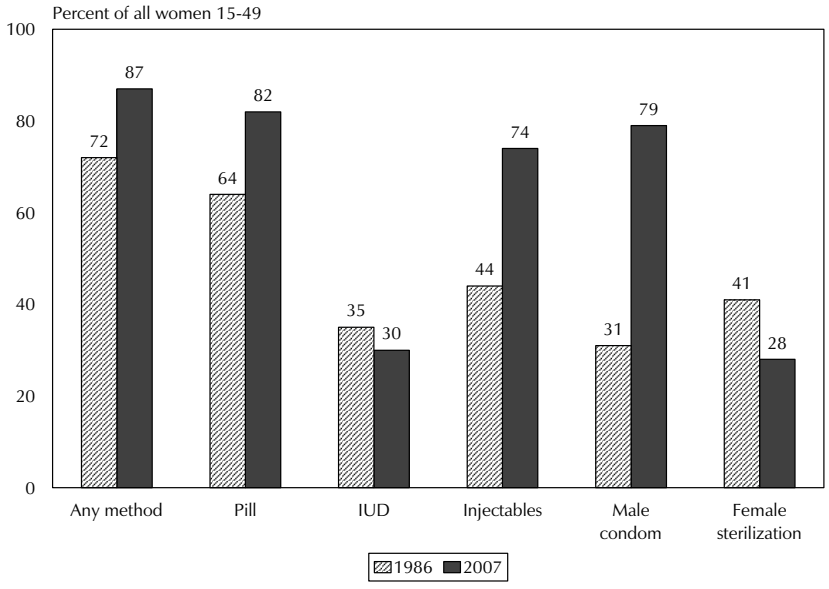
Table 5.2 Knowledge of contraceptive methods by background characteristics

Percentage of currently married women and currently married men age 15-49 who have heard of at least one contraceptive method and who have heard of at least one modern method, by background characteristics, Liberia 2007

Background characteristic	Women			Men		
	Heard of any method	Heard of any modern method[1]	Number	Heard of any method	Heard of any modern method[1]	Number
Age						
15-19	82.3	82.3	251	*	*	30
20-24	89.9	89.7	739	92.0	92.0	284
25-29	86.5	85.9	847	95.4	95.2	568
30-34	87.2	86.9	805	97.0	96.9	609
35-39	90.8	90.4	812	95.7	94.9	729
40-44	86.6	86.5	545	97.2	96.9	641
45-49	80.5	79.9	541	92.0	92.0	554
Residence						
Urban	96.8	96.7	1,541	99.1	99.1	1,125
Rural	82.0	81.5	2,999	93.3	92.9	2,287
Region						
Monrovia	98.3	98.2	1,157	99.2	99.2	847
North Western	95.0	94.6	353	98.2	98.1	259
South Central	87.2	87.2	688	99.6	99.6	523
South Eastern A	70.0	69.3	276	91.4	91.2	225
South Eastern B	76.0	75.9	297	82.8	82.6	211
North Central	82.5	81.8	1,769	93.0	92.4	1,347
Education						
No education	80.9	80.2	2,374	91.8	91.2	754
Primary	90.4	90.4	1,287	91.6	91.0	832
Secondary and higher	98.5	98.5	874	98.3	98.3	1,825
Wealth quintile						
Lowest	71.8	71.6	942	89.7	88.9	739
Second	83.3	82.8	994	93.2	93.1	776
Middle	89.4	88.8	950	96.5	96.1	698
Fourth	94.6	94.2	872	98.8	98.8	586
Highest	98.8	98.8	781	99.7	99.7	613
Total 15-49	87.0	86.7	4,540	95.2	95.0	3,413

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, and emergency contraception

Figure 5.1 Trends in Knowledge of Contraceptive Methods



5.2 EVER USE OF CONTRACEPTION

All women interviewed in the 2007 LDHS who said that they had heard of a method of family planning were asked whether they had ever used that method. Men were only asked about ever use of methods that require male participation, i.e., male sterilization, male condom, rhythm method, and withdrawal. Table 5.3.1 shows the percentage of all women, currently married women, and sexually active unmarried women who have ever used specific methods of family planning, by age, and Table 5.3.2 shows comparable information for men.

Table 5.3.1 shows that more than one-third of currently married women have ever used a contraceptive method, 31 percent have used a modern method, and 11 percent have used a traditional method. The methods most commonly ever used by married women are the pill (16 percent), male condom (15 percent), and injectables (10 percent). Ever use of other methods does not exceed 10 percent.

Ever use of any method is highest among sexually active unmarried women, 51 percent of whom have used a method at some time. Sexually active unmarried women are much more likely to have used the male condom (37 percent) than either all women or currently married women. They are also more likely to have ever used traditional methods like rhythm method and withdrawal.

Table 5.3.1 Ever use of contraception: Women

Percentage of all women, currently married women, and sexually active unmarried women age 15-49 who have ever used any contraceptive method, by method, according to age, Liberia 2007

			Modern method										Traditional method			
Age	Any method	Any modern method	Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	Female condom	Emergency contraception	Any traditional method	Rhythm	Withdrawal	Folk method	Number of women
							ALL WOMEN									
15-19	23.9	21.9	0.0	0.0	3.6	0.3	1.7	0.1	18.2	0.4	1.8	9.1	5.3	6.0	0.0	1,312
20-24	39.1	35.9	0.0	0.2	13.5	0.6	6.6	0.0	27.4	0.9	3.6	14.5	10.6	7.8	0.2	1,363
25-29	40.3	37.5	0.2	0.1	17.9	0.7	10.0	0.0	25.3	0.8	3.3	15.5	10.0	10.8	0.7	1,166
30-34	43.9	40.3	0.0	0.0	20.3	1.1	15.2	0.2	23.2	1.0	5.2	16.8	10.4	10.0	1.5	956
35-39	41.1	38.4	1.1	0.2	22.5	2.1	14.2	0.1	13.7	0.6	3.6	12.2	7.3	6.4	0.8	956
40-44	34.7	33.5	1.2	0.2	22.2	1.1	11.1	0.0	8.8	0.0	1.7	9.9	5.8	5.6	1.0	665
45-49	20.9	19.3	1.1	0.2	14.2	1.4	6.7	0.0	4.4	0.2	1.7	4.9	3.5	1.5	0.8	674
Total	35.3	32.7	0.4	0.1	15.4	0.9	8.9	0.1	19.0	0.6	3.1	12.3	7.9	7.3	0.6	7,092
							CURRENTLY MARRIED WOMEN									
15-19	25.3	21.9	0.0	0.0	5.0	0.0	2.1	0.0	17.0	0.0	2.3	12.3	4.2	8.1	0.0	251
20-24	29.8	26.3	0.0	0.2	10.5	0.1	5.7	0.0	18.2	0.5	2.8	9.6	6.3	5.7	0.1	739
25-29	35.5	32.9	0.3	0.1	16.7	0.4	9.1	0.0	21.2	0.4	3.2	13.0	7.7	9.2	0.9	847
30-34	40.9	37.5	0.0	0.0	19.1	1.1	14.5	0.2	20.1	0.5	5.0	14.9	8.6	8.9	1.2	805
35-39	40.7	38.2	1.1	0.0	22.1	1.8	14.7	0.2	13.3	0.5	3.6	11.7	6.6	5.9	1.0	812
40-44	33.2	32.2	1.4	0.2	20.1	1.1	11.7	0.0	7.3	0.0	1.7	9.3	5.8	5.6	0.5	545
45-49	18.0	16.6	1.1	0.2	11.7	1.0	5.7	0.0	3.9	0.0	1.5	3.8	2.8	0.9	0.7	541
Total	33.5	31.0	0.6	0.1	16.2	0.9	10.0	0.1	15.1	0.4	3.1	11.0	6.4	6.5	0.7	4,540
							SEXUALLY ACTIVE UNMARRIED WOMEN[1]									
15-19	38.2	35.5	0.0	0.0	6.0	0.9	3.2	0.4	29.3	0.9	2.2	14.1	8.6	11.0	0.0	384
20-24	59.3	56.6	0.0	0.5	21.1	0.3	10.1	0.0	46.8	1.8	6.1	23.3	17.8	12.3	0.5	333
25+	58.5	54.9	0.5	0.5	23.9	2.9	15.9	0.0	35.6	1.8	4.9	23.1	15.1	14.4	1.2	328
Total	51.3	48.3	0.2	0.3	16.4	1.3	9.4	0.2	36.8	1.5	4.3	19.9	13.5	12.5	0.5	1,045

[1] Women who had sexual intercourse within 30 days preceding the survey

Ever use of family planning has generally increased over time. The proportion of all women who have ever used any method increased from 22 percent in 1986 to 45 percent in 1999/2000 and then decreased to 35 percent in 2007.[1] However, the proportion of women who have ever used a modern method increased steadily from 19 percent in 1986 to 23 percent in 1999/2000 to 33 percent in 2007.

Table 5.3.2 shows that more than half of all men between the ages of 15 and 49 have used a male-oriented method of contraception at some time. Ever use is highest among sexually active, unmarried men, almost two-thirds of whom have used a method. As expected, the male condom is the most commonly ever used method among the male-oriented methods. Interestingly, considerably higher proportions of men than women report having used rhythm method and withdrawal.

Table 5.3.2 Ever use of contraception: Men

Percentage of all men, currently married men, and sexually active unmarried men age 15-49 who have ever used any contraceptive method, by method, according to age, Liberia 2007

			Modern method		Any	Traditional method		
Age	Any method	Any modern method	Male sterili-zation	Male condom	tradi-tional method	Rhythm	With-drawal	Number of men
ALL MEN								
15-19	19.3	17.0	0.2	17.0	8.7	4.5	6.2	1,156
20-24	61.7	55.2	0.6	55.1	33.0	19.3	25.2	1,039
25-29	59.8	52.0	0.4	51.7	35.7	21.8	27.4	917
30-34	66.6	57.5	0.6	57.1	44.6	31.9	33.4	766
35-39	57.6	45.8	0.2	45.7	37.7	23.8	26.6	830
40-44	56.0	43.7	0.7	43.5	37.7	27.4	24.1	687
45-49	46.1	34.9	1.1	34.3	30.6	19.1	21.4	613
Total 15-49	51.0	43.0	0.5	42.8	31.1	20.0	22.6	6,009
CURRENTLY MARRIED MEN								
15-19	*	*	*	*	*	*	*	30
20-24	62.7	53.1	0.7	53.0	39.0	22.8	28.7	284
25-29	56.0	47.3	0.5	46.8	33.1	20.2	23.7	568
30-34	64.8	54.9	0.6	54.3	43.9	30.9	31.8	609
35-39	56.0	45.0	0.3	44.9	36.1	23.5	25.7	729
40-44	56.1	43.8	0.6	43.6	37.7	27.6	24.0	641
45-49	45.8	35.4	0.9	34.7	30.0	18.5	21.1	554
Total 15-49	56.4	46.1	0.6	45.7	36.4	24.1	25.5	3,413
SEXUALLY ACTIVE UNMARRIED MEN[1]								
15-19	43.6	39.9	0.0	39.9	20.3	8.5	15.1	288
20-24	71.3	66.3	0.7	66.1	37.5	20.0	30.8	449
25+	73.1	64.1	1.2	64.1	47.8	29.9	37.8	434
Total 15-49	65.2	59.0	0.7	58.9	37.1	20.8	29.5	1,171

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Men who had sexual intercourse within 30 days preceding the survey

5.3 CURRENT USE OF CONTRACEPTIVE METHODS

This section presents information on the prevalence of contraceptive use among all women, currently married women, and sexually active unmarried women age 15-49. The level of current use is the most widely used and valuable measure of the success of a family planning program. Furthermore, it can be used to estimate the reduction in fertility attributable to contraception. The contraceptive

[1] Data from the 1986 and 2007 surveys are based on women age 15-49; data from the 1999-2000 survey are based on women age 13-49.

prevalence rate (CPR) is usually defined as the percentage of currently married women who are currently using a method of contraception.

Table 5.4 shows that only about one in nine currently married women (11 percent) is currently using some method of contraception. Modern methods of contraception account for almost all the use, with 10 percent of married women reporting using a modern method, versus only 1 percent using a traditional method. Injectables and pills are the most widely used methods (each used by 4 percent of married women), followed by condoms (2 percent).

Table 5.4 Current use of contraception by age

Percent distribution of all women, currently married women, and sexually active unmarried women age 15-49 by contraceptive method currently used, according to age, Liberia 2007

			Modern method					Any tradi-tional method	Traditional method		Not currently using	Total	Number of women
Age	Any method	Any modern method	Female sterili-zation	Pill	IUD	Inject-ables	Male condom		Rhythm	With-drawal			
ALL WOMEN													
15-19	11.0	9.5	0.0	1.8	0.3	1.2	6.2	1.5	1.1	0.3	89.0	100.0	1,312
20-24	14.2	11.5	0.0	3.5	0.0	2.9	5.0	2.7	2.2	0.5	85.8	100.0	1,363
25-29	16.0	14.2	0.2	5.2	0.4	4.3	4.1	1.8	1.5	0.3	84.0	100.0	1,166
30-34	15.2	13.6	0.0	5.0	0.0	5.6	2.9	1.6	1.0	0.6	84.8	100.0	956
35-39	17.2	15.8	1.1	5.5	0.6	7.0	1.5	1.5	1.4	0.0	82.8	100.0	956
40-44	11.7	11.0	1.2	5.0	0.2	4.0	0.6	0.7	0.7	0.0	88.3	100.0	665
45-49	4.7	4.5	1.1	1.0	0.0	1.9	0.5	0.2	0.2	0.0	95.3	100.0	674
Total	13.3	11.7	0.4	3.8	0.2	3.7	3.5	1.6	1.3	0.3	86.7	100.0	7,092
CURRENTLY MARRIED WOMEN													
15-19	5.2	4.4	0.0	2.0	0.0	2.1	0.2	0.8	0.8	0.0	94.8	100.0	251
20-24	7.1	5.7	0.0	1.5	0.0	2.2	1.9	1.4	1.1	0.3	92.9	100.0	739
25-29	13.4	12.2	0.3	4.7	0.2	3.9	3.1	1.3	1.0	0.3	86.6	100.0	847
30-34	12.8	11.1	0.0	4.5	0.0	4.4	2.0	1.7	0.9	0.7	87.2	100.0	805
35-39	17.6	16.3	1.1	5.9	0.7	7.5	1.1	1.4	1.3	0.0	82.4	100.0	812
40-44	12.5	11.6	1.4	5.2	0.3	4.4	0.4	0.9	0.9	0.0	87.5	100.0	545
45-49	4.8	4.6	1.1	1.2	0.0	1.6	0.6	0.2	0.2	0.0	95.2	100.0	541
Total	11.4	10.3	0.6	3.8	0.2	4.1	1.6	1.2	1.0	0.2	88.6	100.0	4,540
SEXUALLY ACTIVE UNMARRIED WOMEN[1]													
15-19	23.1	19.7	0.0	3.4	0.9	2.0	13.3	3.4	2.6	0.8	76.9	100.0	384
20-24	30.6	24.6	0.0	9.3	0.0	5.6	9.7	6.1	5.0	1.1	69.4	100.0	333
25+	28.8	25.6	0.5	6.6	1.0	8.3	9.1	3.2	3.0	0.2	71.2	100.0	328
Total	27.3	23.1	0.2	6.3	0.7	5.1	10.8	4.2	3.5	0.7	72.7	100.0	1,045

Note: If more than one method is used, only the most effective method is considered in this tabulation. Table excludes implants (used by two women) and female condom (used by one woman).
[1] Women who have had sexual intercourse within 30 days preceding the survey

Current use is slightly higher among all women than among those who are currently married. However, use is far higher among unmarried women who are sexually active (27 percent) than among married women (11 percent) or all women (13 percent).

Among currently married women, the proportion currently using any method of contraception rises with age from only 5 percent of those age 15-19 to 18 percent among those aged 35-39, after which it declines. It is interesting to note that among married women, pills and injectables are the two most commonly used methods at every age group except 20-24, where male condoms are the second most commonly used method after injectables. Among sexually active unmarried women—most of whom are young—the male condom is by far the most commonly used method.

5.4 DIFFERENTIALS IN CONTRACEPTIVE USE BY BACKGROUND CHARACTERISTICS

Table 5.5 presents information on the prevalence of current contraceptive use among women by background characteristics. The data show that some women in Liberia are more likely to use contraceptives than others. The proportion of married women using a method increases with the number of children they have, from only 5 percent of those with no children to 15 percent among those with five or more children. Married women in urban areas are considerably more likely to use contraception (19 percent) than those in rural areas (8 percent).

Table 5.5 Current use of contraception by background characteristics

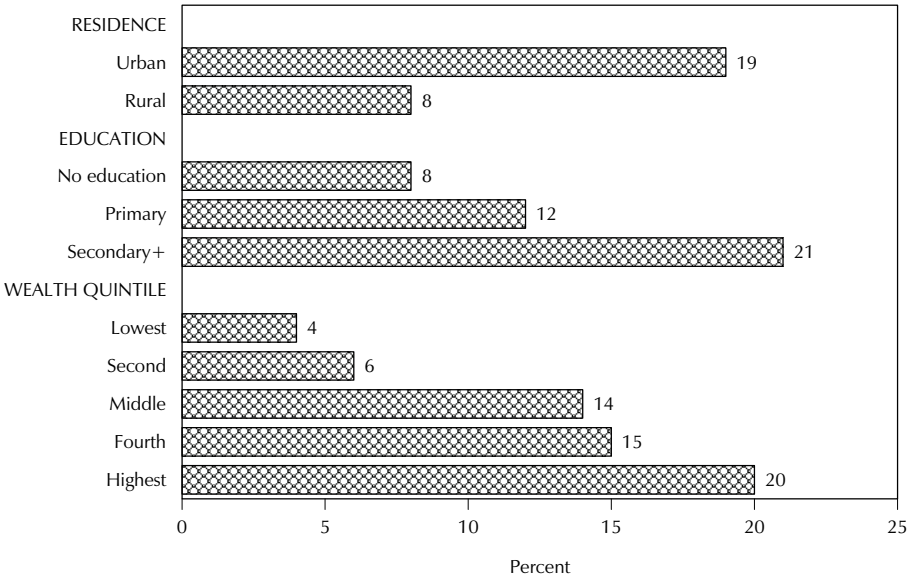
Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Liberia 2007

Background characteristic	Any method	Any modern method	Modern method					Any traditional method	Traditional method		Not currently using	Total	Number of women
			Female sterilization	Pill	IUD	Injectables	Male condom		Rhythm	Withdrawal			
Number of living children													
0	4.6	3.9	0.1	1.4	0.0	1.1	0.8	0.7	0.7	0.0	95.4	100.0	305
1-2	10.3	8.5	0.2	3.0	0.1	2.8	2.4	1.8	1.5	0.3	89.7	100.0	1,610
3-4	11.4	10.4	0.3	4.1	0.1	4.9	1.0	1.1	0.8	0.3	88.6	100.0	1,456
5+	14.8	14.2	1.5	5.3	0.5	5.5	1.4	0.6	0.5	0.1	85.2	100.0	1,169
Residence													
Urban	18.8	16.4	0.3	6.0	0.2	7.4	2.5	2.4	2.2	0.2	81.2	100.0	1,541
Rural	7.7	7.1	0.7	2.7	0.2	2.4	1.1	0.6	0.3	0.3	92.3	100.0	2,999
Region													
Monrovia	19.0	16.6	0.3	6.0	0.2	7.6	2.4	2.4	2.3	0.1	81.0	100.0	1,157
North Western	9.6	9.2	0.0	2.9	0.0	3.7	2.6	0.3	0.3	0.0	90.4	100.0	353
South Central	10.2	9.3	1.5	3.1	0.2	3.6	1.1	0.9	0.5	0.4	89.8	100.0	688
South Eastern A	9.7	8.0	0.4	2.7	0.1	2.2	2.6	1.6	1.6	0.0	90.3	100.0	276
South Eastern B	6.1	5.3	0.2	1.6	0.0	2.7	0.8	0.8	0.6	0.3	93.9	100.0	297
North Central	8.5	7.8	0.5	3.5	0.3	2.5	1.0	0.7	0.3	0.3	91.5	100.0	1,769
Education													
No education	7.7	7.4	0.5	2.8	0.1	3.3	0.7	0.3	0.2	0.1	92.3	100.0	2,374
Primary	12.2	10.4	0.4	4.2	0.2	3.7	1.8	1.8	1.3	0.5	87.8	100.0	1,287
Secondary and higher	20.6	18.0	1.0	6.1	0.5	6.7	3.7	2.6	2.4	0.2	79.4	100.0	874
Wealth quintile													
Lowest	3.6	3.4	0.1	1.4	0.0	0.9	1.0	0.2	0.2	0.0	96.4	100.0	942
Second	5.7	5.6	0.2	1.8	0.0	2.3	1.3	0.2	0.1	0.1	94.3	100.0	994
Middle	14.2	12.9	0.7	6.8	0.0	4.3	1.0	1.4	0.7	0.6	85.8	100.0	950
Fourth	15.4	14.1	0.4	4.7	0.7	6.4	1.9	1.4	1.1	0.3	84.6	100.0	872
Highest	20.4	17.1	1.6	4.9	0.3	7.1	3.1	3.3	3.1	0.2	79.6	100.0	781
Total	11.4	10.3	0.6	3.8	0.2	4.1	1.6	1.2	1.0	0.2	88.6	100.0	4,540

Note: If more than one method is used, only the most effective method is considered in this tabulation. Total includes women with information missing on education. Totals may not add to 100 because of rounding as well as the omission of two women who reported using implants.

Contraceptive use among currently married women is highest in greater Monrovia (19 percent) and lowest in South Eastern B region (6 percent). Use of both modern and traditional methods increases with educational attainment. One-fifth of married women with some secondary education (21 percent) are using a method, compared with 12 percent of those with only primary school and 8 percent of women with no education (Figure 5.2). Use of contraception also rises as wealth increases, from 4 percent among married women in the lowest wealth category to 20 percent among those in the richest.

Figure 5.2 Differentials in Contraceptive Use



Note: Use of any method among currently married women

LDHS 2007

5.5 TRENDS IN CONTRACEPTIVE USE

Table 5.6 shows trends in contraceptive use over the past 20 years. The survey results indicate a relatively large increase in the late 1980s and 1990s, from 6 to 10 percent of married women. However, there has been only a very slight increase in contraceptive use over the past seven years. The contraceptive prevalence rate has increased from 10 percent of currently married women in the 1999/2000 LDHS to 11 percent in 2007. However, there has been a shift towards greater use of modern methods, especially injectables (Figure 5.3).

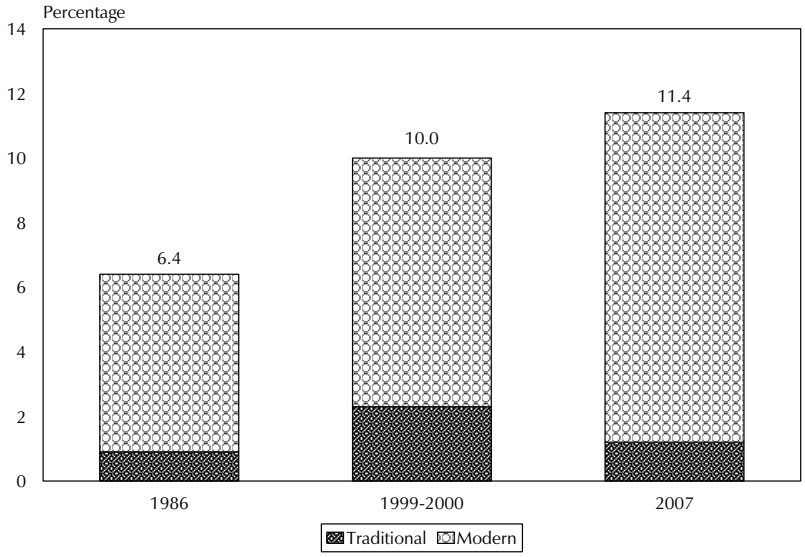
Table 5.6 Trends in current use of contraceptive methods

Percent distribution of currently married women age 15-49 by contraceptive method currently used, Liberia 1986-2007

Method	1986	1999/2000[a]	2007
Any method	6.4	10.0	11.4
Any modern method	5.5	8.1	10.3
Female sterilization	1.1	0.6	0.6
Male sterilization	0.0	0.5	0.0
Pill	3.3	6.1	3.8
IUD	0.6	0.8	0.2
Injectables	0.3	1.0	4.1
Vaginal methods	0.2	0.5	na
Male condom	0.0	1.3	1.6
Any traditional method	0.9	2.6	1.2
Rhythm	0.6	na	1.0
Withdrawal	0.1	na	0.2
Other traditional method	0.2	na	na
Not using	93.6	90.0	88.6
Total	100.0	100.0	100.0
Number of respondents	3,538	9,248	4,540

[a] Refers to women age 13-49; however, the number of married women age 13-14 is so small that it has no effect on the distribution (8 out of 9.248). Also, the percentages sum to more than the total because women could report use of more than one method in the 1999/2000 survey.
na = Not available

Figure 5.3 Trends in Contraceptive Use
(percentage of currently married women using any method)



5.6 Number of Children at First Use of Contraception

Couples use family planning methods to either limit family size or delay the next birth. Couples using family planning as a means to control family size (i.e., to stop having children) adopt contraception when they have already had the number of children they want. When contraception is used to space births, couples may start to use family planning earlier with an intention to delay a possible pregnancy. This may be done before a couple has had their desired number of children. In a culture where smaller family size is becoming a norm, young women adopt family planning at an earlier age than their older counterparts.

Women interviewed in the 2007 LDHS were asked how many children they had at the time they first used a method of family planning. Table 5.7 shows the percent distribution of women by number of living children at the time of first use of contraception, according to current age.

The results indicate that more Liberian women today are adopting family planning methods at lower parities (i.e., with fewer children) than before. This is deduced by the fact that younger women report first having used contraception when they had fewer children than older women. For example, 20 percent of women age 15-24 reported first using before they had any children, compared with only 2 percent of women age 45-49. Older women are far more likely to have waited until they had children, with the largest proportions starting to use contraception only when they had four or more children.

Table 5.7 Number of children at first use of contraception

Percent distribution of women age 15-49 by number of living children at the time of first use of contraception, according to current age, Liberia 2007

Current age	Never used	Number of living children at time of first use of contraception						Total	Number of women
		0	1	2	3	4+	Missing		
15-19	76.1	20.4	2.9	0.2	0.0	0.0	0.5	100.0	1,312
20-24	60.9	20.4	12.3	4.3	0.8	0.1	1.1	100.0	1,363
25-29	59.7	11.2	10.8	8.7	6.6	2.2	0.8	100.0	1,166
30-34	56.1	7.1	9.1	11.2	7.0	9.1	0.3	100.0	956
35-39	58.9	3.7	6.4	8.8	5.3	16.1	0.8	100.0	956
40-44	65.3	3.9	4.8	4.0	5.7	15.9	0.4	100.0	665
45-49	79.1	1.7	2.2	3.1	2.2	11.7	0.0	100.0	674
Total	64.7	11.5	7.4	5.6	3.6	6.4	0.6	100.0	7,092

5.7 KNOWLEDGE OF THE FERTILE PERIOD

An elementary knowledge of reproductive physiology provides a useful background for successful practice of coitus-associated methods such as withdrawal and condoms. Such knowledge is particularly critical in the use of the rhythm method. The 2007 LDHS included a question designed to obtain information on the respondent's understanding of when a woman is most likely to become pregnant during the menstrual cycle. Both women and men were asked, "When do you think a woman can get pregnant: just before her period begins, during her period, just after her period ends, or halfway between two periods?"[2] Table 5.8 provides the results for all women and men and for those who report they are currently using the rhythm method.

Table 5.8 Knowledge of fertile period

Percent distribution of women and men age 15-49 by knowledge of the fertile period during the ovulatory cycle, according to current use of the rhythm method, Liberia 2007

Perceived fertile period	Women			Men		
	Users of rhythm method	Nonusers of rhythm method	Total	Users of rhythm method	Nonusers of rhythm method	Total
Just before her menstrual period begins	3.5	1.7	1.7	(3.9)	3.7	3.7
During her menstrual period	0.0	1.4	1.4	(0.0)	2.6	2.6
Right after her menstrual period has ended	48.4	33.9	34.0	(56.7)	50.2	50.2
Halfway between two menstrual periods	24.4	18.9	19.0	(37.6)	6.4	6.6
Other	0.0	0.0	0.0	(0.0)	0.5	0.5
No specific time	4.2	19.7	19.5	(0.0)	7.7	7.7
Don't know	19.5	23.2	23.1	(1.8)	28.8	28.6
Missing	0.0	1.2	1.2	(0.0)	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women/men	92	7,000	7,092	38	5,971	6,009

Note: Numbers in parentheses are based on 25-49 unweighted cases.

Among all women, less than one in five (19 percent) understand that a woman is most likely to conceive halfway between her menstrual periods. More than one-third wrongly believe that the fertile period is right after a woman's period has ended, while almost one-quarter of women say they do not know when the fertile period falls, and 20 percent believe that there is no specific fertile time.

[2] This question differs slightly from the DHS standard use of the prior question: "From one menstrual period to the next, are there certain days when a woman is more likely to get pregnant if she has sexual relations?" Only if the respondents answer "yes" are they further asked the question as to when.

Knowledge of a woman's ovulatory cycle is much more limited among men than women. Only 7 percent of men know that a woman is most likely to conceive halfway between her menstrual periods and 29 percent say they don't know when a woman is most fertile.

As expected, women who are using the rhythm method are more likely than non-users to know that the fertile time in a woman's menstrual cycle is halfway between periods and far less likely to say that there is no specific fertile time. The same is true for men, though the number of rhythm users is too small to draw meaningful conclusions.

5.8 SOURCE OF CONTRACEPTION

Information on where women obtain their contraceptives is useful for family planning program managers and implementers for logistics planning. In the LDHS, women who reported using a modern contraceptive method at the time of the survey were asked where they obtained the method the last time they acquired it. Because some women may not exactly know in which category the source they use falls (e.g., government or private, health centre or clinic), interviewers were instructed to note the full name of the source or facility. Supervisors and field editors were told to verify that the name and source type were consistent, asking informants in the clusters for the names of local family planning outlets, if necessary. This practice was designed to improve the accuracy of source reporting.

Table 5.9 shows that about half of users (51 percent) obtain their contraceptives from the public sector. Government hospitals are the most common public source (21 percent), followed by government health clinics (19 percent) and government health centers (11 percent).

Table 5.9 Source of modern contraceptive methods

Percent distribution of users of modern contraceptive methods age 15-49 by most recent source of method, according to method, Liberia 2007

Source	Female sterilization	Pill	Injectables	Male condom	Total[1]
Public sector	(18.4)	53.1	65.0	39.0	50.8
Government hospital	(12.7)	20.1	23.9	18.7	20.7
Government health center	(2.9)	10.9	16.7	5.8	10.7
Government health clinic	(0.0)	22.1	24.3	14.1	19.2
Other public	(2.8)	0.0	0.0	0.4	0.2
Private medical sector	(49.3)	37.1	25.4	22.9	30.5
Private hospital or clinic	(49.3)	7.4	3.9	6.6	8.1
Pharmacy	(0.0)	17.1	2.5	12.3	10.1
Private doctor	(0.0)	1.0	1.0	1.1	1.1
Family Planning Association of Liberia	(0.0)	10.4	17.4	2.0	10.3
Private mobile clinic	(0.0)	1.2	0.6	0.9	0.8
Other source	(5.0)	3.4	3.8	33.4	12.4
Shop	(0.0)	1.0	0.1	1.7	0.9
Friend/relatives	(0.0)	2.2	1.5	25.4	8.8
Other	(5.0)	0.1	2.1	6.4	2.8
Don't know	(6.0)	0.0	0.0	0.0	0.2
Missing	(21.3)	6.5	5.9	4.6	6.1
Total	100.0	100.0	100.0	100.0	100.0
Number of women	29	273	265	247	831

Note: Numbers in parentheses are based on 25-49 unweighted users.
[1] Total includes other modern methods with too few users to show separately

About one-third (31 percent) of women use the private medical sector to get their contraceptives. The Family Planning Association of Liberia (10 percent) and pharmacies (10 percent) account for the largest providers in the medical private sector. Eight percent of women obtain their methods from private hospitals and clinics. Twelve percent of women who are using a modern method of contraception get their method from other sources, mostly from friends or relatives.

The type of source differs by method. Whereas two-thirds of injectables users obtain their method from a government source, condom users are almost as likely to use other sources (33 percent) as government sources (39 percent). Just over half of pill users get the method from government facilities, but a sizeable minority (37 percent) depend on the private medical sector.

5.9 COST OF CONTRACEPTION

Information on the cost of obtaining contraception is useful to family planning programs. In the LDHS, women who were using modern methods of contraception were asked how much they paid in total the last time they obtained the method, including the cost of the method and any consultation they may have had. Table 5.10 shows the percentage of women who obtain the method free and, for those who paid, the median cost according to the method and public-private source.

The results indicate that more than half of women who are using a modern method get the method free of charge (57 percent). This proportion is even higher (76 percent) for women who get their methods at a government (public) source. Among those who do pay, the median cost of a packet of pills is about 35 Liberian dollars, and the cost of the contraceptive injection is about 125 Liberian dollars.[3] Because so many women reported either not paying for condoms or not knowing the cost, it was not possible to calculate a median cost for condoms.

Table 5.10 Cost of modern contraceptive methods

Percentage of current users of modern contraception age 15-49 who did not pay for the method and who do not know the cost of the method, and the median cost of the method, by current method, according to source of current method, Liberia 2007

Source of method/cost	Pill	Injectables	Male condom	Total
Public sector				
Percentage free	67.0	76.1	91.0	75.5
Do not know cost	1.7	0.6	8.5	3.6
Median cost in Liberian dollars[1]	29.9	(124.1)	*	49.5
Number of women	145	172	96	422
Private medical sector/other				
Percentage free	28.0	27.8	56.5	38.3
Do not know cost	6.6	5.2	27.3	16.0
Median cost in Liberian dollars[1]	34.9	149.3	*	59.1
Number of women	128	93	150	409
Total				
Percentage free	48.7	59.2	70.0	57.2
Do not know cost	4.0	2.3	20.0	9.7
Median cost in Liberian dollars[1]	34.7	124.7	*	49.8
Number of women	273	265	247	831

Note: Costs are based on the last time current users obtained method. Costs include consultation costs, if any. For condom, costs are per package; for pills, per cycle. Total includes methods with too few users to show separately (e.g., sterilization, IUD, implants, etc.). Numbers in parentheses are based on 25-49 unweighted cases, while an asterisk denotes a figure that is based on fewer than 25 unweighted cases that has been suppressed.
[1] Median cost is based only on those women who reported a cost. Exchange rate: US $1 = approximately 62 Liberian dollars.

5.10 INFORMED CHOICE

Current users of modern methods who are well informed about the side effects and problems associated with methods and know of a range of method options are better placed to make an informed choice about the method they would like to use. Current users of various modern contraceptive methods were asked whether, at the time they adopted the particular method, they were informed about side effects or problems that they might have with the method. Table 5.11 shows the percentage of current users of modern methods who were either informed about side effects or problems of the method used or informed of other methods they could use; these are broken down by method type and source of the method.

[3] One US$ = approximately 62 Liberian dollars.

Table 5.11 Informed choice

Among current users of modern methods age 15-49 who started the last episode of use in the five years preceding the survey, percentage who were informed about possible side effects or problems of that method and the percentage who were informed about other methods they could use, by method and source, by initial source of method, Liberia 2007

	Among women who started last episode of use of modern contraceptive method in the five years preceding the survey:		
Method/source	Percentage who were informed about side effects or problems of method used	Percentage who were informed by a health or family planning worker of other methods that could be used	Number of women
Method			
Pill	47.5	58.9	240
Injectables	49.0	65.6	233
Source of method[1]			
Public sector	48.0	69.2	304
Government hospital	33.0	68.6	116
Government health center	52.8	77.6	69
Government health clinic	59.7	65.1	119
Private medical sector	40.0	37.0	80
Private doctor	(39.7)	(27.0)	31
Private hospital or clinic	40.5	41.2	45
Total	47.1	60.2	502

Note: Table excludes users who obtained their method from friends/relatives. Numbers in parentheses are based on 25-49 unweighted users.
[1] Most recent source

Forty-seven percent of users of modern contraceptives were informed of side effects or health problems of the method they were provided, and 60 percent were told of other methods available. The results indicate that less than half of pill users and injectables users are informed of side effects, and injectables users are somewhat more likely than pill users to be told about other methods they might use.

With regard to the source of supply, users who obtained their methods from public facilities—especially government health clinics—are more likely to be informed about side effects or problems associated with the method than are users who obtain their methods from the private medical sector.

5.11 Future Use of Contraception

An important indicator of the changing demand for family planning is the extent to which nonusers of contraception plan to use family planning in the future. Women who were not currently using a method of contraception were asked about their intention to use family planning in the future. The results are presented in Table 5.12.

Thirty-four percent of currently married nonusers say they intend to use family planning in the future, but 48 percent do not intend to use and 17 percent are unsure. The proportion of those intending to use varies with the number of living children, increasing from 19 percent for those with no child to a peak of 39 percent for those with two children. The proportion who do not intend to use contraception in the future is highest among those with no child.

Table 5.12 Future use of contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method, by intention to use in the future, according to number of living children, Liberia 2007

Intention	Number of living children[1] 0	1	2	3	4+	Total
Intends to use	18.6	33.5	39.4	32.7	34.9	34.4
Unsure	17.0	18.0	16.3	18.5	17.2	17.4
Does not intend to use	63.5	47.1	44.1	48.5	46.9	47.5
Missing	0.9	1.5	0.1	0.4	1.0	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	199	648	777	697	1,700	4,020

[1] Includes current pregnancy

There has been little change since 1986 in the proportion of married nonusers who say they intend to use in the future, from 32 percent in 1986 to 34 percent in 2007. However, there has been a decrease in the proportion who say they do not intend to use (from 57 to 48 percent) and an increase in the proportion who are unsure of their intentions (from 11 to 17 percent).

5.12 Reasons for Not Intending to Use

Table 5.13 presents the main reasons for not intending to use contraception as reported by currently married women who are not using and who do not intend to use a contraceptive method in the future. The most commonly cited reasons for not intending to use are fear of side effects (mentioned by 27 percent), desire for more children (16 percent), and lack of knowledge of methods (11 percent). Seven percent of nonusers said they do not intend to use in the future because they are opposed to using family planning, and an additional 7 percent said that their husbands or partners were opposed to family planning. Other reasons given for not intending to use include menopause/hysterectomy (6 percent), infecundity/subfecundity (5 percent), and health concerns (5 percent). Interestingly, only very small fractions of women cited lack of access or cost as the main reason why they do not intend to use family planning.

Table 5.13 Reason for not intending to use contraception in the future

Percent distribution of currently married women age 15-49 who are not using contraception and who do not intend to use in the future, by main reason for not intending to use, Liberia 2007

Reason	Percent distribution
Fertility-related reasons	
Infrequent sex/no sex	0.7
Menopausal/had hysterectomy	5.9
Subfecund/infecund	5.1
Wants as many children as possible	15.7
Opposition to use	
Respondent opposed	7.1
Husband/partner opposed	6.8
Others opposed	0.2
Religious prohibition	4.0
Lack of knowledge	
Knows no method	10.8
Knows no source	2.8
Method-related reasons	
Health concerns	5.0
Fear of side effects	27.2
Lack of access/too far	0.7
Costs too much	0.2
Inconvenient to use	1.3
Interferes with body's normal process	1.8
Other	1.5
Don't know	2.3
Missing	0.7
Total	100.0
Number of women	1,908

5.13 Preferred Method for Future Use

Demand for specific methods can be assessed by asking nonusers which method they intend to use in the future. Table 5.14 presents information on method preferences for married women who are not using contraception but say they intend to use in the future. More than four in ten women who intend to use contraception in the future say they intend to use injectables, and another four in ten plan to use the pill. Few women intend to use other methods.

Table 5.14 Preferred method of contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method but who intend to use in the future, by preferred method, Liberia 2007

Method	Percent distribution
Female sterilization	1.3
Male sterilization	0.1
Pill	40.6
IUD	3.6
Injectables	44.1
Implants	0.1
Condom	2.0
Female condom	0.0
Periodic abstinence	1.3
Other	1.4
Unsure	5.0
Missing	0.6
Total	100.0
Number of women	1,382

5.14 EXPOSURE TO FAMILY PLANNING MESSAGES

The mass media can be powerful vehicles for conveying family planning messages. Information about the level of public exposure to a particular type of media allows policymakers to use the most effective media for various target groups in the population. To assess the effectiveness of such media on the dissemination of family planning information, all respondents in the LDHS were asked whether they had heard or seen a family planning message in the previous six months on the radio, on television, or in a newspaper or magazine. Women were also asked if they had seen family planning messages on billboards, posters, pamphlets, and t-shirts.

Table 5.15 shows that just over one-third of all women (36 percent) have recently been exposed to family planning messages through at least one type of mass media, compared with 47 percent of men. There are large differences in exposure by type of media; for example, radio messages reach 35 percent of women and 46 percent of men, compared with television messages that only reach 4 percent of women and 7 percent of men. Coverage of family planning messages in the print media (newspapers and magazines) is intermediate between radio and television, reaching 6 percent of women and 14 percent of men.

For all three media types, coverage is higher among those in urban areas than in rural areas. For example, women in urban areas are almost twice as likely as those in rural areas to have been exposed to family planning messages by radio (51 percent vs. 24 percent, respectively). Regional differences also highlight wide ranges of exposure in the media, particularly with radio, which is widely used in Liberia. Only 10 percent of women in South Eastern B region report exposure to family planning messages on the radio, compared with 52 percent of women in Monrovia. Among men, the range is from 30 percent in South Eastern B to 60 percent in Monrovia.

Table 5.15 Exposure to family planning messages

Percentage of women and men age 15-49 who heard or saw a family planning message on the radio or television or in a newspaper in the past few months, according to background characteristics, Liberia 2007

Background characteristic	Women					Men				
	Radio	Tele-vision	News-paper/ magazine	None of these three media sources	Number	Radio	Tele-vision	News-paper/ magazine	None of these three media sources	Number
Age										
15-19	29.7	3.5	6.4	69.5	1,312	24.8	3.4	4.5	74.2	1,156
20-24	38.5	3.7	6.5	60.3	1,363	44.4	6.1	16.3	53.5	1,039
25-29	37.3	3.5	5.3	62.0	1,166	44.2	6.8	14.8	54.5	917
30-34	40.5	4.8	7.5	59.0	956	54.2	8.5	15.9	44.4	766
35-39	37.4	5.1	8.1	62.1	956	55.5	7.1	15.0	43.3	830
40-44	35.3	3.7	4.6	64.5	665	59.6	9.3	21.0	39.7	687
45-49	24.4	2.0	4.7	74.6	674	54.0	7.9	15.4	45.3	613
Residence										
Urban	50.6	7.5	12.4	48.1	2,998	58.4	13.6	26.0	39.8	2,426
Rural	23.8	1.1	1.8	75.8	4,094	37.8	2.0	5.9	61.4	3,583
Region										
Monrovia	52.2	9.0	14.8	46.3	2,329	59.7	16.2	28.3	38.6	1,862
North Western	26.7	1.1	4.0	71.1	509	39.5	4.6	8.6	60.3	405
South Central	29.1	1.5	2.1	70.8	1,011	49.2	3.2	12.0	49.9	894
South Eastern A	30.9	1.5	1.8	69.0	375	46.2	4.2	13.2	51.6	357
South Eastern B	10.0	0.2	0.3	89.9	451	29.7	1.6	6.2	68.8	407
North Central	28.4	1.3	2.1	71.5	2,417	37.1	1.5	4.8	62.0	2,084
Education										
No education	23.9	1.2	1.4	75.8	3,005	30.7	1.4	1.3	69.3	1,056
Primary	31.1	1.6	3.7	68.3	2,280	30.2	2.5	3.9	69.2	1,895
Secondary and higher	59.0	10.9	17.6	39.3	1,799	61.3	11.1	24.7	36.7	3,056
Wealth quintile										
Lowest	13.7	0.4	0.7	86.1	1,251	29.7	1.7	4.4	69.9	1,062
Second	22.8	0.8	1.0	76.8	1,332	38.5	1.3	4.8	61.1	1,181
Middle	32.9	0.7	2.7	66.7	1,359	43.5	3.6	9.0	55.0	1,170
Fourth	39.5	2.7	6.9	59.5	1,580	53.5	7.4	17.7	45.0	1,160
Highest	60.3	12.9	17.7	38.2	1,569	60.6	16.7	29.8	37.2	1,437
Total 15-49	35.2	3.8	6.3	64.1	7,092	46.1	6.7	14.0	52.6	6,009

Strong differences occur by education for both women and men. For example, 18 percent of women with at least some secondary school say they recently saw a family planning message in a newspaper or magazine, compared with only 1 percent of those with no education. The most striking differences in exposure to family planning messages occur by wealth quintile. Only 14 percent of women in the lowest wealth quintile heard a family planning message on the radio, compared with 60 percent of those in the highest wealth quintile. Differences are almost equally as strong for the other types of media and for men.

5.15 CONTACT OF NONUSERS WITH FAMILY PLANNING PROVIDERS

In the 2007 LDHS, women who were not using any family planning method were asked if they had visited a health facility in the preceding 12 months for care for themselves or their children and, if so, whether any health worker at the facility spoke to them about family planning. These questions can assess the level of so-called "missed opportunities" to inform women about contraception.

The results shown in Table 5.16 indicate that 36 percent of nonusers visited a health facility where someone discussed family planning with them, and 25 percent visited a facility in which no one

discussed family planning. Thirty-nine percent of women did not visit a health facility in the 12 months before the survey. These results imply that well over half of the female nonusers who visit health facilities discuss family planning during those visits.

The data show that among nonusers, women who are younger or older, those in rural areas and in South Eastern B region, and those with less education and in lower wealth quintiles are less likely than other nonusers to have visited a health facility in the 12 months preceding the survey. Consequently, they are also less likely to have discussed family planning during a visit to a health facility during this time.

Table 5.16 Contact of nonusers with family planning providers

Percent distribution of women age 15-49 who are not using contraception by whether visited a health facility and discussed family in the past 12 months, according to background characteristics, Liberia 2007

Background characteristic	Visited a health facility in the past 12 months and: Discussed family planning	Did not discuss family planning	Did not visit a health facility	Total	Number of women
Age					
15-19	21.2	25.8	52.9	100.0	1,168
20-24	43.6	24.4	31.9	100.0	1,170
25-29	43.1	26.2	30.7	100.0	979
30-34	42.5	24.3	33.1	100.0	811
35-39	41.5	23.6	35.0	100.0	791
40-44	34.6	23.4	42.1	100.0	588
45-49	27.6	23.2	49.2	100.0	642
Residence					
Urban	44.5	22.2	33.3	100.0	2,373
Rural	31.2	26.2	42.7	100.0	3,776
Region					
Monrovia	47.2	20.6	32.2	100.0	1,817
North Western	25.4	23.5	51.1	100.0	458
South Central	34.2	28.4	37.4	100.0	912
South Eastern A	31.1	24.6	44.3	100.0	335
South Eastern B	19.8	35.1	45.1	100.0	423
North Central	34.5	24.6	40.9	100.0	2,203
Education					
No education	31.2	27.1	41.7	100.0	2,782
Primary	35.0	23.4	41.6	100.0	2,028
Secondary and higher	49.1	21.1	29.7	100.0	1,332
Wealth quintile					
Lowest	24.0	27.0	49.0	100.0	1,194
Second	29.2	28.3	42.5	100.0	1,256
Middle	37.7	24.3	37.9	100.0	1,180
Fourth	48.5	21.8	29.7	100.0	1,290
Highest	41.4	21.8	36.9	100.0	1,228
Total	36.3	24.6	39.0	100.0	6,149

5.16 HUSBAND/PARTNER'S KNOWLEDGE OF WOMEN'S CONTRACEPTIVE USE

Use of family planning methods is facilitated when couples discuss and agree on the issue. To assess the extent to which women use contraception without telling their partners, the 2007 LDHS asked married women whether their husbands/partners knew that they were using a method of family planning.

Table 5.17 shows that 68 percent of women say that their husbands or partners know about their use of contraception; only 7 percent say that their husbands/partners do not know. One-quarter of married women who are using contraception are not sure whether their spouse knows about their use of family planning.

Table 5.17 Husband/partner's knowledge of women's use of contraception

Percent distribution of currently married women age 15-49 who are using a contraceptive method by whether they report that their husband/partner knows about their use, according to background characteristics, Liberia 2007

Background characteristic	Knows about wife's contraceptive use[1]	Does not know about wife's contraceptive use	Unsure whether knows/ missing	Total	Number of women
Age					
15-19	*	*	*	100.0	13
20-24	71.7	4.8	23.6	100.0	52
25-29	71.4	7.1	21.6	100.0	114
30-34	71.6	3.8	24.6	100.0	103
35-39	64.7	6.1	29.2	100.0	143
40-44	65.8	11.0	23.2	100.0	68
45-49	(78.0)	(12.2)	(9.8)	100.0	26
Residence					
Urban	62.8	7.2	29.9	100.0	290
Rural	75.1	6.4	18.5	100.0	230
Region					
Monrovia	57.5	5.5	37.0	100.0	220
North Western	76.6	18.7	4.8	100.0	34
South Central	75.4	12.9	11.7	100.0	70
South Eastern A	83.9	0.9	15.2	100.0	27
South Eastern B	83.3	6.7	10.0	100.0	18
North Central	74.1	4.6	21.3	100.0	151
Education					
No education	72.0	9.7	18.3	100.0	183
Primary	70.0	7.6	22.4	100.0	156
Secondary and higher	62.9	3.4	33.7	100.0	180
Wealth quintile					
Lowest	78.3	10.3	11.3	100.0	34
Second	76.5	11.3	12.2	100.0	57
Middle	74.8	7.5	17.7	100.0	135
Fourth	68.4	4.8	26.8	100.0	135
Highest	57.4	5.8	36.8	100.0	159
Total	68.2	6.9	24.9	100.0	520

Note: A figure in parentheses is based on 25-49 unweighted cases; an asterisk represents a figure based on fewer than 25 cases that has been suppressed.
[1] Includes women who report use of male sterilization, male condoms, or withdrawal

Communication about family planning use appears to be better among rural than urban couples. A larger proportion of rural women than urban women say that their husbands or partners are aware of their contraceptive use, and a smaller proportion say they are not sure if their husbands or partners know. Similarly, a higher proportion of women in South Eastern A and South Eastern B regions say that their spouses are aware of their use of contraception compared with women in other regions. Interestingly, women with less education and those in the lower wealth quintiles are more likely than other women to say that their husbands/partners know that they are using family planning.

5.17 MEN'S ATTITUDES TOWARDS CONTRACEPTION

The 2007 LDHS assessed men's attitudes toward contraception by asking male respondents whether they agreed or disagreed with two statements about family planning use: 1) contraception is women's business and a man should not have to worry about it; and 2) women who use contraception may become promiscuous. Results are shown in Table 5.18.

The data show that, on the whole, Liberian men feel they should take some responsibility towards family planning, with almost two-thirds rejecting the statement that contraception is a woman's business and men should not have to worry about it. Only 13 percent of men agree with the statement, and 23 percent say they don't know.

Older men and those with at least some secondary education are more likely than other men to disagree that contraception is only a woman's business. Similarly, urban men and those in Monrovia are more likely to disagree with the statement. The proportion of men who do not feel that women alone should deal with family planning increases steadily as the wealth quintile increases.

With regard to the statement that women who use contraception may become promiscuous, men are fairly evenly divided between those who agree with the statement, those who disagree, and those who say they don't know. Differentials are similar to that for the statement on contraception being a woman's business; however, the differences are more muted.

Table 5.18 Male attitudes towards contraceptive use

Among men age 15-49, attitudes about women's use of contraceptive methods, by background characteristics, Liberia 2007

Background characteristic	Contraception is women's business					Women who use contraception may become promiscuous					Total 15-49
	Agree	Disagree	Don't know	Missing	Total	Agree	Disagree	Don't know	Missing	Total	
Age											
15-19	9.1	37.1	53.5	0.3	100.0	21.2	20.8	57.6	0.4	100.0	1,156
20-24	13.3	66.8	19.2	0.6	100.0	35.7	39.1	24.9	0.4	100.0	1,039
25-29	12.3	67.5	19.7	0.5	100.0	34.9	42.3	22.3	0.5	100.0	917
30-34	15.8	71.4	12.7	0.2	100.0	33.3	46.2	20.4	0.2	100.0	766
35-39	13.5	72.9	13.4	0.2	100.0	37.9	44.0	17.5	0.6	100.0	830
40-44	10.8	76.7	12.5	0.0	100.0	36.9	48.1	14.4	0.6	100.0	687
45-49	14.0	70.8	15.0	0.2	100.0	34.5	44.4	20.9	0.2	100.0	613
Residence											
Urban	10.7	74.7	14.4	0.2	100.0	37.3	45.1	17.2	0.5	100.0	2,426
Rural	13.7	57.1	28.9	0.4	100.0	29.8	35.2	34.6	0.4	100.0	3,583
Region											
Monrovia	10.3	75.1	14.4	0.2	100.0	35.8	47.7	16.2	0.3	100.0	1,862
North Western	9.8	58.6	31.3	0.2	100.0	33.1	35.0	31.6	0.2	100.0	405
South Central	23.6	55.1	21.2	0.2	100.0	37.3	37.8	24.4	0.5	100.0	894
South Eastern A	21.5	52.9	25.6	0.0	100.0	37.1	35.7	27.0	0.2	100.0	357
South Eastern B	6.7	60.3	32.7	0.3	100.0	29.1	24.4	46.0	0.4	100.0	407
North Central	9.7	62.1	27.7	0.5	100.0	28.1	36.6	34.8	0.5	100.0	2,084
Education											
No education	11.1	56.1	32.4	0.4	100.0	29.3	34.6	35.6	0.6	100.0	1,056
Primary	13.9	48.0	37.5	0.5	100.0	27.6	28.2	43.6	0.6	100.0	1,895
Secondary and higher	12.0	77.0	10.8	0.1	100.0	37.3	47.6	14.8	0.3	100.0	3,056
Wealth quintile											
Lowest	14.9	51.3	33.7	0.1	100.0	29.6	32.6	37.4	0.4	100.0	1,062
Second	12.7	58.3	28.3	0.8	100.0	31.7	32.8	34.8	0.8	100.0	1,181
Middle	12.1	62.4	25.1	0.4	100.0	30.9	36.3	32.3	0.4	100.0	1,170
Fourth	14.3	68.9	16.5	0.3	100.0	36.6	45.2	17.8	0.3	100.0	1,160
Highest	9.3	76.2	14.4	0.1	100.0	34.5	46.9	18.4	0.2	100.0	1,437
Total 15-49	12.5	64.2	23.0	0.3	100.0	32.8	39.2	27.6	0.4	100.0	6,009

OTHER PROXIMATE DETERMINANTS OF FERTILITY 6

This chapter addresses the principal factors, other than contraception, that affect a woman's risk of becoming pregnant. These factors include marriage, polygyny, sexual activity, postpartum amenorrhea, abstinence from sexual activity, and onset of menopause. Direct measures of the beginning of exposure to pregnancy and the frequency of exposure are also measured in this chapter.

6.1 CURRENT MARITAL STATUS

Marriage is a primary indication of the regular exposure of women to the risk of pregnancy and therefore is important for the understanding of fertility. Populations in which age at first marriage is low tend to have early childbearing and high fertility.

Table 6.1 presents the percent distribution of women and men by marital status, according to age. The term "married" refers to legal or formal marriage, and "living together" designates an informal union in which a man and a woman live together, even if a formal civil or religious ceremony has not occurred. In later tables that do not list "living together" as a separate category, these women and men are included in the "currently married" group. Respondents who are currently married, widowed, divorced, or separated are referred to as "ever married."

Table 6.1 Current marital status

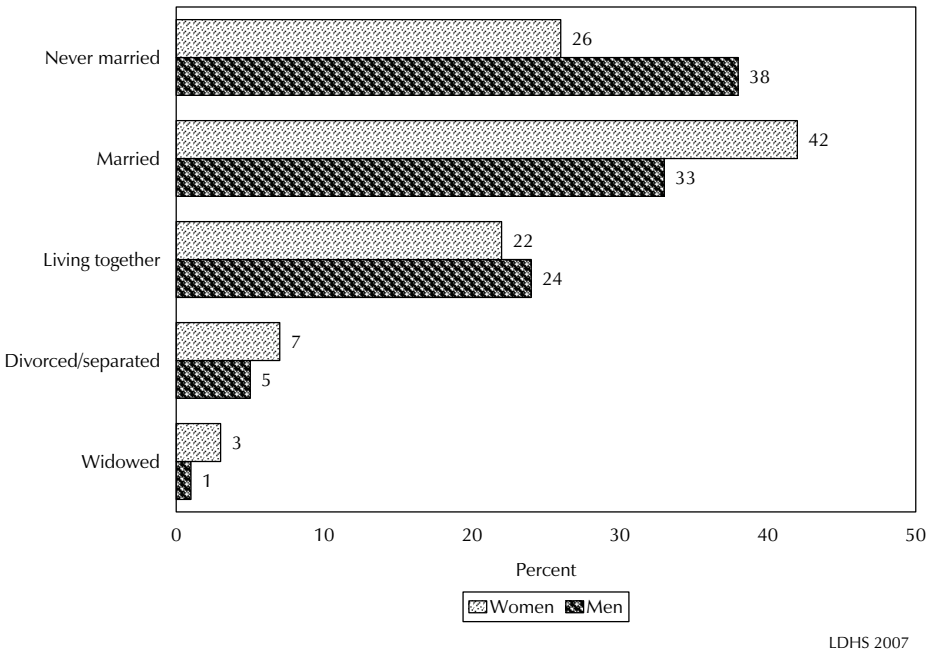
Percent distribution of women and men age 15-49 by current marital status, according to age, Liberia 2007

Age	Marital status						Total	Percentage currently in union	Number of respondents
	Never married	Married	Living together	Divorced	Separated	Widowed			
				WOMEN					
15-19	79.7	7.6	11.5	0.1	1.0	0.0	100.0	19.2	1,312
20-24	38.5	26.8	27.5	0.3	6.3	0.7	100.0	54.2	1,363
25-29	16.3	45.8	26.9	1.1	9.0	1.0	100.0	72.6	1,166
30-34	5.4	51.8	32.4	1.6	7.5	1.2	100.0	84.2	956
35-39	2.8	62.3	22.6	1.9	7.3	3.0	100.0	84.9	956
40-44	1.5	63.6	18.2	3.0	7.3	6.3	100.0	81.9	665
45-49	0.5	65.5	14.9	1.8	5.4	12.0	100.0	80.4	674
Total 15-49	26.1	41.6	22.4	1.2	6.1	2.6	100.0	64.0	7,092
				MEN					
15-19	96.9	0.4	2.2	0.0	0.2	0.0	100.0	2.6	1,156
20-24	69.6	9.1	18.3	0.7	2.2	0.2	100.0	27.3	1,039
25-29	29.0	25.8	36.1	1.7	7.2	0.1	100.0	61.9	917
30-34	13.4	40.4	39.0	1.6	5.3	0.4	100.0	79.4	766
35-39	4.9	55.0	32.8	1.2	4.5	1.7	100.0	87.7	830
40-44	1.0	65.1	28.1	0.6	3.3	1.8	100.0	93.2	687
45-49	2.4	67.1	23.2	1.4	4.9	1.0	100.0	90.3	613
Total 15-49	37.8	32.6	24.2	1.0	3.7	0.7	100.0	56.8	6,009

In general, marriage and cohabitation are considered to be primary factors of exposure to the risk of pregnancy. Table 6.1 and Figure 6.1 indicate that in Liberia, 26 percent of women age 15-49 have never married, 42 percent are currently married, 22 percent are living together with a man, and 10 percent are divorced, separated, or widowed. Among adolescent women age 15-19, only 19 percent are married or living together. As expected, the percentage married increases with age. Widowhood also increases with age, from less than 1 percent below age 25 to 12 percent among women age 45-49.

The proportion of men who have never married is higher (38 percent) than that of women (26 percent), most probably because men tend to marry later than women. One-third of men are formally married, 24 percent are in informal unions, and 5 percent are either divorced, separated, or widowed. Unlike the pattern among women, the proportion of men who are widowed increases only slightly with age, possibly because of higher rates of remarriage among men.

Figure 6.1 Current Marital Status of Women and Men



6.2 POLYGYNY

Polygyny (having more than one wife) is common in Africa and has implications for frequency of sexual activity and fertility. In the LDHS, the extent of polygyny was measured by asking all currently married female respondents whether their husbands or partners had other wives, and if so, how many. Table 6.2.1 shows the percent distribution of currently married women by the number of co-wives, according to background characteristics.

The data show that 16 percent of married women in Liberia are in polygynous unions. Thirteen percent report that they have only one co-wife, and 3 percent say they have two or more co-wives. The percentage of women in polygynous unions increases with age, from 10 percent of women age 15-19 to 25 percent of those who are 45-49. Further, polygyny is more prevalent in rural than in urban areas and is more common among women with lower levels of education. There is marked regional variation in polygyny; it ranges from a low of 6 percent in Monrovia to a high of 23 to 24 percent in South Eastern A and South Eastern B regions.

Table 6.2.1 Number of women's co-wives

Percent distribution of currently married women age 15-49 by number of co-wives, according to background characteristics, Liberia 2007

Background characteristic	Number of co-wives				Total	Number of women
	0	1	2+	Missing		
Age						
15-19	84.0	9.2	1.1	5.7	100.0	251
20-24	81.7	11.6	0.6	6.0	100.0	739
25-29	78.2	13.5	1.3	7.0	100.0	847
30-34	81.0	10.7	3.1	5.2	100.0	805
35-39	77.3	14.1	3.6	5.1	100.0	812
40-44	74.5	16.5	4.3	4.7	100.0	545
45-49	71.9	15.1	9.5	3.6	100.0	541
Residence						
Urban	87.2	7.6	1.6	3.6	100.0	1,541
Rural	73.6	15.9	4.1	6.4	100.0	2,999
Region						
Monrovia	89.5	5.2	1.2	4.1	100.0	1,157
North Western	81.7	13.7	4.1	0.5	100.0	353
South Central	83.1	13.1	2.6	1.2	100.0	688
South Eastern A	75.4	19.6	3.7	1.3	100.0	276
South Eastern B	74.8	19.8	3.8	1.6	100.0	297
North Central	69.2	16.1	4.5	10.2	100.0	1,769
Education						
No education	73.4	16.9	4.8	4.9	100.0	2,374
Primary	79.5	11.8	1.9	6.8	100.0	1,287
Secondary and higher	89.5	4.8	0.9	4.8	100.0	874
Wealth quintile						
Lowest	73.5	16.0	3.9	6.5	100.0	942
Second	73.4	16.8	3.1	6.7	100.0	994
Middle	73.8	15.5	3.5	7.2	100.0	950
Fourth	82.7	10.7	4.3	2.2	100.0	872
Highest	90.5	4.6	1.0	3.9	100.0	781
Total	78.2	13.1	3.2	5.4	100.0	4,540

Note: Total includes some cases with information missing on education

Data on polygynous unions among currently married men are given in Table 6.2.2. Only 8 percent of men are in polygynous unions, which is half the proportion of women (16 percent). However, as with women, the proportion of married men who report having two or more wives is higher among older men, men in rural areas, those who live in South Eastern A and South Eastern B regions, those with lower education, and those in the lower wealth quintiles.

Table 6.2.2 Number of men's wives

Percent distribution of currently married men age 15-49 by number of wives, according to background characteristics, Liberia 2007

Background characteristic	Number of wives 1	2+	Total	Number of men
Age				
15-19	*	*	100.0	30
20-24	96.8	3.2	100.0	284
25-29	95.8	4.2	100.0	568
30-34	92.7	7.3	100.0	609
35-39	91.2	8.8	100.0	729
40-44	92.2	7.8	100.0	641
45-49	87.7	12.3	100.0	554
Residence				
Urban	97.0	3.0	100.0	1,125
Rural	90.1	9.9	100.0	2,287
Region				
Monrovia	98.1	1.9	100.0	847
North Western	89.6	10.4	100.0	259
South Central	95.2	4.8	100.0	523
South Eastern A	85.1	14.9	100.0	225
South Eastern B	85.0	15.0	100.0	211
North Central	90.6	9.4	100.0	1,347
Education				
No education	89.8	10.2	100.0	754
Primary	90.7	9.3	100.0	832
Secondary and higher	94.2	5.8	100.0	1,825
Wealth quintile				
Lowest	89.3	10.7	100.0	739
Second	89.6	10.4	100.0	776
Middle	91.1	8.9	100.0	698
Fourth	95.1	4.9	100.0	586
Highest	98.5	1.5	100.0	613
Total 15-49	92.4	7.6	100.0	3,413

Note: Total includes some cases with information missing on education. An asterisk indicates a figure is based on fewer than 25 unweighted cases and has been suppressed.

6.3 AGE AT FIRST MARRIAGE

Marriage is generally associated with fertility because it is correlated with exposure to risk of conception. The duration of exposure to the risk of pregnancy depends primarily on the age at which women first marry. On average, women who marry earlier have their first child earlier and give birth to more children, contributing to higher fertility rates.

The proportion of women and men who are married by specific exact ages and the median age at first marriage are shown in Table 6.3. Among women age 25-49 at the time of the survey, almost half (46 percent) had married by age 18, and three-quarters were married by age 22. The median age at first marriage is 18.4 years for women age 25-49. Women who are currently in their 20s have a slightly higher median age at first marriage than older women, indicating that younger women may be marrying at later ages than women did in the past.

Table 6.3 also shows that men marry at considerably older ages than women. Among men age 25-49, only 10 percent married by age 18, compared with 46 percent of women. The median age at first marriage for men is almost 24, compared with 18 among women. Unlike women, it appears that younger men may be marrying at slightly younger ages than older men did.

Table 6.3 Age at first marriage

Percentage of women and men age 15-49 who were first married by specific exact ages and median age at first marriage, according to current age, Liberia 2007

	Percentage first married by exact age:					Percentage never		Median age at first
Current age	15	18	20	22	25	married	Number	marriage
				WOMEN				
15-19	5.8	na	na	na	na	79.7	1,312	a
20-24	10.8	37.9	51.4	na	na	38.5	1,363	19.7
25-29	13.6	41.3	57.7	70.0	79.5	16.3	1,166	18.9
30-34	14.4	47.4	62.7	77.0	86.7	5.4	956	18.3
35-39	16.1	46.9	64.0	74.5	85.5	2.8	956	18.3
40-44	18.6	53.5	68.5	77.3	85.9	1.5	665	17.7
45-49	14.6	44.2	62.9	78.5	88.3	0.5	674	18.5
20-49	14.2	44.2	59.9	na	na	14.0	5,780	18.6
25-49	15.2	46.1	62.6	74.9	84.7	6.4	4,417	18.4
				MEN				
15-19	0.0	na	na	na	na	96.8	1,156	a
20-24	0.2	7.7	16.1	na	na	69.6	1,039	a
25-29	0.0	10.3	22.8	39.2	61.6	29.0	917	23.4
30-34	0.4	11.6	22.1	36.0	59.2	13.4	766	23.9
35-39	0.4	9.4	22.0	37.3	58.0	4.9	830	23.6
40-44	0.7	9.7	23.2	36.8	57.0	1.0	687	24.0
45-49	0.4	8.3	19.0	33.6	50.9	2.4	613	24.9
20-49	0.3	9.5	20.7	na	na	23.8	4,853	a
25-49	0.4	10.0	21.9	36.8	57.8	11.3	3,814	23.9

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.
na = Not applicable due to censoring
a = Omitted because less than 50 percent of the respondents married for the first time before reaching the beginning of the age group

Table 6.4.1 shows the median age at first marriage among women age 20-49 by current age and background characteristics. Among women, the median age at first marriage is consistently lower in rural areas than in urban areas, except for the age group 45-49, where it is the same in rural and urban areas. Across regions, Monrovia has the highest median age at first marriage (19.8 years for women age 25-49), more than two years later than women in South Eastern B (17.2 years). Similarly, there is an almost three-year difference in the median age at marriage among women with no education (17.8 years) and those with at least some secondary education (20.6 years). The variation by wealth quintile is not consistent.

Table 6.4.2 shows the median age at first marriage among men age 25-49 by current age and background characteristics. Among men as among women, the median age at first marriage is also higher among those in urban areas, those living in Monrovia, and those with at least some secondary education. However, unlike the lack of a pattern among women in the variation by wealth quintile, the data for men show a consistent increase in the median age at marriage as wealth quintile increases.

Table 6.4.1 Median age at first marriage: Women

Median age at first marriage among women by five-year age groups, and for the total age 20-49 and age 25-49, according to background characteristics, Liberia 2007

Background characteristic	Age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	a	20.6	19.1	19.6	18.1	18.5	20.0	19.4
Rural	18.2	18.1	17.8	17.7	17.4	18.5	18.0	17.9
Region								
Monrovia	a	21.0	19.6	19.9	18.6	18.7	a	19.8
North Western	17.8	20.1	17.5	17.6	16.9	18.6	18.3	18.5
South Central	19.7	17.9	17.9	18.5	16.9	18.9	18.3	18.1
South Eastern A	18.0	18.4	17.7	17.5	17.1	17.8	17.8	17.7
South Eastern B	a	17.6	17.3	17.0	16.8	17.3	17.6	17.2
North Central	18.2	17.9	18.1	17.6	17.6	18.5	18.0	18.0
Education								
No education	17.4	17.7	17.5	17.9	17.4	18.3	17.7	17.8
Primary	18.6	18.4	18.2	17.2	17.3	18.8	18.2	18.0
Secondary and higher	a	22.6	20.0	20.3	18.7	20.1	a	20.6
Wealth quintile								
Lowest	17.4	18.2	17.9	17.6	17.7	18.8	17.9	18.1
Second	18.2	17.5	17.3	17.9	17.1	18.1	17.7	17.6
Middle	18.7	18.6	17.8	17.6	16.9	18.6	18.1	17.9
Fourth	a	19.7	18.5	18.4	17.9	18.2	19.0	18.5
Highest	a	21.4	20.0	20.6	18.6	19.2	a	20.2
Total	19.7	18.9	18.3	18.3	17.7	18.5	18.6	18.4

Note: The age at first marriage is defined as the age at which the woman began living with her first spouse/partner.
a = Omitted because less than 50 percent of the women married for the first time before reaching the beginning of the age group

Table 6.4.2 Median age at first marriage: Men

Median age at first marriage among men by five-year age groups, and for the total age 25-49, according to background characteristics, Liberia 2007

Background characteristic	Age					Men age 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	a	25.9	24.8	25.3	25.9	a
Rural	22.2	23.1	22.9	22.7	24.3	22.9
Region						
Monrovia	a	25.3	25.3	25.4	26.0	a
North Western	23.2	23.1	24.4	24.1	26.2	23.8
South Central	22.5	23.6	23.8	24.1	24.3	23.5
South Eastern A	21.4	23.5	23.6	23.7	23.7	23.2
South Eastern B	23.2	24.3	23.5	23.5	23.5	23.6
North Central	22.2	23.4	22.5	22.2	24.3	22.7
Education						
No education	22.4	23.6	22.9	22.6	24.4	23.2
Primary	22.5	23.0	22.9	25.0	24.7	23.1
Secondary and higher	24.4	24.6	23.9	24.2	25.2	24.4
Wealth quintile						
Lowest	21.2	22.6	22.8	22.2	24.2	22.3
Second	22.4	23.0	22.7	23.6	24.2	23.0
Middle	22.8	24.3	23.6	23.0	24.0	23.5
Fourth	a	24.9	24.1	24.5	26.0	24.8
Highest	a	25.6	25.8	25.5	26.2	a
Total	23.4	23.9	23.6	24.0	24.9	23.9

Note: The age at first marriage is defined as the age at which the man began living with his first spouse/partner.
a = Omitted because less than 50 percent of the men married for the first time before reaching the beginning of the age group

6.4 AGE AT FIRST SEXUAL INTERCOURSE

While age at first marriage is often used as a proxy for first exposure to intercourse, the two events do not necessarily occur at the same time. Women and men sometimes engage in sexual relations before marriage. In the 2007 LDHS, women and men were asked how old they were when they first had sexual intercourse. Table 6.5 presents these results.

One-fifth of women age 25-49 report that they had sexual intercourse before age 15 and three-quarters report that they had sex before age 18. By age 20, 88 percent of women have had sexual intercourse. The median age at first intercourse is 16.2 among women, with almost no differences across age groups.

Table 6.5 Age at first sexual intercourse

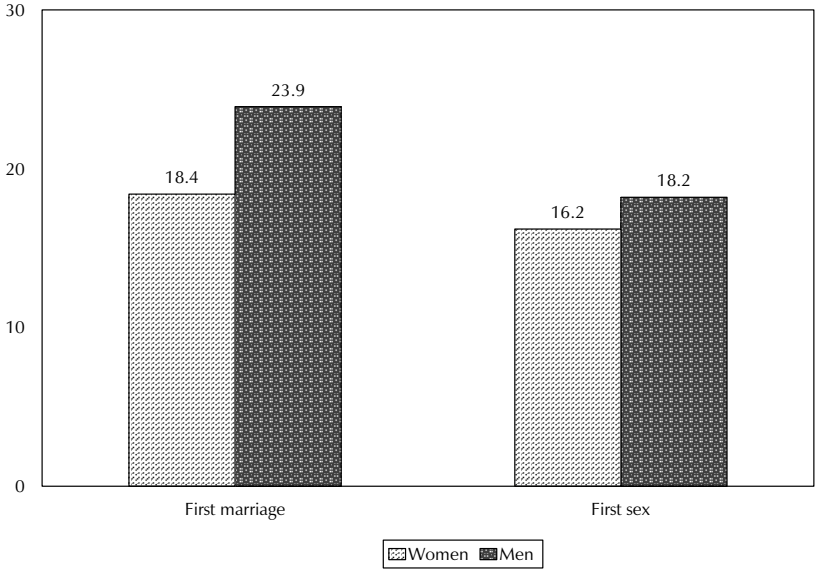
Percentage of women and men age 15-49 who had first sexual intercourse by specific exact ages, percentage who never had intercourse, and median age at first intercourse, according to current age, Liberia 2007

	Percentage who had first sexual intercourse by exact age:					Percentage who never had		Median age at first
Current age	15	18	20	22	25	intercourse	Number	intercourse
				WOMEN				
15-19	18.7	na	na	na	na	26.7	1,312	a
20-24	15.8	79.8	91.9	na	na	0.9	1,363	16.3
25-29	19.8	77.0	89.4	92.6	92.7	0.1	1,166	16.3
30-34	21.0	78.8	88.9	92.3	92.9	0.0	956	16.2
35-39	21.9	80.4	88.0	90.6	91.1	0.0	956	16.1
40-44	21.5	79.3	86.4	89.0	89.7	0.0	665	16.1
45-49	16.9	74.8	84.8	89.6	90.3	0.0	674	16.3
20-49	19.3	78.5	88.8	na	na	0.2	5,780	16.2
25-49	20.3	78.1	87.8	91.1	91.6	0.0	4,417	16.2
				MEN				
15-19	8.6	na	na	na	na	51.6	1,156	a
20-24	8.3	53.6	82.8	na	na	5.7	1,039	17.8
25-29	6.0	51.3	78.8	92.4	96.7	1.3	917	17.9
30-34	8.0	50.3	77.4	90.0	96.5	0.2	766	18.0
35-39	6.4	48.3	75.0	90.0	95.4	0.3	830	18.1
40-44	3.9	40.2	73.3	87.8	94.1	0.0	687	18.5
45-49	1.8	43.0	70.5	88.6	93.8	0.0	613	18.4
20-49	6.1	48.5	77.0	na	na	1.5	4,853	18.1
25-49	5.5	47.1	75.4	90.0	95.5	0.4	3,814	18.2

na = Not applicable due to censoring
a = Omitted because less than 50 percent of the respondents had intercourse for the first time before reaching the beginning of the age group

As with marriage, the median age at first sex among men is higher than for women (18.2 and 16.2 years, respectively). For example, less than half of men report having had sex before age 18, compared with three-quarters of women. However, whereas median age at first intercourse does not change across age groups of women, it shows some evidence of a slight decline among men from 18.4 years for men age 45-49 to 17.8 years for men age 20-24. As shown in Figure 6.2, Liberian women and men are initiating sexual activity at a much earlier age than marriage.

Figure 6.2 Median Age at First Marriage and First Sex



Note: Data refer to those age 25-49.

LDHS 2007

Table 6.6.1 presents the median age at first sexual intercourse for different cohorts of women by background characteristics. Rural women have their first sexual intercourse at slightly younger ages than their urban counterparts. Among the regions, median age at first sex is lowest in South Eastern A region and highest in North Western region. The median age at first sexual intercourse is higher among women with secondary education than those with primary or no education, and is higher among women in the highest wealth quintile than those in the lower wealth quintiles.

Table 6.6.1 Median age at first intercourse: Women

Median age at first sexual intercourse among women by five-year age groups, and for the total age 20-49 and age 25-49, according to background characteristics, Liberia 2007

Background characteristic	Age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	16.6	16.6	16.3	16.2	16.4	16.2	16.4	16.4
Rural	16.1	16.1	16.1	16.0	16.0	16.4	16.1	16.1
Region								
Monrovia	16.6	16.6	16.3	16.2	16.3	16.0	16.4	16.3
North Western	15.9	17.7	16.5	16.7	17.6	18.0	16.9	17.2
South Central	16.4	16.3	16.2	16.3	16.3	16.4	16.3	16.3
South Eastern A	15.7	16.0	15.7	15.8	15.5	16.0	15.8	15.8
South Eastern B	16.4	16.1	16.0	16.1	15.8	15.8	16.1	16.0
North Central	16.2	15.9	16.2	15.9	16.0	16.4	16.1	16.1
Education								
No education	15.8	15.9	16.2	16.0	16.1	16.3	16.0	16.1
Primary	16.2	16.2	15.9	16.1	15.9	16.1	16.1	16.0
Secondary and higher	16.9	17.2	16.6	16.4	16.4	17.8	16.8	16.8
Wealth quintile								
Lowest	15.9	16.0	16.1	16.0	15.8	16.7	16.0	16.1
Second	16.0	15.9	16.2	16.0	16.4	16.3	16.1	16.2
Middle	16.4	16.3	15.9	16.2	15.8	16.2	16.1	16.1
Fourth	16.4	16.4	16.5	16.0	16.1	16.0	16.3	16.2
Highest	16.7	16.8	16.2	16.3	16.4	16.5	16.5	16.5
Total	16.3	16.3	16.2	16.1	16.1	16.3	16.2	16.2

Table 6.6.2 presents the same information for men. Rural and urban men have their first sexual experience at almost the same ages. Educational differentials are also small. As is the case among women, median age at first intercourse among men is lowest in South Eastern A region and highest in North Western region.

Table 6.6.2 Median age at first intercourse: Men

Median age at first sexual intercourse among men by five-year age groups, and for the total age 20-49 and age 25-49, according to background characteristics, Liberia 2007

Background characteristic	Age						Men age 20-49	Men age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	17.7	17.9	17.8	18.2	18.3	18.3	18.0	18.1
Rural	17.9	17.9	18.1	18.0	18.5	18.6	18.2	18.2
Region								
Monrovia	17.6	17.7	17.6	18.2	18.2	18.2	17.9	18.0
North Western	18.5	18.1	19.3	19.2	19.5	17.7	18.5	18.6
South Central	17.5	17.2	17.9	17.9	18.5	18.8	17.9	18.0
South Eastern A	17.3	17.4	17.5	17.6	18.6	17.7	17.7	17.8
South Eastern B	18.3	18.1	18.2	17.7	18.6	18.0	18.2	18.2
North Central	17.9	18.3	18.2	18.1	18.5	18.9	18.3	18.4
Education								
No education	17.7	17.5	18.6	18.1	18.4	18.9	18.2	18.3
Primary	17.8	17.4	17.6	17.4	19.1	19.0	17.8	17.9
Secondary and higher	17.8	18.2	17.9	18.3	18.4	18.2	18.1	18.2
Wealth quintile								
Lowest	17.3	17.7	18.1	18.0	18.6	18.8	18.1	18.2
Second	18.0	17.7	17.9	17.8	18.7	18.4	18.1	18.1
Middle	18.1	18.7	17.9	17.9	18.4	18.5	18.3	18.3
Fourth	17.7	17.8	18.4	18.5	18.7	18.2	18.2	18.3
Highest	17.6	17.7	17.6	18.3	18.0	18.4	17.9	18.0
Total	17.8	17.9	18.0	18.1	18.5	18.4	18.1	18.2

6.5 RECENT SEXUAL ACTIVITY

In the absence of contraception, the probability of pregnancy is related to the frequency of intercourse. Thus, information on sexual activity can be used to refine measures of exposure to pregnancy. Survey results are shown in Table 6.7.1 and 6.7.2 for women and men, respectively.

Table 6.7.1 presents the distribution of women by timing of the last sexual intercourse, according to background characteristics. In the four weeks preceding the survey, 57 percent of women age 15-49 were sexually active, 25 percent were sexually active in the last 12 months but not in the last four weeks, and 10 percent had not had sex for more than one year. Five percent had never had sexual intercourse. The proportion of women who were sexually active in the four weeks preceding the survey increases with age up to a maximum of 67 percent of women age 35-39; at older ages the percentage declines.

Not surprisingly, there is great variation by marital status in the percentage of women who were sexually active in the last four weeks. As expected, currently married women are far more likely to have been sexually active in the four weeks before the survey than those who have never married or who used to be married. It is notable that among currently married women, the proportion who had recent intercourse increases slightly with marital duration up to a peak of 72 percent among those married for 20-24 years.

Table 6.7.1 Recent sexual activity: Women

Percent distribution of women age 15-49 by timing of last sexual intercourse, according to background characteristics, Liberia 2007

Background characteristic	Timing of last sexual intercourse: Within the past 4 weeks	Within 1 year[1]	One or more years	Missing	Never had sexual intercourse	Total	Number of women
Age							
15-19	41.2	25.0	5.6	1.5	26.7	100.0	1,312
20-24	58.6	29.4	8.0	3.1	0.9	100.0	1,363
25-29	58.8	26.9	10.1	4.1	0.1	100.0	1,166
30-34	61.4	23.5	10.5	4.5	0.0	100.0	956
35-39	66.8	20.8	9.5	2.9	0.0	100.0	956
40-44	62.3	20.7	13.1	4.0	0.0	100.0	665
45-49	60.0	19.8	16.5	3.7	0.0	100.0	674
Marital status							
Never married	43.9	26.9	7.7	1.7	19.7	100.0	1,853
Married or living together	66.6	22.5	7.0	3.9	0.0	100.0	4,540
Divorced/separated/widowed	33.1	30.7	32.8	3.4	0.0	100.0	699
Marital duration[2]							
0-4 years	61.6	26.9	8.1	3.4	0.0	100.0	685
5-9 years	63.6	24.7	8.1	3.6	0.0	100.0	766
10-14 years	65.4	22.2	6.9	5.5	0.0	100.0	543
15-19 years	63.7	22.1	8.5	5.7	0.0	100.0	459
20-24 years	71.9	19.8	3.8	4.5	0.0	100.0	302
25+ years	69.1	19.6	5.7	5.6	0.0	100.0	382
Married more than once	70.4	20.8	6.4	2.4	0.0	100.0	1,403
Residence							
Urban	57.4	24.6	9.4	1.7	6.8	100.0	2,998
Rural	57.3	24.4	9.9	4.4	4.0	100.0	4,094
Region							
Monrovia	58.5	24.7	9.3	0.5	7.0	100.0	2,329
North Western	48.0	30.1	16.2	1.8	3.9	100.0	509
South Central	61.9	24.5	8.1	1.9	3.5	100.0	1,011
South Eastern A	55.5	21.2	13.8	4.5	5.0	100.0	375
South Eastern B	59.4	24.1	8.3	3.1	5.1	100.0	451
North Central	56.3	23.7	9.0	6.6	4.4	100.0	2,417
Education							
No education	59.2	23.7	11.6	4.3	1.2	100.0	3,005
Primary	54.2	25.2	7.4	2.7	10.5	100.0	2,280
Secondary and higher	58.4	25.0	9.5	2.0	5.0	100.0	1,799
Wealth quintile							
Lowest	57.5	23.5	12.6	3.5	3.0	100.0	1,251
Second	54.1	25.3	9.5	6.3	4.7	100.0	1,332
Middle	58.6	23.1	9.2	4.5	4.6	100.0	1,359
Fourth	56.9	27.5	9.0	1.6	5.1	100.0	1,580
Highest	59.5	22.8	8.8	1.2	7.7	100.0	1,569
Total	57.4	24.5	9.7	3.3	5.1	100.0	7,092

Note: Total includes cases with education missing.
[1] Excludes women who had sexual intercourse within the past 4 weeks
[2] Excludes women who are not currently married

Differences in recent sexual behavior by urban-rural residence are minimal. Among the regions, South Central region has the highest proportion of women who were sexually active in the four weeks before the survey (62 percent), and North Western has the lowest (48 percent). Differences by education and wealth quintile are not large.

Table 6.7.2 shows that 63 percent of the men interviewed were sexually active in the four weeks during the survey. Another one-fifth of men had sexual intercourse in the past year but not in the last four weeks, and 4 percent had not had sex in more than a year. Eleven percent of men had never had sex. Differentials in recent sexual activity by background characteristics are very similar to those for women.

Table 6.7.2 Recent sexual activity: Men

Percent distribution of men age 15-49 by timing of last sexual intercourse, according to background characteristics, Liberia 2007

Background characteristic	Timing of last sexual intercourse: Within the past 4 weeks	Within 1 year[1]	One or more years	Missing	Never had sexual intercourse	Total	Number of men
Age							
15-19	27.0	17.3	3.3	0.8	51.6	100.0	1,156
20-24	63.4	25.1	5.2	0.7	5.7	100.0	1,039
25-29	69.0	24.5	3.1	2.1	1.3	100.0	917
30-34	74.4	21.6	3.1	0.7	0.2	100.0	766
35-39	70.3	23.9	3.6	1.9	0.3	100.0	830
40-44	79.8	15.8	2.0	2.4	0.0	100.0	687
45-49	73.3	20.7	4.3	1.8	0.0	100.0	613
Marital status							
Never married	42.9	21.8	5.1	0.8	29.5	100.0	2,274
Married or living together	75.7	20.5	1.9	1.9	0.0	100.0	3,413
Divorced/separated/widowed	60.0	28.1	10.6	1.3	0.0	100.0	319
Marital duration[2]							
0-4 years	73.3	22.5	1.9	2.3	0.0	100.0	623
5-9 years	73.1	23.1	2.2	1.3	0.2	100.0	591
10-14 years	77.3	20.9	1.1	0.6	0.0	100.0	469
15-19 years	74.1	18.5	2.3	5.0	0.0	100.0	361
20-24 years	83.6	13.8	2.0	0.5	0.0	100.0	210
25+ years	81.4	14.7	1.5	2.4	0.0	100.0	141
Married more than once	76.1	20.4	1.9	1.5	0.0	100.0	1,018
Residence							
Urban	61.6	22.8	4.8	0.4	10.5	100.0	2,426
Rural	63.1	20.4	2.7	2.1	11.7	100.0	3,583
Region							
Monrovia	60.7	23.9	4.9	0.3	10.3	100.0	1,862
North Western	56.8	28.2	3.1	1.1	10.8	100.0	405
South Central	64.4	21.3	4.6	0.8	9.0	100.0	894
South Eastern A	64.3	19.9	4.3	2.9	8.6	100.0	357
South Eastern B	62.7	18.1	2.4	0.9	15.9	100.0	407
North Central	64.0	18.7	2.2	2.7	12.4	100.0	2,084
Education							
No education	66.1	21.4	4.3	2.2	6.0	100.0	1,056
Primary	50.2	20.2	3.5	1.4	24.6	100.0	1,895
Secondary and higher	68.8	22.1	3.3	1.1	4.6	100.0	3,056
Wealth quintile							
Lowest	64.9	20.3	3.7	2.2	8.8	100.0	1,062
Second	63.8	19.8	2.6	2.4	11.3	100.0	1,181
Middle	61.4	21.6	2.5	2.0	12.4	100.0	1,170
Fourth	61.2	23.2	4.2	0.3	11.1	100.0	1,160
Highest	61.5	21.7	4.5	0.4	11.9	100.0	1,437
Total 15-49	62.5	21.4	3.6	1.4	11.2	100.0	6,009

Note: Total includes some men with information missing as to marital status and education
[1] Excludes men who had sexual intercourse within the last 4 weeks
[2] Excludes men who are not currently married

6.6 POSTPARTUM AMENORRHEA, ABSTINENCE, AND INSUSCEPTIBILITY

Postpartum amenorrhea refers to the interval between childbirth and the return of menstruation. The length and intensity of breastfeeding influence the duration of amenorrhea, which offers protection from conception. Postpartum abstinence refers to the period between childbirth and the time when a woman resumes sexual activity. Delaying the resumption of sexual relations can also prolong protection. Women are considered to be insusceptible to pregnancy if they are not exposed to the risk of conception either because their menstrual period has not resumed since a birth or because they are abstaining from intercourse after childbirth. In the 2007 LDHS, women who gave birth during the three years preceding the survey were asked about the duration of amenorrhea and the duration of sexual abstinence following childbirth.

Table 6.8 shows the percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by number of months since birth. Mean and median durations are also shown. In Liberia, on average, women are amenorrheic for 11 months after giving birth; the median duration of postpartum amenorrhea is slightly lower at 10 months. Women abstain from sexual intercourse for about one year after birth (median of 12 months and a mean of 14 months). Ninety-seven percent of women who gave birth within the two months before the survey were still abstaining from sex. The proportion abstaining decreases with increasing months since delivery, particularly during the first year after birth. A comparison of the data with those from the 1999/2000 LDHS indicates that there has been a slight decline in all three measures related to the duration of postpartum insusceptibility.

Table 6.8 Postpartum amenorrhea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Liberia 2007

Months since birth	Percentage of births for which the mother is:			Number of births
	Amenorrheic	Abstaining	Insusceptible[1]	
< 2	94.7	96.9	97.8	145
2-3	87.6	92.2	95.2	172
4-5	82.3	85.5	94.8	186
6-7	56.3	77.0	82.7	205
8-9	60.0	74.1	84.4	203
10-11	46.7	58.9	72.0	214
12-13	28.5	49.2	56.3	156
14-15	23.7	33.0	44.4	173
16-17	15.4	24.9	31.9	152
18-19	15.6	21.1	28.6	180
20-21	8.7	24.6	28.2	211
22-23	3.5	9.1	11.6	162
24-25	7.3	7.8	12.2	184
26-27	1.4	5.8	6.6	154
28-29	2.1	1.1	3.1	191
30-31	3.3	3.1	3.7	196
32-33	0.6	4.0	4.5	177
34-35	0.4	4.8	4.8	218
Total	29.5	37.2	42.2	3,277
Median	9.6	12.2	13.7	na
Mean	11.0	13.7	15.5	na

Note: Estimates are based on status at the time of the survey.
na = Not applicable
[1] Includes births for which mothers are either still amenorrheic or still abstaining (or both) following birth

Table 6.9 shows the median durations of postpartum amenorrhea, abstinence, and insusceptibility by background characteristics. Differentials are not strong and because of the small numbers of cases, it is not possible to make reliable conclusions from the data.

Table 6.9 Median duration of postpartum amenorrhea, abstinence, and insusceptibility

Median number of months of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, Liberia 2007

Background characteristic	Postpartum amenorrhea	Postpartum abstinence	Postpartum insusceptibility[1]
Mother's age			
15-29	9.1	12.9	13.8
30-49	11.0	11.1	13.4
Residence			
Urban	8.4	12.8	13.9
Rural	10.3	11.9	13.6
Region			
Monrovia	(7.9)	(12.5)	(13.7)
North Western	(9.0)	(14.7)	(15.0)
South Central	(7.9)	(11.1)	(14.1)
South Eastern A	(10.1)	(10.9)	(13.0)
South Eastern B	(6.0)	(9.6)	(12.3)
North Central	(11.7)	(12.3)	(13.9)
Education			
No education	11.1	12.7	14.4
Primary	8.4	11.9	12.9
Secondary and higher	(8.6)	(11.6)	(13.4)
Wealth quintile			
Lowest	(10.8)	(13.0)	(14.7)
Second	9.9	(12.0)	(13.6)
Middle	(9.8)	(12.7)	(13.9)
Fourth	(9.2)	(12.1)	(13.6)
Highest	*	(11.8)	(12.6)
Total	9.6	12.2	13.7

Note: Medians from smoothed data are shown in parentheses when the denominator of the smoothed percentage for the group preceding the first group that falls below 50 percent plus the number of cases in the adjacent categories that are used for smoothing that group is based on 25-49 cases. If this denominator is less than 25 cases, then an asterisk is shown in place of the median. Medians are based on the status at the time of the survey (current status).

[1] Includes births for which mothers are either still amenorrheic or still abstaining (or both) following birth

6.7 MENOPAUSE

Another factor influencing the risk of pregnancy among women is menopause. In the context of the available survey data, women are considered menopausal if they are neither pregnant nor postpartum amenorrheic but have not had a menstrual period in the six months preceding the survey. Table 6.10 shows that the proportion of women who are menopausal increases steadily from only 2 percent of those age 30-34 to nearly 44 percent of women age 48-49.

Table 6.10 Menopause

Percentage of women age 30-49 who are menopausal, by age, Liberia 2007

Age	Percentage menopausal[1]	Number of women
30-34	1.7	956
35-39	2.5	956
40-41	5.2	270
42-43	9.4	293
44-45	15.7	267
46-47	25.9	211
48-49	43.7	298
Total	9.5	3,251

[1] Percentage of all women who are not pregnant and not postpartum amenorrheic whose last menstrual period occurred six or more months preceding the survey

FERTILITY PREFERENCES 7

Information on fertility preferences is of considerable importance to family planning program planners because it allows an assessment of the need for contraception, whether for spacing or limiting births, and the extent of unwanted and mistimed pregnancies. Data on fertility preferences can also be useful as an indicator of the direction that future fertility may take.

The 2007 Liberia Demographic and Health Survey (LDHS) included questions to ascertain fertility preferences. Women who were either not pregnant or unsure about their status were asked the question: "Would you like to have (a/another) child or would you prefer not to have any (more) children?" A different question was posed for women who were pregnant at the time of the survey. Pregnant women were asked: "After the child you are expecting, would you like to have another child or would you prefer not to have any more children?" Those women who indicated that they wanted another child were asked how long they would like to wait before the birth of the next child. Finally, women were asked in total the number of children they would like to have if they were to start childbearing afresh.

Given that ongoing family planning programs in Liberia address both men and women and that men play a vital role in the realization of reproductive goals, the 2007 LDHS included questions that elicited information on the fertility preferences of men.

7.1 DESIRE FOR MORE CHILDREN

Data on desire for more children can provide an indication of future reproductive behavior provided that the required family planning services are available, affordable, and accessible to allow people to realize their fertility preferences. Table 7.1 presents the distribution of currently married women and men by the desire for more children according to the number of living children.

Table 7.1 shows that there is a considerable desire among Liberian women to control the number and timing of births. Although almost six in ten currently married women (58 percent) want to have another child, more than one-third of women (34 percent) say they want to delay their next birth for two years or more (Figure 7.1). Furthermore, almost one-third (31 percent) of married women want no more children or have been sterilized. Three percent of married women want another child but are undecided when to have the child. These results indicate that there is a strong need for family planning services either for child spacing or limiting.

Table 7.1 also shows that there are differences in the desire for more children between men and women. Except among those who are childless, more men than women desire another child. On the whole, 68 percent of married men want another child, compared with 58 percent of married women. Moreover, men are more likely to want their next child soon (32 percent of men vs. 20 percent of women), whereas women are more likely to want to wait two years or more for their next child. For example, 18 percent of married women with three children want another child within two years, compared with 36 percent of married men with the same number of children.

Thirty-one percent of married women and 20 percent of married men want no more children or have been sterilized. The desire to end childbearing increases with the number of living children, increasing from 5 percent for women who have one child to 71 percent for women with six or more children. The desire to end childbearing increases from 4 percent for men with only one child to 42 percent for men with six or more children.

Table 7.1 Fertility preferences by number of living children

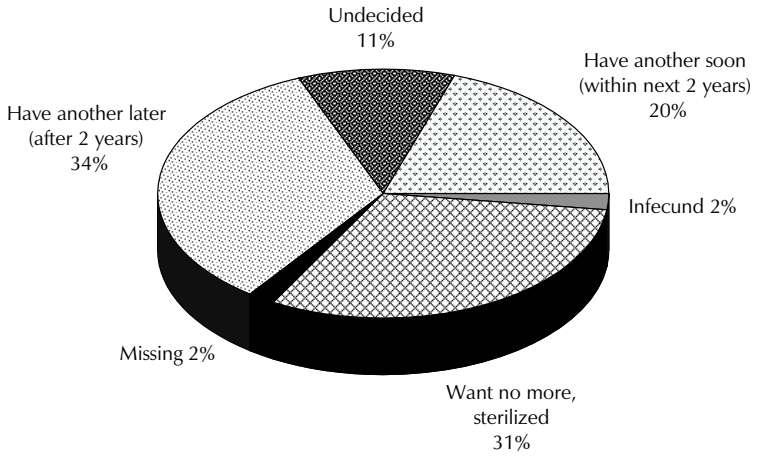
Percent distribution of currently married women and currently married men age 15-49 by desire for children, according to number of living children, Liberia 2007

Desire for children	Number of living children							Total
	0	1	2	3	4	5	6+	15-49
				WOMEN[1]				
Have another soon[2]	67.7	32.3	26.3	17.6	14.1	8.7	5.2	20.4
Have another later[3]	11.6	47.2	44.4	39.0	34.9	24.9	15.4	34.1
Have another, undecided when	3.0	5.1	4.4	3.6	2.5	1.1	0.7	3.1
Undecided	8.2	7.3	10.9	10.0	8.6	6.5	3.5	8.1
Want no more	1.6	4.6	10.0	26.7	36.4	54.2	68.7	30.1
Sterilized[4]	0.1	0.2	0.2	0.3	0.3	0.7	1.9	0.6
Declared infecund	7.6	1.5	2.2	1.7	1.5	1.5	2.7	2.1
Missing	0.1	1.7	1.6	1.0	1.6	2.3	1.9	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	213	719	872	785	712	534	705	4,540
				MEN[5]				
Have another soon[2]	55.0	36.8	32.1	35.7	32.5	25.1	21.8	31.7
Have another later[3]	17.6	47.3	41.6	36.3	30.9	34.4	20.3	33.3
Have another, undecided when	3.1	2.5	3.7	1.2	3.5	3.2	3.0	2.8
Undecided	12.5	9.2	9.9	9.5	11.2	10.2	12.1	10.5
Want no more	0.9	3.3	10.7	16.3	19.0	26.6	41.9	19.7
Sterilized[4]	0.7	0.4	0.7	0.6	1.8	0.0	0.1	0.6
Declared infecund	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1
Missing	10.1	0.6	1.2	0.5	1.1	0.5	0.6	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	179	481	555	612	496	363	726	3,413

[1] The number of living children includes current pregnancy for women.
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both female and male sterilization
[5] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

Results from the 2007 LDHS show that there has been a dramatic decline in the desire for more children among currently married women in Liberia. The proportion who say they want to have another child has dropped from 75 percent of married women in 1986 and 78 percent in 1999-2000 to 58 percent in 2007. This large decline in desire for another child needs further investigation. Generally, increased urbanization due to the destruction of rural villages and towns, coupled with increased rights of women to determine their fertility, could explain some of this decline. Moreover, the socioeconomic benefits of children have decreased due to the reduction in agricultural activities as a result of years of war in the rural areas that hindered farming.

Figure 7.1 Fertility Preferences among Married Women



LDHS 2007

7.2 Desire to Limit Childbearing by Background Characteristics

Tables 7.2.1 and 7.2.2 present the percentage of currently married women and men who want no more children or have been sterilized, by number of living children, according to background characteristics.

Table 7.2.1 Desire to limit childbearing: Women

Percentage of currently married women age 15-49 who want no more children, by number of living children, according to background characteristics, Liberia 2007

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	1.1	1.9	8.5	30.6	41.8	52.1	72.0	26.5
Rural	2.2	6.9	11.2	25.1	34.5	56.1	70.2	32.8
Region								
Monrovia	0.0	2.0	7.3	29.7	37.6	51.1	65.6	23.7
North Western	(0.0)	8.7	17.8	31.5	42.7	72.7	84.5	40.9
South Central	(7.4)	3.9	6.9	29.6	32.0	62.2	75.9	31.7
South Eastern A	(0.0)	1.2	15.3	14.2	24.2	37.7	70.7	27.8
South Eastern B	(3.2)	7.5	13.3	26.0	29.9	36.9	70.5	34.7
North Central	0.8	7.3	11.1	25.8	39.5	57.1	67.5	32.5
Education								
No education	3.2	9.1	9.4	29.2	42.0	54.5	72.8	37.2
Primary	0.0	3.1	12.5	23.0	25.7	51.2	60.9	22.9
Secondary and higher	0.4	0.8	8.6	26.9	40.2	61.0	73.8	24.3
Wealth quintile								
Lowest	4.9	2.2	8.7	22.2	24.2	56.0	79.2	29.3
Second	0.0	12.8	14.4	29.9	37.1	59.1	62.7	35.4
Middle	0.0	4.4	11.3	24.9	40.7	51.0	73.7	32.8
Fourth	1.7	6.2	7.9	29.0	42.3	52.1	70.4	29.9
Highest	0.0	0.6	7.9	29.7	43.1	56.2	68.4	24.5
Total	1.7	4.8	10.1	27.1	36.8	54.9	70.6	30.7

Note: Women who have been sterilized are considered to want no more children. Numbers in parentheses are based on 25-49 unweighted women.
[1] Includes current pregnancy.

On the whole, desire to limit childbearing increases with increasing number of children, from only 2 percent of currently married women with no child to 71 percent of married women with six children or more. Surprisingly, Table 7.2.1 shows that rural women are more likely to want no more children than urban women (33 percent vs. 27 percent). Although the pattern varies with the number of living children, on the whole, the data for Liberia do not show the usual pattern of stronger desire to limit childbearing among urban women.

North Western (41 percent) and South Eastern B (35 percent) regions have the highest proportion of married women who want to stop having children, while Monrovia has the least (24 percent). The relationship between education and the desire to stop childbearing shows no uniform pattern. Overall, the proportion of women who do not want to have any more children is substantially higher among women with no education than among those who ever attended school; however, the pattern is irregular when examined by the number of living children.

Similarly, the relationship between wealth and desire to stop childbearing is mixed. Married women who are in the highest wealth quintile have the least desire to limit childbearing (25 percent). However, when the number of living children is taken into account, there is no uniform pattern.

As with women, the desire to limit childbearing among married men increases with increasing number of children; however, as mentioned above, the proportion of men who want no more children is lower than among women, regardless of the number of children they already have.

Table 7.2.2 Desire to limit childbearing: Men

Percentage of currently married men age 15-49 who want no more children, by number of living children, according to background characteristics, Liberia 2007

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	2.6	3.8	9.9	16.7	24.1	37.2	47.3	20.4
Rural	1.1	3.6	12.4	17.0	19.1	22.0	40.4	20.3
Region								
Monrovia	2.1	5.1	9.0	15.8	22.7	(38.3)	49.1	20.2
North Western	0.0	0.4	9.2	21.5	10.8	29.9	36.6	19.8
South Central	7.4	3.1	15.6	13.6	(24.3)	(39.8)	53.5	23.6
South Eastern A	0.0	6.6	11.3	10.9	(22.0)	(15.0)	33.9	19.1
South Eastern B	2.2	3.0	10.3	14.7	15.5	(20.6)	41.4	22.8
North Central	0.6	3.0	11.9	19.5	20.7	17.9	38.1	19.0
Education								
No education	0.0	6.6	13.3	14.8	15.3	30.0	37.2	19.7
Primary	2.5	2.8	12.9	11.8	18.9	10.7	38.5	15.7
Secondary and higher	1.5	3.3	10.2	20.6	23.8	31.5	45.3	22.7
Wealth quintile								
Lowest	3.1	2.9	12.2	10.8	11.9	17.4	36.8	15.8
Second	0.0	3.1	5.7	18.3	12.6	27.3	39.5	19.6
Middle	1.2	5.1	16.6	13.0	29.9	(17.0)	38.9	20.5
Fourth	4.3	4.5	14.0	25.9	28.8	(30.0)	44.3	23.6
Highest	0.5	2.4	9.2	19.3	24.7	(43.1)	(57.7)	23.3
Total 15-49	1.6	3.7	11.4	16.9	20.8	26.6	42.1	20.3

Note: Men who have been sterilized or who state in response to the question about desire for children that their wife has been sterilized are considered to want no more children. Numbers in parentheses are based on 25-49 unweighted men.
[1] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

Differences in the desire to limit childbearing by background characteristics are not large among men. For example, there is no definite pattern between men in the different geographical regions in terms of their desire to limit childbearing. Men with secondary education or higher have a greater tendency to want no more children (23 percent) than those who have no education (20 percent) and those who attained primary education (16 percent). Desire to limit childbearing increases from the

lowest (16 percent) to the fourth (24 percent) wealth quintile but slightly falls at the highest quintile (23 percent) and shows no definite pattern in the variation with number of living children.

7.3 Need for Family Planning Services

The proportion of women who want to stop childbearing or who want to space their next birth is a crude measure of the extent of the need for family planning, given that not all of these women are exposed to the risk of pregnancy and some of them may already be using contraception. This section discusses the extent of need and the potential demand for family planning services. Women who want to postpone their next birth for two or more years or who want to stop childbearing altogether but are not using a contraceptive method are said to have an unmet need for family planning. Pregnant women are considered to have an unmet need for spacing or limiting if their pregnancy was mistimed or unwanted. Similarly, amenorrheic women are categorized as having unmet need if their last birth was mistimed or unwanted. Women who are currently using a family planning method are said to have a met need for family planning. The total demand for family planning services comprises those who fall in the met need and unmet need categories. Table 7.3 presents data on unmet need, met need, and the total demand for family planning services for currently married women, as well as the totals for all women and women who are not currently married.

Overall, 36 percent of married women in Liberia have an unmet need for planning services, most of which is due to a need for spacing births (25 percent) rather than a need for limiting births (11 percent). Together with the "met" need (current use) of 11 percent, the total demand for family planning services comprises 47 percent of married women. Only one-quarter of this demand (24 percent) is satisfied.

The data show that unmet need for family planning services decreases as age increases, from 40 percent among married women aged 15-19 to 21 percent among women age 45-49. Unmet need for spacing is higher among younger women, but unmet need for limiting children is higher among older women.

The table also shows that there is little difference between unmet need among urban and rural women (34 percent vs. 36 percent). Both groups of women have a higher unmet need for spacing than for limiting. Because met need is substantially higher for urban women than for rural women, this results in a higher total demand for family planning for urban women (53 percent) than rural women (44 percent).

Unmet need for family planning services is highest among currently married women in North Western region (43 percent) and lowest in South Eastern A and Monrovia (33 percent). Interestingly, there is no clear pattern of unmet need by education, with need being highest among women with only primary school. Similarly, there is no straightforward pattern between unmet need and wealth quintile. Unmet need for family planning services is highest for women in the second to fourth wealth quintiles (37-38 percent).

Analysis of trends in unmet need is complicated by changes in definition over time. The 1986 LDHS used a fairly simple definition and showed that 39 percent of married women were fertile, not using a contraceptive method, and either wanted no more children or wanted to postpone their next birth for two or more years. The 1999-2000 LDHS showed an unmet need of only 16 percent of married women using a definition that is closer to that used in the 2007 LDHS. This implies that unmet need has more than doubled over the past seven years.

Table 7.3 Need and demand for family planning

Percentage of currently married women, all women, and unmarried women age 15-49 with unmet need for family planning, percentage with met need for family planning, total demand for family planning, and percentage of demand for contraception that is satisfied, by background characteristics [for currently married women], Liberia 2007

Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	38.9	1.5	40.4	5.2	0.0	5.2	44.0	1.5	45.5	11.4	251
20-24	40.5	2.0	42.6	6.5	0.6	7.1	47.0	2.6	49.7	14.3	739
25-29	33.0	5.6	38.6	10.3	3.1	13.4	43.3	8.7	52.0	25.8	847
30-34	27.5	9.6	37.1	8.0	4.8	12.8	35.4	14.5	49.9	25.6	805
35-39	17.7	17.2	34.8	9.6	8.1	17.6	27.2	25.3	52.5	33.6	812
40-44	9.2	23.2	32.3	2.8	9.8	12.5	11.9	32.9	44.9	27.9	545
45-49	4.6	16.6	21.2	0.1	4.7	4.8	4.7	21.4	26.1	18.6	541
Residence											
Urban	25.3	9.0	34.4	12.7	6.1	18.8	38.0	15.2	53.2	35.4	1,541
Rural	24.2	12.0	36.2	3.7	4.0	7.7	27.9	16.0	43.9	17.5	2,999
Region											
Monrovia	25.0	8.3	33.4	13.7	5.3	19.0	38.7	13.7	52.4	36.3	1,157
North Western	26.4	16.3	42.7	2.3	7.2	9.6	28.7	23.6	52.3	18.3	353
South Central	26.5	11.3	37.8	5.0	5.2	10.2	31.5	16.5	48.0	21.3	688
South Eastern A	23.2	9.3	32.5	7.2	2.4	9.7	30.5	11.7	42.2	22.9	276
South Eastern B	21.3	14.1	35.5	3.3	2.8	6.1	24.6	17.0	41.6	14.8	297
North Central	24.0	11.3	35.3	4.2	4.3	8.5	28.2	15.6	43.8	19.4	1,769
Education											
No education	19.7	12.9	32.6	3.3	4.4	7.7	23.0	17.3	40.3	19.1	2,374
Primary	32.7	8.6	41.3	8.1	4.0	12.2	40.9	12.6	53.5	22.7	1,287
Secondary and higher	26.1	9.2	35.3	14.0	6.6	20.6	40.1	15.8	55.9	36.9	874
Wealth quintile											
Lowest	22.7	9.6	32.3	1.6	2.0	3.6	24.3	11.6	35.8	10.0	942
Second	22.6	14.9	37.4	2.7	3.0	5.7	25.2	17.9	43.2	13.3	994
Middle	27.0	11.1	38.1	7.3	6.9	14.2	34.3	18.1	52.3	27.2	950
Fourth	26.7	11.2	37.9	10.7	4.7	15.4	37.5	15.9	53.4	28.9	872
Highest	24.1	7.5	31.6	13.0	7.4	20.4	37.1	14.9	52.0	39.2	781
Currently married women	24.6	11.0	35.6	6.7	4.7	11.4	31.3	15.7	47.0	24.3	4,540
All women	22.7	7.5	30.2	9.8	3.5	13.3	32.5	11.0	43.5	30.6	7.092
Unmarried women	19.3	1.3	20.6	15.3	1.3	16.6	34.7	2.5	37.2	44.6	2,552

[1] *Unmet need for spacing:* Includes women who are fecund and not using family planning and who say they want to wait two or more years for their next birth, or who say they are unsure whether they want another child, or who want another child but are unsure when to have the child. In addition, unmet need for spacing includes pregnant women whose current pregnancy was mistimed, or whose current pregnancy was unwanted but who now say they want more children. Unmet need for spacing also includes amenorrheic women whose last birth was mistimed, or whose last birth was unwanted but who now say they want more children. *Unmet need for limiting:* Includes women who are fecund and not using family planning and who say they do not want another child. In addition, unmet need for limiting includes pregnant women whose current pregnancy was unwanted but who now say they do not want more children or who are undecided whether they want another child. Unmet need for limiting also includes amenorrheic women whose last birth was unwanted but who now say they do not want more children or who are undecided whether they want another child.

[2] *Using for spacing* is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. *Using for limiting* is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

7.4 IDEAL NUMBER OF CHILDREN

This section focuses on the respondent's ideal number of children, implicitly taking into account the number of children that the respondent already has. Women and men, regardless of marital status, were asked about the number of children they would choose to have if they could start afresh. Respondents who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For respondents who had children, the question was rephrased as follows: "If you could go back to the time when you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" Responses to these questions are summarized in Table 7.4 for women and men age 15-49.

Table 7.4 indicates that 94 percent of all women and 96 percent of all men gave numeric responses to the question asked during the survey. The remaining 6 percent and 4 percent, respectively, gave responses such as "any number," "it's up to God," or "do not know."

The data reflect a strong desire for large families among Liberian women and men. More respondents state six or more children as ideal than any other number of children (32 percent of women and 37 percent of men). The next most commonly cited number is four children.

Table 7.4 Ideal number of children

Percent distribution of women and men 15-49 by ideal number of children, and mean ideal number of children for all respondents and for currently married respondents, according to number of living children, Liberia 2007

Ideal number of children	Number of living children							Total
	0	1	2	3	4	5	6+	
				WOMEN[1]				
0	1.5	1.4	1.1	1.6	1.4	2.0	2.8	1.6
1	0.8	0.6	0.7	0.3	0.4	0.7	0.0	0.6
2	14.0	7.4	5.4	3.6	2.6	2.3	2.5	6.2
3	16.7	20.2	11.2	7.8	1.6	4.6	2.6	10.9
4	38.4	35.6	33.7	24.5	20.8	15.8	11.3	28.1
5	11.6	12.9	18.3	20.7	14.6	14.7	6.7	14.3
6+	12.7	16.8	25.2	35.9	51.5	50.5	61.7	32.1
Non-numeric responses	4.3	5.0	4.5	5.5	7.1	9.4	12.5	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,341	1,366	1,169	980	826	608	803	7,092
Mean ideal number children for:[2]								
All	4.0	4.2	4.7	5.1	5.7	6.0	6.9	5.0
Number	1,283	1,298	1,117	925	767	551	703	6,644
Currently married	4.5	4.4	4.8	5.3	5.9	5.9	7.0	5.4
Number	203	684	837	743	659	488	623	4,238
				MEN[3]				
0	1.4	0.1	0.1	0.7	0.8	2.4	1.6	1.0
1	0.3	0.6	0.1	0.1	0.1	0.2	0.2	0.3
2	12.2	8.0	5.1	2.0	0.9	2.0	1.3	6.7
3	13.0	16.3	9.3	10.0	3.9	2.7	2.9	10.0
4	33.6	36.5	29.2	24.2	14.8	12.0	12.9	26.8
5	12.8	14.2	21.6	18.0	15.5	15.0	10.9	14.7
6+	22.6	22.0	31.6	41.8	60.4	60.9	65.9	36.9
Non-numeric responses	4.0	2.3	3.0	3.2	3.6	4.7	4.4	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	2,225	761	685	667	529	380	761	6,009
Mean ideal number children for:[2]								
All	4.7	4.7	5.2	5.8	6.3	7.2	8.4	5.6
Number	2,135	744	665	646	510	363	728	5,790
Currently married	5.0	5.0	5.3	5.7	6.3	7.2	8.4	6.3
Number	174	472	538	591	478	346	693	3,291

[1] The number of living children includes current pregnancy for women.
[2] Means are calculated excluding respondents who gave non-numeric responses.
[3] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

Men in Liberia, as in many countries, prefer larger families than women. Overall, the mean ideal number of children is substantially higher for men (5.6) than for women (5.0).

Among both women and men, the mean ideal number of children increases with the number of living children. It ranges from 4.0 for women with no children to 6.9 for those with six or more children, and from 4.7 for men with no children to 8.4 for those with six or more children. One major reason for this increase is that respondents often state their actual number of children as their preferred number of children, thus rationalizing the number they have. It can also be due to the fact that those who want fewer children actually have fewer children and those who want more, have more.

The data also show that there is considerable unwanted fertility within the country, as given by the proportion of respondents whose ideal family size is lower than the number of children they already have. For example, among women with six or more children, 26 percent said that they would ideally like to have fewer than six children. Similarly, among women with five children, 25 percent said they would prefer to have fewer children than they actually have.

There has been a steady and uniform decline in ideal family size among women. The mean ideal number of children among all women decreased from 6.0 in 1986 to 5.5 in 1999-2000 and to 5.0 in 2007.

7.5 Mean Ideal Number of Children by Background Characteristics

Table 7.5 shows the ideal number of children by age and background characteristics of all women and men. Data in the table show that the mean ideal number of children increases with age among both women and men in Liberia, ranging from 4.1 for women age 15-19 to 6.5 for women age 45-49, and from 4.9 among men age 15-19 to 7.3 for those age 45-49. Ideal family size for both men and women is higher in rural areas (5.4 for women and 6.3 for men) than urban areas (4.4 for women and 4.6 for men). Ideal family size is highest in South Eastern A region and lowest in Monrovia for both sexes. Ideal family size decreases steadily with increasing level of education and increasing wealth quintile.

Interestingly, mean ideal family size is higher for men than women in every category examined.

Table 7.5 Mean ideal number of children

Mean ideal number of children for all women and men age 15-49 by background characteristics, Liberia 2007

Background characteristic	Mean ideal number of children	Number of women[1]	Mean ideal number of children	Number of men[1]
Age				
15-19	4.1	1,251	4.9	1,113
20-24	4.3	1,304	4.7	999
25-29	4.8	1,119	5.1	888
30-34	5.2	907	5.6	738
35-39	5.7	878	6.2	803
40-44	6.1	602	6.8	666
45-49	6.5	584	7.3	583
Residence				
Urban	4.4	2,847	4.6	2,360
Rural	5.4	3,797	6.3	3,430
Region				
Monrovia	4.3	2,197	4.5	1,810
North Western	5.1	482	6.1	396
South Central	5.1	894	5.6	837
South Eastern A	5.9	349	7.9	345
South Eastern B	4.9	442	6.3	396
North Central	5.5	2,281	6.0	2,006
Education				
No education	5.7	2,714	6.8	1,006
Primary	4.8	2,170	5.8	1,821
Secondary and higher	4.1	1,752	5.1	2,961
Wealth quintile				
Lowest	5.7	1,139	7.0	1,019
Second	5.5	1,273	6.4	1,127
Middle	5.2	1,275	5.7	1,126
Fourth	4.6	1,457	4.9	1,126
Highest	4.2	1,500	4.4	1,392
Total	5.0	6,644	5.6	5,790

[1] Number of women/men who gave a numeric response

7.6 Fertility Planning Status

The issue of unplanned and unwanted fertility was further investigated in the 2007 LDHS by asking women who had births during the five years before the survey whether the births were wanted at the time (planned), wanted but at a later time (mistimed), or not wanted at all (unwanted). For women who were pregnant at the time of the interview, this question was also asked with reference to the current pregnancy. The procedure requires the respondents to

recall accurately their wishes at one or more points in the last five years. Care has to be exercised in interpreting the results because an unwanted conception may have become a cherished child, leading to the rationalization of responses to these questions.

According to Table 7.6, 29 percent of births in Liberia are not planned; 25 percent are mistimed and 4 percent are unwanted. The proportion of births that are mistimed (wanted later) decreases with increasing birth order, and the proportion that are unwanted increases with increasing birth order. A similar pattern is apparent by age of woman, with mistimed births generally decreases as age increases and the proportion of births that are unwanted increasing with age. One in five births to women in their forties is not wanted at all.

Table 7.6 Fertility planning status

Percent distribution of births to women 15-49 in the five years preceding the survey (including current pregnancies), by planning status of the birth, according to birth order and mother's age at birth, Liberia 2007

Birth order and mother's age at birth	Planning status of birth				Total	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
Birth order						
1	67.7	30.4	0.3	1.6	100.0	1,422
2	71.5	26.2	1.0	1.3	100.0	1,195
3	73.2	24.5	1.2	1.2	100.0	979
4+	67.8	21.5	8.7	1.9	100.0	2,759
Mother's age at birth						
<20	65.4	32.4	0.8	1.4	100.0	1,050
20-24	69.8	28.0	0.8	1.4	100.0	1,742
25-29	73.8	23.2	1.6	1.5	100.0	1,406
30-34	72.8	20.9	4.7	1.6	100.0	1,053
35-39	63.5	19.4	13.8	3.2	100.0	719
40-44	64.5	15.4	19.0	1.1	100.0	296
45-49	56.3	22.0	21.8	0.0	100.0	88
Total	69.3	24.8	4.2	1.6	100.0	6,355

A comparison with LDHS data from 1986 and 1999-2000 implies that there has been a radical shift in fertility preferences in Liberia. Although the proportion of births that are wanted at the time of conception has not changed dramatically—from 69 percent in 1986 to 75 percent in 1999-2000 and back to 69 percent in 2007—the proportions that are mistimed and unwanted have shifted considerably. For example, the proportion of births that were unwanted was 26 percent in 1986, 22 percent in 1999-2000, and only 4 percent in 2007. Conversely, the proportion that were reported as mistimed was 6 percent in 1986, 2 percent in 1999-2000, and 25 percent in 2007. The questions used in the 1986 and 1999-2000 LDHS were similar; however, they differ from those in the 2007 LDHS.[1] Another difference is that the 1986 data are based on births in the 12 months before the survey, but the 1999-2000 data are based on births in the three years before the survey and the data for the 2007 survey are based on births in the five years before the survey.

7.7 WANTED FERTILITY RATES

Using information on whether births occurring in the five years before the survey were wanted or not, a total "wanted" fertility rate has been calculated. The wanted fertility rate measures the potential demographic impact of avoiding unwanted births. The wanted fertility rate is calculated in the same manner as the conventional total fertility rate, except that unwanted births are excluded. A birth is considered wanted if the number of living children at the time of conception was less than the ideal number of children reported by the respondent. Women who did not report a numeric ideal

[1] The questions in the 1986 and 1999-2000 LDHS were: "Before you got pregnant with (NAME OF LAST BIRTH), did you want to have more children?" and if yes: "Were you glad that you were pregnant then, or did you prefer to wait?"

family size were assumed to want all their births. These rates represent the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual total fertility rate suggests the potential demographic impact of the elimination of unwanted births (Table 7.7).

The total wanted fertility rate for Liberia is 4.6 births per woman, substantially lower than the actual fertility rate of 5.2. This implies that the total fertility rate could be reduced by 12 percent if unwanted births could be eliminated.

The gap between wanted and observed fertility is somewhat greater among women in the South Eastern B region and poorer women but otherwise is remarkably constant across background characteristics.

Table 7.7 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Liberia 2007

Background characteristic	Total wanted fertility rates	Total fertility rate
Residence		
Urban	3.3	3.8
Rural	5.6	6.2
Region		
Monrovia	3.0	3.4
North Western	(5.7)	(6.5)
South Central	5.1	5.8
South Eastern A	(6.3)	(6.9)
South Eastern B	4.6	6.0
North Central	5.5	6.0
Education		
No education	5.5	6.0
Primary	5.3	5.9
Secondary and higher	2.8	3.3
Wealth quintile		
Lowest	6.1	6.5
Second	5.6	6.5
Middle	5.3	6.0
Fourth	4.1	4.7
Highest	2.5	2.8
Total	4.6	5.2

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 4.2. Rates in parentheses are based on 500-999 unweighted women.

INFANT AND CHILD MORTALITY 8

This chapter presents levels, trends, and differentials in neonatal, postneonatal, infant, child, and under-five mortality. The information is relevant both for understanding population trends—for example, the mortality rates can be used in population projections—and for the planning and evaluation of health policies and programs. Information on child mortality serves the needs of the health sector by identifying population groups that are at high risk. Infant and child mortality rates are also regarded as indices reflecting the degree of poverty and deprivation of a population. Because the government of Liberia through the Ministry of Health and Social Welfare is undertaking a number of interventions aimed at reducing child mortality in the country, the analysis in this report provides an opportunity to evaluate the performance of such programs.

The data for mortality estimation were collected in the birth history section of the Women's Questionnaire. The birth history section began with questions about the respondent's experience with childbearing (i.e., the number of sons and daughters living with the mother, the number who live elsewhere, and the number who have died). These questions were followed by a birth history in which the respondent was asked to list each of her births, starting with the first. For each birth, data were obtained on sex, month and year of birth, survivorship status, and current age, or if the child was dead, age at death. This information is used to directly estimate mortality rates. Age-specific mortality rates are categorized and defined as follows:

Neonatal mortality (NN): the probability of dying within the first month of life

Postneonatal mortality (PNN): the difference between infant and neonatal mortality

Infant mortality ($_1q_0$): the probability of dying before the first birthday

Child mortality ($_4q_1$): the probability of dying between the first and fifth birthday

Under-five mortality ($_5q_0$): the probability of dying between birth and the fifth birthday

All rates are expressed per 1,000 live births except for child mortality, which is expressed per 1,000 children surviving to 12 months of age.

8.1 LEVELS AND TRENDS IN INFANT AND CHILD MORTALITY

Table 8.1 shows neonatal, postneonatal, infant, child, and under-five mortality rates for successive five-year periods before the survey. For the five years immediately preceding the survey (approximately calendar years 2002-2006), the infant mortality rate is 71 deaths per 1,000 live births and the under-five mortality is 110 deaths per 1,000 live births (Figure 8.1). Thus, one in every nine Liberian children dies before reaching age five. The neonatal mortality rate is 32 deaths per 1,000 live births during the most recent five-year period, and the postneonatal mortality rate is 39 deaths per 1,000 live births. This means that 29 percent of under-five deaths occur during the first month of life and 35 percent occur during the postneonatal period (months 1-11). The child mortality rate is 41 deaths per 1,000 children surviving to age one year.

Mortality trends can be examined in two ways: by comparing mortality rates for three five-year periods preceding a single survey and by comparing mortality estimates obtained from various surveys. Any conclusions with respect to the trends in mortality have to be interpreted with caution because sampling errors associated with mortality estimates are large.

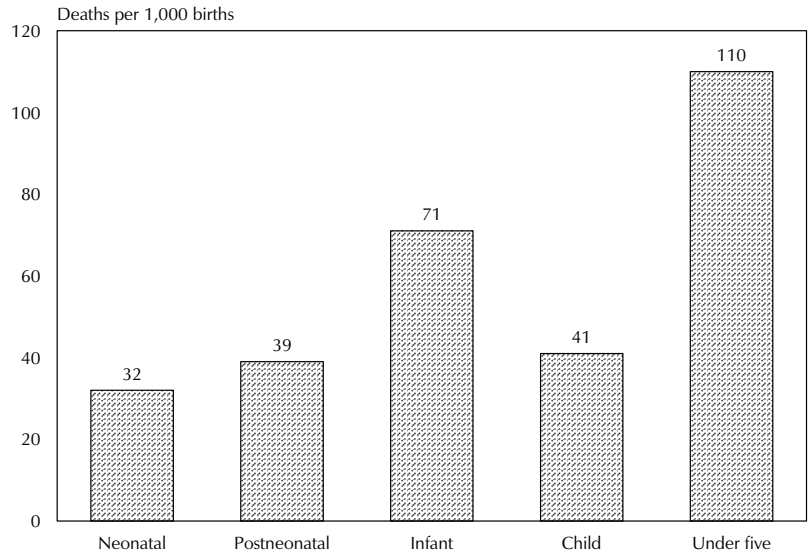
Table 8.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Liberia 2007

Years preceding the survey	Approximate calendar years	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	2002-2006	32	39	71	41	110
5-9	1997-2001	38	76	114	69	175
10-14	1992-1996	43	96	139	93	219

[1] Computed as the difference between the infant and neonatal mortality rates

Figure 8.1 Infant and Child Mortality Rates, 2002-06



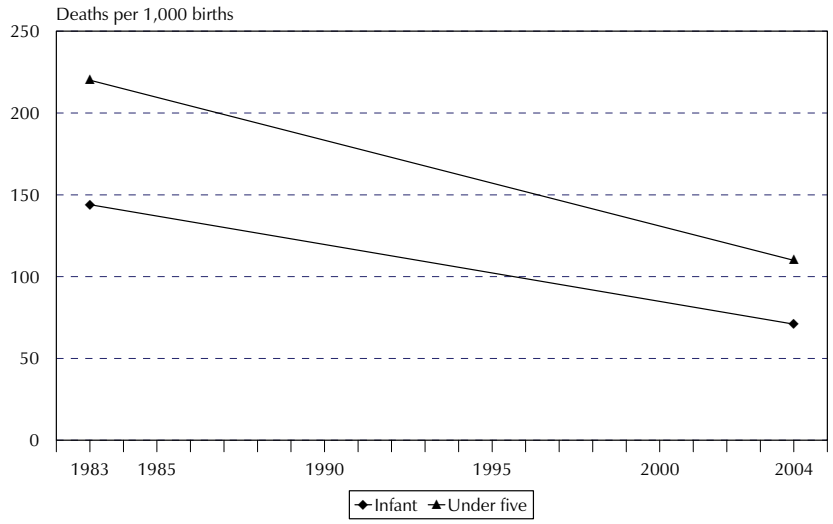
Note: Data refer to the 5-year period preceding the survey.
Rates are per 1,000 births.

The data from the birth histories in the 2007 LDHS show that there has been a dramatic decline in child mortality in Liberia over the 15-year period preceding the survey. For example, under-five mortality has been cut in half, from 219 deaths per 1,000 births 10-14 years before the survey to 110 for the five-year period before the survey. Although this trend is very plausible given the end of the civil war that raged in Liberia for more than a decade, caution should also be exercised because the child mortality data are derived from the birth history and many women who were interviewed had difficulty in providing dates of birth for their children.

Nevertheless, the downward trend is substantiated by comparison with the 1986 LDHS data, which showed an infant mortality rate of 144 and an under-five mortality rate of 220. Figure 8.2 shows the infant and under-five mortality rates for the 1986 LDHS and the 2007 LDHS.[1] The surveys reveal that both infant and under-five mortality rates have declined considerably. The decline could be attributed to improvement in the health sector, especially in the areas of maternal and child health with specific reference to immunization, to the malaria prevention initiative, and to the suspension of user fees in all government and nongovernmental organization (NGO)-supported health facilities. Restoration of basic health services and the elimination of poliomyelitis in Liberia, coupled with increasing coverage in childhood immunizations, also can help to explain the reduction in under-five mortality.

[1] Data for the 1999-2000 LDHS are not shown because the rates (117 for infant mortality and 194 for under-five mortality) were estimated using indirect methods that have been shown to overestimate child mortality.

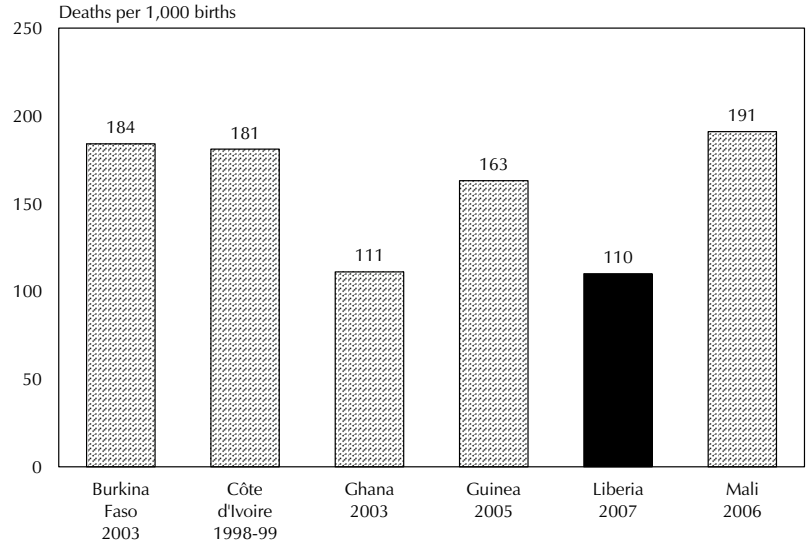
Figure 8.2 Trends in Under-Five Mortality Rates



Note: Data refer to the five years before each survey.

As shown in Figure 8.3, the under-five mortality rate for Liberia is lower than most of its neighboring countries.

Figure 8.3 Under-Five Mortality Rates for Selected Countries



Note: Data refer to the 5-year period preceding the survey.
Rates are per 1,000 births.

8.2 DATA QUALITY

The quality of mortality estimates calculated from retrospective birth histories depends upon the completeness with which births and deaths are reported and recorded. One factor that affects childhood mortality estimates is the quality of reporting of age at death, which may distort the age pattern of mortality. If age at death is misreported, it will bias the estimates, especially if the net effect of the age misreporting results in transference from one age bracket to another. For example, a net

transfer of deaths from under one month to a higher age will affect the estimates of neonatal and postneonatal mortality. To minimize errors in reporting of age at death, interviewers were instructed to record age at death in days if the death took place in the month following the birth, in months if the child died before age two years, and in years if the child was at least two years of age. They also were asked to probe for deaths reported at one year to determine a more precise age at death in terms of months.

The data in Appendix Table C.6 show that despite these instructions, there were a number of deaths reported to have occurred at age "one year." It is likely that at least some of these may have occurred before the child's first birthday and thus should be classified as infant deaths. Transferring some of these deaths from childhood to infancy would slightly increase the infant mortality rate and slightly decrease the child mortality rate. For the most recent five-year period before the survey, the proportion of infant deaths that occurred during the first month of life (48 percent) is plausible.

Another potential data quality problem is the selective omission from the birth histories of children who did not survive, which can lead to underestimation of mortality rates. When selective omission of childhood deaths occurs, it is usually more severe for deaths occurring early in infancy. One way such omissions can be detected is by examining the proportion of early neonatal deaths to infant deaths. Generally, if there is substantial underreporting of deaths, the result is an abnormally low ratio of early neonatal deaths to infant deaths. As shown in Appendix Table C.5, for the most recent five-year period before the survey, the proportion of neonatal deaths occurring in the first week of life is high (79 percent).[2] The fact that the proportions are lower for earlier periods before the survey implies that reporting may not be as accurate for these earlier times.

Another potential data quality problem includes displacement of birth dates, which may cause a distortion of mortality trends. This can occur if an interviewer knowingly records a death as occurring in a different year, which would happen if an interviewer is trying to cut down on their overall work, because live births occurring during the five years preceding the interview are the subject of a lengthy set of additional questions. In the 2007 LDHS questionnaire, the cutoff year for these questions was 2001.

As shown in Appendix Table C.4, there is evidence of considerable displacement of births from 2001 back to 2000, which could be due to interviewers' deliberate attempts to reduce their workload, to respondents' preference for reporting rounded birth years ("heaping"), or to a combination of the two. There are 833 births reported as occurring in 2001, compared with 1,374 in 2000, a 65 percent increase. The difference is even larger for births of children who subsequently died—76 in 2001 versus 252 in 2000. While some of the pattern could be due to a tendency for respondents to favor the year 2000 as opposed to an odd year like 2001, it is highly likely that interviewers also tended to displace the births to 2000 so as to avoid having to fill in the long section on child health. The data collection for the LDHS started at the very end of December 2006, so data on mortality and child health in the five years before the survey are taken almost entirely from children born in 2002 and later. Thus, the displacement from 2001 to 2000 is unlikely to affect the data for the five years before the survey. Nevertheless, this evidence of deliberate misreporting on the part of interviewers is of concern.

In sum, although it is not possible to detect an obvious bias towards over- or under-estimation of childhood mortality rates, the high level of displacement or heaping of births in the year 2000 suggests that the data are not of the highest quality.

[2] There are no models for mortality patterns during the neonatal period. However, one review of data from several developing countries concluded that, at neonatal mortality levels of 20 per 1,000 or higher, approximately 70 percent of neonatal deaths occur within the first six days of life (Boerma, 1988).

8.3 SOCIOECONOMIC DIFFERENTIALS IN INFANT AND CHILD MORTALITY

Mortality differentials by place of residence, region, educational level of the mother, and household wealth are presented in Table 8.2. For a sufficient number of births to study mortality differentials across population subgroups, period-specific rates are presented for the 10-year period preceding the survey (roughly corresponding to calendar years 1997 to 2007).

Table 8.2 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by background characteristic, Liberia 2007

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Residence					
Urban	31	47	78	58	131
Rural	37	62	99	52	146
Region					
Monrovia	29	40	69	55	121
North Western	34	53	87	61	142
South Central	40	102	142	46	182
South Eastern A	42	46	87	50	132
South Eastern B	36	38	73	51	121
North Central	35	56	91	56	142
Mother's education					
No education	39	68	107	49	151
Primary	33	51	84	55	135
Secondary and higher	24	35	59	63	119
Wealth quintile					
Lowest	29	71	100	43	138
Second	40	65	105	55	155
Middle	41	41	81	54	131
Fourth	32	64	95	67	156
Highest	32	39	70	50	117

[1] Computed as the difference between the infant and neonatal mortality rates

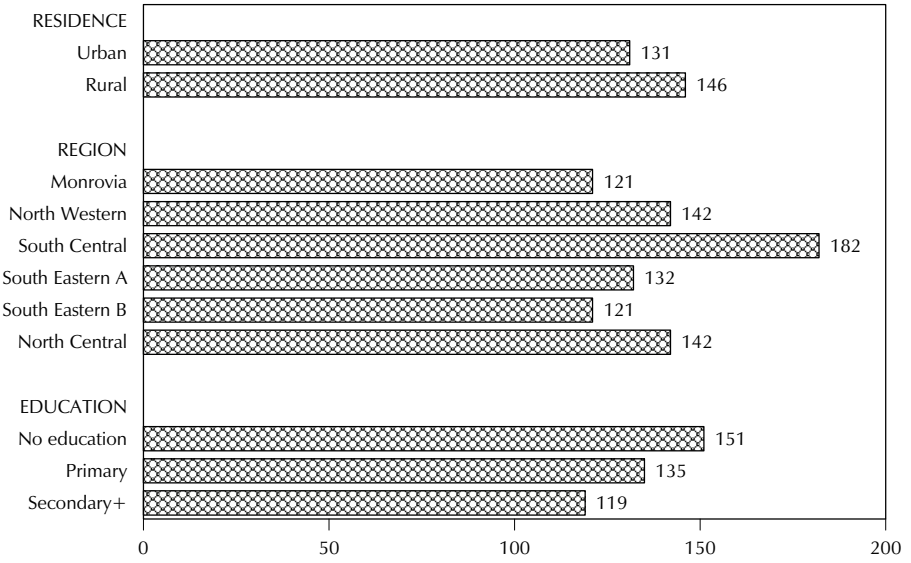
The 2007 LDHS data show that mortality levels in rural areas tend to be higher than urban areas. For example, under-five mortality in rural areas is 146 per 1,000 live births, compared with 131 for urban areas (Figure 8.4). The urban-rural disparity is most notable for postneonatal mortality, which is 62 per 1,000 births in rural areas versus 47 in urban areas.

There are regional variations in childhood mortality rates. The data show that Monrovia and South Eastern B region have the lowest under-five mortality rate (121 deaths per 1,000 live births), and the South Central region has the highest (182 per 1,000 births). This means that almost one in five children born in South Central region does not live until the fifth birthday. The infant mortality rate in South Central (142) is roughly double that for Monrovia (69) and South Eastern B (73).

Many studies have documented that mother's level of education is strongly correlated with child survival. Higher levels of maternal educational attainment are generally associated with lower mortality rates because education exposes mothers to information about better nutrition, use of contraceptives to space births and knowledge about childhood illness and treatment. In Liberia, under-five mortality among children whose mothers have no education (151 per 1,000 live births) is markedly higher than among mothers with secondary and higher education (119 per 1,000 live births).

The relationship between childhood mortality and wealth in Liberia is not uniform. Children in the highest wealth quintile demonstrate the lowest under-five and infant mortality; however, children in the lowest wealth quintile have the lowest neonatal mortality. To some extent, the patterns may be due to sampling variability.

Figure 8.4 Socioeconomic Differentials in Under-Five Mortality Rates



Note: Rates are per 1,000 births and refer to the 10-year period prior to the survey or roughly 1997-2006.

LDHS 2007

8.4 Demographic Differentials in Infant and Child Mortality

The demographic characteristics of both mother and child have been found to play an important role in the survival probability of children. Table 8.3 presents early childhood mortality rates by demographic characteristics (i.e., sex of child, mother's age at birth, birth order, previous birth interval, and birth size).

Childhood mortality rates show the usual pattern of higher rates for males than females. The 2007 data indicate that male mortality exceeds female mortality at all levels (Table 8.3 and Figure 8.5). Data from previous studies show that births to young mothers (under age 20 years) and older mothers (35 years and over) experience a higher risk of mortality. This U-shaped pattern is also true in Liberia, where mortality rates are higher for the youngest and oldest mothers.

First births and higher order births normally experience a higher risk of mortality. Data from the 2007 LDHS confirm this pattern. Neonatal, infant, and under-five mortality rates are lowest for second and third births; postneonatal mortality tends to increase with birth order, and child mortality rates do not show any particular pattern by birth order.

The spacing of births has a significant impact on a child's chances of survival. Generally, children born less than two years after a prior sibling suffer significantly higher risks of death than children born after a longer birth interval.

The data for Liberia corroborate this pattern. Mortality rates at all ages of childhood show a strong relationship with length of the birth interval. Under-five mortality is more than twice as high among children born less than two years after a preceding sibling than for those born four or more years after a previous child (208 vs. 91 per 1,000 births). The relationship occurs at every age group.

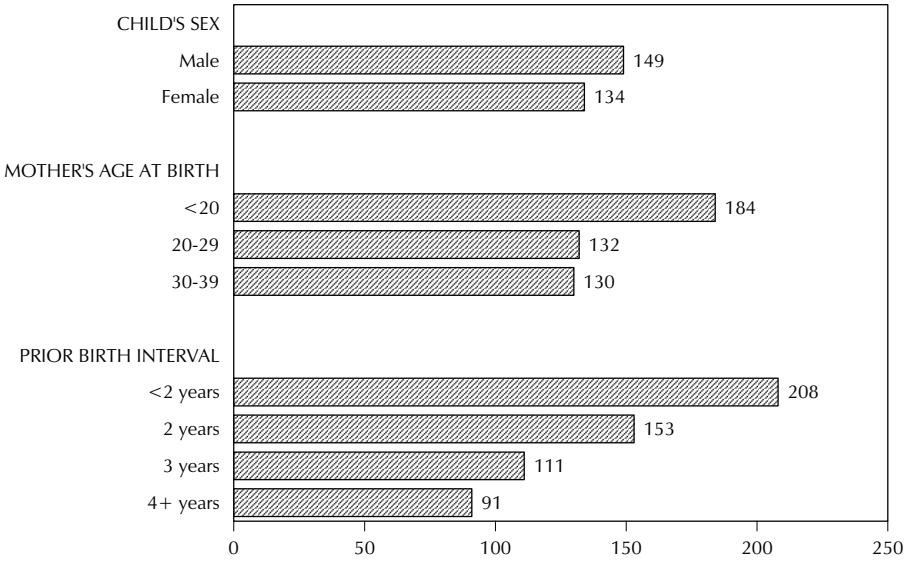
Table 8.3 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by demographic characteristics, Liberia 2007

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Child's sex					
Male	39	58	97	57	149
Female	30	57	87	51	134
Mother's age at birth					
<20	43	80	122	71	184
20-29	30	51	80	56	132
30-39	37	54	91	43	130
40-49	43	(65)	(108)	*	*
Birth order					
1	40	51	91	55	141
2-3	22	59	81	60	135
4-6	39	59	99	45	140
7+	49	61	110	57	161
Previous birth interval[2]					
<2 years	53	94	147	71	208
2 years	33	66	99	60	153
3 years	24	48	72	42	111
4+ years	23	31	55	39	91
Birth size[3]					
Small/very small	46	49	94	na	na
Average or larger	22	33	56	na	na

Note: Numbers in parentheses are based on 250-499 unweighted children exposed to the risk of death, and an asterisk represents a rate based on fewer than 250 children that has been suppressed.
na = Not applicable
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births
[3] Rates for the five-year period before the survey

Figure 8.5 Demographic Differentials in Under-Five Mortality Rates



Note: Rates are per 1,000 births and refer to the 10-year period prior to the survey or roughly 1997-2006

LDHS 2007

The data also show that there is a relationship between infant mortality and the size of the baby at birth. Infant mortality is 68 percent higher among babies assessed as small or very small than babies assessed as average or bigger at birth. The variation in neonatal mortality is particularly marked. Neonatal mortality is more than twice as high among small or very small babies than among average or bigger babies.

8.5 PERINATAL MORTALITY

Pregnancy losses occurring after seven completed months of gestation (stillbirths) plus deaths to live births within the first seven days of life (early neonatal deaths) constitute perinatal deaths. The distinction between a stillbirth and an early neonatal death may be a fine one, often depending on observing and then remembering sometimes faint signs of life after delivery. The causes of stillbirths and early neonatal deaths are closely linked, and examining just one or the other can understate the true level of mortality around delivery. For this reason deaths around delivery are combined into the perinatal mortality rate. When the number of perinatal deaths is divided by the total number of pregnancies reaching seven months of gestation, the perinatal mortality rate is derived. Table 8.4 presents the number of stillbirths and early neonatal deaths and the perinatal mortality rate for the five-year period preceding the survey.

Table 8.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Liberia 2007

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	10	19	30	966
20-29	43	61	37	2,810
30-39	21	45	42	1,561
40-49	7	11	53	337
Previous pregnancy interval in months[4]				
First pregnancy	0	3	38	80
<15	3	12	51	290
15-26	18	24	48	873
27-38	19	33	36	1,430
39+	41	65	36	3,001
Residence				
Urban	42	42	48	1,736
Rural	39	94	34	3,939
Region				
Monrovia	35	27	52	1,204
North Western	3	17	38	525
South Central	26	16	45	941
South Eastern A	3	12	37	409
South Eastern B	2	9	28	417
North Central	11	55	30	2,178
Mother's education				
No education	32	73	38	2,761
Primary	29	40	35	1,944
Secondary and higher	20	24	46	962
Wealth quintile				
Lowest	12	25	29	1,266
Second	6	29	26	1,338
Middle	18	43	50	1,214
Fourth	27	23	43	1,164
Highest	19	17	52	692
Total	81	136	38	5,675

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months. Because the LDHS did not utilize a 5-year reproductive "calendar," the data on stillbirths was taken from the questions on pregnancies that did not end in a live birth.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration, expressed per 1,000
[4] Categories correspond to birth intervals of <24 months, 24-35 months, 36-47 months, and 48+ months.

The table indicates a perinatal mortality rate of 38 per 1,000 pregnancies of seven or more months of gestation. Because the rate is subject to a high degree of sampling variation, differences by background characteristics should be interpreted with caution. Nevertheless, it appears that perinatal mortality tends to increase with mother's age at birth and to decrease as the length of time since the preceding birth increases. Somewhat surprisingly, perinatal mortality rates are higher in urban than rural areas and are also higher in Monrovia than other parts of the country. Also surprising is the marked variation in the number of stillbirths reported by region.

8.6 HIGH-RISK FERTILITY BEHAVIOR

Findings from scientific studies have confirmed that there is a strong relationship between children's chances of dying and certain fertility behaviors. Typically, the probability of dying in early childhood is much greater if children are born to mothers who are too young or too old, if they are

born after a short preceding birth interval, or if they are high parity births. Very young mothers may experience difficult pregnancies and deliveries because of their physical immaturity. Older women may also experience age-related problems during pregnancies and delivery. In this analysis, a mother is considered to be "too young" if she is less than 18 years and "too old" if she is more than 34 years at the time of delivery. A "short birth interval" is a birth occurring within 24 months of a previous birth.

Table 8.5 shows the distribution of children born in the five years preceding the survey, by risk category. Although first births to women age 18-34 are considered an unavoidable risk, they are included in the analysis and are shown as a separate risk category.

The first column in Table 8.5 shows that the percentage of births occurring in the five years before the survey falls into various categories. Fifty-seven percent of births in Liberia have higher mortality risks that are avoidable; 36 percent fall in a single high-risk category, and 21 percent are in a multiple high-risk category. The second column shows risk ratios for births in various high-risk categories relative to births not having any high-risk characteristics. In general, risk ratios are higher for children in multiple high-risk categories (1.7) than for those in a single high-risk category (1.2).

Table 8.5 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Liberia 2007

Risk category	Births in the 5 years preceding the survey: Percentage of births	Births in the 5 years preceding the survey: Risk ratio	Percentage of currently married women[1]
Not in any high-risk category	27.0	1.00	17.4 [a]
Unavoidable risk category			
First-order births between ages 18 and 34 years	15.9	1.43	3.7
Single high-risk category			
Mother's age <18	7.2	1.77	0.7
Mother's age >34	1.1	0.48	4.5
Birth interval <24 months	5.3	1.55	7.8
Birth order >3	22.3	0.97	16.1
Subtotal	35.9	1.20	29.1
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	0.4	*	0.3
Age >34 and birth interval <24 months	0.1	*	0.2
Age >34 and birth order >3	13.0	1.50	34.1
Age >34 and birth interval <24 months and birth order >3	2.6	1.73	4.9
Birth interval <24 months and birth order >3	5.2	2.18	10.2
Subtotal	21.3	1.67	49.7
In any avoidable high-risk category	57.2	1.38	78.8
Total	100.0	na	100.0
Number of births/women	5,594	na	4,540

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category. An asterisk denotes a ratio based on fewer than 25 unweighted births that has been suppressed.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the category age <18 and birth order >3
[a] Includes sterilized women

The highest risk (relative risk of 2.2) is associated with births that fall into two of the four risk categories, i.e., fourth or higher births occurring less than 24 months after a prior birth. Thankfully, only 5 percent of births fall into this category. Children born to young mothers also face a higher risk of dying (relative risk of 1.8), and these births account for 7 percent of all births.

The last column in Table 8.5 looks to the future and addresses the question of how many currently married women have the potential for having a high-risk birth. The results were obtained by simulating the risk category into which a birth to a currently married woman would fall if she were to become pregnant at the time of the survey. This column is simply an assumption and does not take into consideration the protection provided by family planning, postpartum insusceptibility, and prolonged abstinence. However, it provides an insight into the magnitude of high-risk fertility behavior. In general, 79 percent of currently married women have the potential for having a high-risk birth, with 29 percent falling into a single high-risk category and 50 percent in a multiple high-risk category.

MATERNAL HEALTH 9

The health care that a mother receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and her child. This chapter presents findings on several areas related to maternal health—prenatal, delivery, and postnatal care—as well as problems in accessing medical care. These findings are important to policymakers and program implementers in formulating programs and policies and in designing appropriate strategies and interventions to improve maternal and child health care services.

9.1 PRENATAL CARE

The major objective of prenatal care is to identify and treat problems during pregnancy such as anemia and infections. It is during a prenatal care visit that screening for complications and advice on a range of issues including place of delivery and referral of mothers with complications occur. Information on prenatal care is of great value in identifying subgroups of women who do not use such services and is useful in planning improvements in the services. The data on prenatal care from the 2007 Liberia Demographic and Health Survey (LDHS) provide details on the type of service provider, the number of prenatal care visits made, the stage of pregnancy at the time of the first and last visits, and the services and information provided during prenatal care, including whether tetanus toxoid was received.

Table 9.1 presents the percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by the type of prenatal care provider consulted during the pregnancy for the most recent birth, according to background characteristics. If a woman received prenatal care from more than one provider, the provider with the highest qualifications was recorded. The survey shows that almost eight in ten mothers (79 percent) receive prenatal care from a health professional (doctor, nurse, midwife, or physician's assistant). Sixteen percent of mothers receive prenatal care from a traditional midwife and 4 percent of mothers do not receive any prenatal care.

Differences in prenatal care coverage by women's age at birth are not large. There are some differences by birth order; however, mothers in Liberia are somewhat more likely to receive prenatal care from health professionals for the first birth (83 percent) than for fourth births or higher (76-77 percent).

There are large differences in the use of prenatal care services between women in urban and rural areas. Health professionals provide prenatal care services for 94 percent of urban mothers, compared with only 72 percent of rural mothers. There are also large differences in prenatal care coverage by region; 96 percent of mothers in Monrovia receive prenatal care services from health professionals, compared with only 63 percent of mothers in the North Central region.

According to the survey results, the use of prenatal care services is strongly related to women's educational level. Ninety-three percent of mothers with at least some secondary education receive prenatal care services from a health professional, compared with only 74 percent of mothers with no education. There is also a positive relationship between professional prenatal care coverage and wealth quintile, with women in the highest wealth quintile more than 40 percent more likely to receive prenatal care from health professionals than those in the lowest wealth quintile.

Table 9.1 Prenatal care

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by prenatal care provider during pregnancy for the most recent birth, and the percentage receiving prenatal care from a skilled provider for the most recent birth, according to background characteristics, Liberia 2007

Background characteristic	Doctor	Nurse/ midwife	Physician's assistant	Traditional midwife	Other	No one	Missing	Total	Percentage receiving prenatal care from a skilled provider[1]	Number of women
Mother's age at birth										
<20	6.5	70.2	3.2	16.9	0.1	2.9	0.3	100.0	79.8	637
20-34	9.3	68.1	2.9	15.6	0.1	3.6	0.5	100.0	80.3	2,546
35-49	8.2	64.1	3.0	18.6	0.5	4.2	1.4	100.0	75.3	744
Birth order										
1	8.4	71.2	3.5	14.3	0.2	2.1	0.2	100.0	83.2	867
2-3	9.8	68.6	2.4	15.3	0.1	3.6	0.3	100.0	80.8	1,323
4-5	7.8	64.7	3.0	19.5	0.1	4.7	0.2	100.0	75.6	873
6+	7.8	65.8	3.2	16.9	0.4	4.0	1.9	100.0	76.8	865
Residence										
Urban	7.6	83.8	3.0	4.0	0.1	1.1	0.4	100.0	94.4	1,310
Rural	9.1	59.6	2.9	22.6	0.2	4.9	0.7	100.0	71.7	2,618
Region										
Monrovia	6.9	85.8	2.9	3.4	0.0	0.7	0.3	100.0	95.6	933
North Western	2.0	77.2	2.7	12.3	0.0	5.7	0.0	100.0	82.0	332
South Central	6.8	83.6	2.6	3.6	0.3	2.4	0.7	100.0	92.9	616
South Eastern A	21.2	54.5	3.3	7.3	0.5	11.5	1.6	100.0	79.1	256
South Eastern B	10.5	62.6	5.4	10.3	1.3	9.1	1.0	100.0	78.4	272
North Central	9.4	51.2	2.7	33.0	0.0	3.1	0.6	100.0	63.3	1,519
Mother's education										
No education	8.7	62.8	2.7	19.2	0.1	5.6	0.9	100.0	74.2	1,845
Primary	8.5	67.0	3.1	18.2	0.2	2.5	0.5	100.0	78.6	1,319
Secondary and higher	8.6	80.9	3.5	6.1	0.1	0.5	0.3	100.0	93.1	757
Wealth quintile										
Lowest	10.4	53.1	3.8	24.9	0.5	7.1	0.2	100.0	67.3	828
Second	8.0	58.2	3.1	24.2	0.1	5.1	1.4	100.0	69.2	857
Middle	9.2	66.0	2.6	19.1	0.1	2.4	0.5	100.0	77.9	847
Fourth	6.4	83.9	1.5	5.9	0.0	1.9	0.5	100.0	91.8	844
Highest	9.5	82.0	4.3	3.2	0.0	0.5	0.5	100.0	95.8	553
Total	8.6	67.7	3.0	16.4	0.2	3.6	0.6	100.0	79.3	3,928

Note: If more than one source of prenatal care was mentioned, only the provider with the highest qualifications is considered in this tabulation. Total includes some women missing information on education

[1] Skilled provider includes doctor, nurse, midwife, and physician's assistant.

The results indicate that there has been a decline in prenatal care coverage in Liberia over the past 20 years. The proportion of women who get prenatal care from a doctor, nurse, or midwife (excluding physician's assistants) increased very slightly from 83 percent in 1986 to 84 percent in 1999-2000, but declined to 76 percent in 2007.[1]

9.2 NUMBER AND TIMING OF PRENATAL CARE VISITS

Prenatal care is more beneficial in preventing pregnancy outcomes when it is sought early in the pregnancy and is continued through to delivery. Health professionals recommend that the first prenatal visit should occur within the first three months of pregnancy and continue on a monthly basis through the 28th week of pregnancy and then every two weeks up to the 36th week (or until birth). Under normal circumstances, the World Health Organization (WHO) recommends that a woman

[1] Data for 1986 and 2007 refer to the most recent birth to women who had a birth in the five years preceding the survey, while data for 1999-2000 refer to all births in the three years preceding the survey. These discrepancies in definition probably do not affect the results to any considerable degree. Moreover, the two earlier surveys did not include a category for physician's assistants.

without complications have at least four prenatal care visits, the first of which should take place during the first trimester. Table 9.2 presents information on prenatal care visits including the number of visits and the timing of the first visit.

In Liberia, two-thirds of mothers have four or more prenatal care visits. Almost two in ten women have one to three prenatal care visits, but 4 percent of mothers have no prenatal care visits. The survey also shows that women in Liberia receive prenatal care services early during pregnancy. More than half of mothers (59 percent) obtain prenatal care in the first three months of pregnancy, but 24 percent make their first visit in the fourth or fifth month. Only 2 percent of women have their first prenatal care visit in their eighth month of pregnancy or later.

There is a great difference in prenatal care coverage between women in urban and rural areas. Seventy-six percent of women in urban areas make four or more prenatal care visits, compared with only 61 percent of women in rural areas. Urban women also typically receive prenatal care earlier than rural women; 70 percent of urban women saw a provider for prenatal care early in the pregnancy, compared with 53 percent of rural women.

Table 9.2 Number of prenatal care visits and timing of first visit

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by number of prenatal care visits for the most recent live birth and the timing of the first visit, and among women with prenatal care, median months pregnant at first visit, according to residence, Liberia 2007

Number and timing of prenatal care visits	Residence		Total
	Urban	Rural	
Number of prenatal care visits			
None	1.1	4.9	3.6
1	0.8	2.5	1.9
2-3	7.3	22.3	17.3
4+	76.1	60.9	66.0
Don't know/missing	14.7	9.5	11.2
Total	100.0	100.0	100.0
Number of months pregnant at time of first prenatal visit			
No prenatal care	1.1	4.9	3.6
<4	70.1	52.7	58.5
4-5	19.5	26.3	24.0
6-7	7.2	12.0	10.4
8+	0.7	2.4	1.8
Don't know/missing	1.4	1.8	1.7
Total	100.0	100.0	100.0
Number of women	1,310	2,618	3,928
Median months pregnant at first visit (for those with prenatal care)	3.2	3.7	3.5
Number of women with prenatal care	1,290	2,472	3,763

9.3 COMPONENTS OF PRENATAL CARE

Describing the content of prenatal care is essential for assessing the quality of prenatal care services. Pregnancy complications are a primary source of maternal and child morbidity and mortality. Therefore, ensuring that pregnant women receive information on the signs of complications and testing them for complications should be routinely included in all prenatal care visits. To help assess prenatal care services, respondents were asked whether they had been advised of possible pregnancy complications or whether they had received certain screening tests during at least one of the prenatal visits. Table 9.3 presents information on the percentage of women who took iron tablets or syrup, were informed of the signs of pregnancy complications, and received selected services during prenatal care visits for their most recent birth in the last five years.

The data show that the vast majority (87 percent) of women with a recent birth took iron supplements during pregnancy, but only 29 percent took worm medicine during the pregnancy. Variation by age at birth is minimal. There is a slight decrease in the proportion of women who take iron supplements as birth order increases. However, substantial variations are noted by place of residence, region, education and wealth quintile. For example, 95 percent of women in urban areas take iron tablets or syrup during pregnancy, compared with only 82 percent of women in rural areas. Women in Monrovia and South Central regions, those who are better educated, and those who are wealthier are much more likely than other women to have taken iron supplements and worm medicine during pregnancy. Women in South Eastern A region also have a relatively high coverage for worm medicine, but are the least likely to have taken iron supplements during pregnancy.

Table 9.3 Components of prenatal care

Among women age 15-49 with a live birth in the five years preceding the survey, the percentage who took iron tablets or syrup and worm medicine during the pregnancy of the most recent birth, and among women receiving prenatal care for the most recent live birth in the five years preceding the survey, the percentage receiving specific prenatal services, according to background characteristics, Liberia 2007

Background characteristic	Among women with a live birth in the past five years, the percentage who during the pregnancy of their last birth:		Number of women with a live birth in the past five years	Among women who received prenatal care for their most recent birth in the past five years, the percentage with selected services					Number of women with prenatal care for their most recent birth
	Took iron tablets or syrup	Took worm medicine		Informed of signs of pregnancy compli-cations	Weighed	Blood pressure measured	Urine sample taken	Blood sample taken	
Mother's age at birth									
<20	89.7	30.2	637	39.2	74.5	78.8	48.2	52.9	617
20-34	86.8	28.0	2,546	40.5	78.7	82.6	50.9	57.0	2,443
35-49	82.6	28.9	744	44.4	74.3	76.5	45.8	51.4	703
Birth order									
1	90.4	33.4	867	42.5	79.1	83.1	54.9	59.1	846
2-3	87.8	27.6	1,323	38.9	77.9	81.5	49.8	56.3	1,273
4-5	85.4	26.9	873	41.2	76.8	80.3	47.9	53.6	830
6+	81.6	26.6	865	42.5	74.4	77.9	45.1	51.3	814
Residence									
Urban	94.6	34.9	1,310	48.2	90.2	91.7	73.4	77.7	1,290
Rural	82.4	25.3	2,618	37.2	70.4	75.1	37.1	43.6	2,472
Region									
Monrovia	96.6	36.7	933	51.3	90.7	92.2	76.7	79.9	924
North Western	89.0	15.6	332	26.2	90.9	91.6	40.3	64.4	313
South Central	91.0	28.2	616	35.8	76.8	82.0	60.7	60.5	596
South Eastern A	60.8	29.0	256	36.3	73.3	83.1	39.0	43.0	222
South Eastern B	78.6	22.7	272	44.9	69.2	75.0	17.7	22.1	245
North Central	83.7	27.4	1,519	39.8	67.8	71.5	36.7	43.0	1,463
Mother's education									
No education	82.2	25.1	1,845	36.5	73.2	77.5	40.2	46.4	1,726
Primary	86.7	29.9	1,319	41.7	76.4	80.3	48.7	55.0	1,280
Secondary and higher	96.5	34.6	757	50.3	87.6	89.4	72.1	75.9	751
Wealth quintile									
Lowest	73.6	22.0	828	39.2	64.4	70.6	34.3	36.8	768
Second	83.7	26.0	857	40.6	67.8	71.2	33.4	39.7	801
Middle	87.0	25.8	847	38.2	78.7	82.2	42.5	51.6	822
Fourth	94.2	33.1	844	38.5	88.2	90.6	67.8	73.0	824
Highest	97.6	39.4	553	52.0	90.2	92.3	77.4	82.6	547
Total	86.5	28.5	3,928	41.0	77.2	80.8	49.5	55.3	3,763

As far as content of prenatal care services is concerned, the data show that 41 percent of women in Liberia who received prenatal care said they were informed about signs of pregnancy complications, and weight and blood pressure were taken on 77 percent and 81 percent of mothers, respectively. Fifty percent of mothers gave urine samples and 55 percent gave a blood sample.

The quality of prenatal care in Liberia is related to women's educational levels, wealth, residence, and region. For instance, women with secondary and higher education, women in the highest wealth quintile, and women living in urban areas are more likely than other women to be informed about pregnancy complications. Regional variation in the proportion of women who were informed about pregnancy complications during prenatal care visits are marked, ranging from a high of 51 percent among women in Monrovia to a lowt of 26 percent in North Western region. Similar patterns are observed for other routine tests like taking weight and blood pressure and urine and blood samples.

9.4 TETANUS TOXOID INJECTIONS

Neonatal tetanus is a leading cause of neonatal death in developing countries where a high proportion of deliveries are conducted at home or in places where hygienic conditions may be poor. Tetanus toxoid (TT) immunization is given to pregnant women to prevent neonatal tetanus. If a woman has received no previous TT injections, for full protection a pregnant woman needs two doses of TT during pregnancy. However, if a woman was immunized before she became pregnant, she may require one or no TT injections during pregnancy, depending on the number of injections she has ever received and the timing of the last injection. For a woman to have lifetime protection, a total of five doses is required. The 2007 LDHS collected data on whether or not women received at least two TT injections and whether or not the pregnancy was protected against neonatal tetanus for the women's most recent live birth in the five years preceding the survey.

Table 9.4 Tetanus toxoid injections

Among mothers age 15-49 with a live birth in the five years preceding the survey, the percentage receiving two or more tetanus toxoid injections (TT) during the pregnancy for the last live birth and the percentage whose last live birth was protected against neonatal tetanus, according to background characteristics, Liberia 2007

Background characteristic	Percentage receiving two or more injections during last pregnancy	Percentage whose last birth was protected against neonatal tetanus[1]	Number of mothers
Mother's age at birth			
<20	73.0	76.6	637
20-34	75.9	79.1	2,546
35-49	71.9	76.2	744
Birth order			
1	77.8	81.6	867
2-3	75.3	78.1	1,323
4-5	74.7	77.8	873
6+	70.5	75.1	865
Residence			
Urban	88.3	90.7	1,310
Rural	67.9	71.9	2,618
Region			
Monrovia	92.1	93.6	933
North Western	73.5	75.7	332
South Central	78.9	81.0	616
South Eastern A	58.1	62.7	256
South Eastern B	47.3	50.6	272
North Central	70.2	75.6	1,519
Mother's education			
No education	69.2	72.8	1,845
Primary	74.7	77.8	1,319
Secondary and higher	88.6	92.1	757
Wealth quintile			
Lowest	58.5	63.5	828
Second	68.4	71.6	857
Middle	75.9	79.7	847
Fourth	83.9	87.3	844
Highest	92.7	94.2	553
Total	74.7	78.2	3,928

[1] Includes mothers with two injections during the pregnancy of her last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections before the last birth.

Table 9.4 shows that most women (75 percent) in Liberia receive two or more tetanus injections during pregnancy and that 78 percent of births are protected against neonatal tetanus. There is little variation in tetanus toxoid coverage by age at birth and birth order. However, there are differences by residence. For example, 91 percent of urban births in Liberia are protected against tetanus, compared with only 72 percent of rural births. There are also significant differences by region. In Monrovia, 94 percent of births are protected against neonatal tetanus, compared with 51 percent of births in South Eastern B region.

Education of the mother is positively related to tetanus toxoid coverage in Liberia; 92 percent of births to women with at least some secondary education are protected against neonatal tetanus, compared with 73 percent of births to women with no education. Similarly, women living in wealthier households are more likely to have received two or more tetanus toxoid injections during their last pregnancy and their births are more likely to be protected against tetanus than women in the lowest wealth quintiles.

In Liberia, LDHS 2007 data show that there has been some improvement in tetanus coverage. The 1999-2000 LDHS showed that mothers received two or more doses of tetanus toxoid during pregnancy for only 65 percent of all births in the five years preceding the survey, but in 2007 the figure had increased to 75 percent of mothers (most recent birth in the five years preceding the survey only).

9.5 PLACE OF DELIVERY

Increasing the number of babies delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infections that can cause morbidity and mortality to either the mother or the baby. Table 9.5 presents the percent distribution of live births in the five years preceding the survey by place of delivery, according to background characteristics.

Table 9.5 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery and percentage delivered in a health facility, according to background characteristics, Liberia 2007

Background characteristic	Health facility		Home	Other	Missing	Total	Percentage delivered in a health facility[1]	Number of births
	Public sector	Private sector						
Mother's age at birth								
<20	27.1	10.5	61.0	0.7	0.8	100.0	37.5	956
20-34	27.1	9.9	60.7	1.0	1.3	100.0	36.9	3,702
35-49	26.3	9.8	61.9	0.5	1.5	100.0	36.1	935
Birth order								
1	30.4	14.2	53.4	1.0	1.0	100.0	44.6	1,266
2-3	27.2	9.4	61.2	1.0	1.2	100.0	36.7	1,918
4-5	25.6	8.2	64.5	0.8	0.9	100.0	33.8	1,224
6+	24.2	8.1	65.1	0.6	2.0	100.0	32.3	1,185
Prenatal care visits[1]								
None	3.1	1.5	91.6	3.8	0.0	100.0	4.6	141
1-3	11.5	6.1	81.2	1.1	0.0	100.0	17.6	755
4+	36.6	12.5	50.2	0.6	0.0	100.0	49.2	2,591
Residence								
Urban	42.8	20.5	35.0	0.9	0.8	100.0	63.2	1,694
Rural	20.1	5.4	72.2	0.9	1.4	100.0	25.5	3,900
Region								
Monrovia	45.3	24.2	29.7	0.5	0.3	100.0	69.5	1,169
North Western	23.8	2.5	70.0	3.5	0.3	100.0	26.2	523
South Central	16.8	11.7	69.8	0.3	1.3	100.0	28.5	915
South Eastern A	20.9	3.3	71.0	1.0	3.8	100.0	24.2	405
South Eastern B	17.3	3.9	75.2	1.4	2.2	100.0	21.2	414
North Central	25.1	5.7	67.4	0.6	1.3	100.0	30.8	2,167
Mother's education								
No education	21.8	6.5	69.4	0.9	1.4	100.0	28.3	2,729
Primary	26.9	9.1	62.0	0.8	1.3	100.0	36.0	1,915
Secondary and higher	42.2	21.7	34.7	0.9	0.6	100.0	63.8	942
Wealth quintile								
Lowest	15.9	2.2	79.6	0.8	1.5	100.0	18.1	1,254
Second	21.9	2.9	72.5	1.6	1.0	100.0	24.8	1,332
Middle	26.2	8.6	62.6	1.0	1.7	100.0	34.7	1,197
Fourth	37.9	16.3	44.4	0.3	1.1	100.0	54.2	1,137
Highest	40.4	30.0	28.7	0.3	0.7	100.0	70.4	673
Total	27.0	9.9	61.0	0.9	1.2	100.0	36.9	5,594

Note: Total includes births missing information on number of prenatal care visits and maternal education.
[1] Includes only the most recent birth in the five years preceding the survey

The data show that the majority of births in Liberia (61 percent) are delivered at home, and 37 percent are delivered in health facilities, mostly public sector facilities. Delivery at a health facility is common for first births and for mothers who obtained prenatal care, especially if they had four or more prenatal care visits. It is also higher among urban births than rural births; more than 6 in 10 babies born in urban areas are delivered in a health facility, compared with only 26 percent of those born in rural areas. The proportion of babies born in a health facility is generally low in most of the regions (31 percent or less), with Monrovia being the only exception (70 percent of births). There is also a strong association between mother's education and place of delivery; the proportion of births

delivered in a health facility is 64 percent among mothers with at least some secondary education, compared with 28 percent for uneducated mothers. The association with wealth quintile is even stronger, with the proportion of babies delivered in a health facility ranging from 18 percent of those in the lowest wealth quintile to 70 percent of those in the highest quintile.

The proportion of births that occur in a health facility has not changed in the recent past. In 1999-2000, 36 percent of births in the three years preceding the survey took place in a health facility, compared with 37 percent of births in the five years preceding the 2007 LDHS.

9.6 ASSISTANCE DURING DELIVERY

In addition to place of birth, assistance during childbirth is an important variable that influences the birth outcome and the health of the mother and the infant. This is because a skilled birth attendant can reduce the likelihood of sepsis and other complications of delivery. Table 9.6 shows the percent distribution of live births in the five years preceding the survey by person providing assistance, according to background characteristics.

Table 9.6 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, percentage of births assisted by a skilled provider, and percentage delivered by caesarean section (C-section), according to background characteristics, Liberia 2007

	Person providing assistance during delivery										
Background characteristic	Doctor	Nurse/ midwife	Physician's assistant	Traditional midwife	Relative/ other	No one	Don't know/ missing	Total	Percentage delivered by a skilled provider[1]	Percentage delivered by C-section	Number of births
Mother's age at birth											
<20	4.0	44.2	1.7	45.0	3.9	0.1	1.1	100.0	49.9	2.9	956
20-34	4.2	41.8	0.7	47.5	3.7	0.4	1.7	100.0	46.7	3.6	3,702
35-49	5.4	34.7	0.7	52.6	3.2	1.4	2.0	100.0	40.8	3.6	935
Birth order											
1	4.5	49.4	1.3	40.5	2.8	0.1	1.3	100.0	55.2	3.8	1,266
2-3	4.6	41.2	0.7	48.3	3.4	0.4	1.3	100.0	46.6	4.0	1,918
4-5	3.4	38.4	0.6	51.4	3.3	1.0	1.8	100.0	42.5	2.8	1,224
6+	4.7	34.5	0.9	51.6	5.2	0.8	2.2	100.0	40.1	3.0	1,185
Place of delivery											
Health facility	11.3	82.2	1.6	4.2	0.1	0.0	0.7	100.0	95.1	9.4	2,064
Elsewhere	0.3	17.3	0.5	74.9	5.8	0.9	0.3	100.0	18.0	0.0	3,460
Residence											
Urban	5.5	71.7	1.5	18.2	1.4	0.3	1.4	100.0	78.7	5.4	1,694
Rural	3.8	27.7	0.6	60.9	4.6	0.6	1.7	100.0	32.2	2.6	3,900
Region											
Monrovia	6.4	75.8	1.6	14.5	0.8	0.2	0.8	100.0	83.8	6.3	1,169
North Western	0.4	46.9	0.3	46.9	4.9	0.1	0.6	100.0	47.6	2.8	523
South Central	2.5	40.1	0.5	54.6	0.5	0.1	1.7	100.0	43.1	2.7	915
South Eastern A	3.0	29.1	0.8	55.6	5.0	2.3	4.3	100.0	32.8	2.0	405
South Eastern B	3.7	24.7	2.1	37.0	27.8	1.6	3.0	100.0	30.6	0.9	414
North Central	5.4	26.6	0.6	64.1	1.3	0.5	1.5	100.0	32.6	3.2	2,167
Mother's education											
No education	3.0	31.9	0.8	58.1	3.8	0.8	1.6	100.0	35.7	1.9	2,729
Primary	4.9	41.6	0.9	46.0	4.4	0.4	1.8	100.0	47.4	4.1	1,915
Secondary and higher	7.3	66.5	1.0	22.2	1.7	0.0	1.2	100.0	74.7	6.6	942
Wealth quintile											
Lowest	2.2	22.5	1.1	66.7	5.1	0.9	1.6	100.0	25.8	0.8	1,254
Second	3.2	28.1	0.5	60.9	5.2	0.9	1.2	100.0	31.9	2.0	1,332
Middle	6.0	35.9	0.7	51.9	3.6	0.2	1.6	100.0	42.6	3.6	1,197
Fourth	5.0	62.8	0.9	26.4	2.3	0.2	2.4	100.0	68.7	5.7	1,137
Highest	6.3	73.5	1.5	16.9	0.2	0.4	1.2	100.0	81.3	7.5	673
Total	4.4	41.0	0.9	47.9	3.6	0.5	1.6	100.0	46.3	3.5	5,594

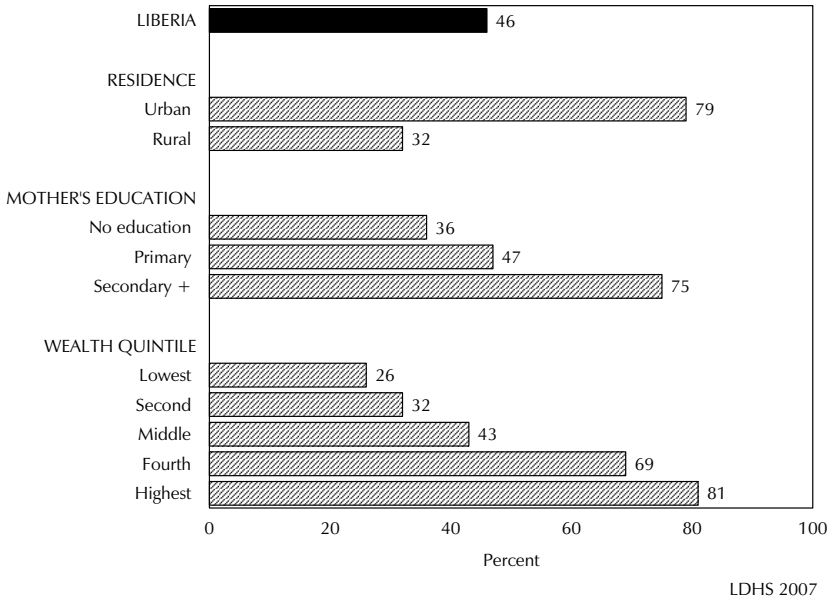
Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation. Total includes some cases missing values for place of delivery and education.
[1] Skilled provider includes doctor, nurse, midwife, and physician's assistant.

The data show that 46 percent of births in Liberia are delivered with the help of a health professional (i.e., doctor, nurse/midwife, and physician's assistant), and 48 percent are delivered by a traditional midwife. Very few births are attended by relatives (4 percent) and less than 1 percent of all births are delivered without any type of assistance at all. Births to younger mothers (less than 34 years) and first births are more likely to be assisted by trained health workers. Almost all births that occur in health facilities are assisted by trained providers. Women giving birth in urban areas and women living in Monrovia are far more likely than other women to be assisted by skilled health care workers at delivery.

As expected, mother's education has a positive relationship with the type of delivery care (Figure 9.1). Births to women who have attended secondary school or higher are more than twice as likely to be assisted by health professionals than births to women with no education (75 percent vs. 36 percent). Similarly, delivery assistance varies by the economic status of women. Births to women in the highest wealth quintile are much more likely to be assisted by health professionals (81 percent) than births to women in the lowest wealth quintile (26 percent).

Table 9.6 also presents data on prevalence of births by caesarean section. Overall, four percent of births are delivered by caesarean section. Births in health facilities, births in urban areas and in Monrovia, and births to better educated and wealthier women are more likely than other births to be delivered by caesarean section.

Figure 9.1 Assistance by Skilled Provider during Childbirth



9.7 POSTNATAL CARE

A large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Thus, postnatal care is important for both the mother and the child to treat possible complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. It is recommended that all women receive a check on their health within two days of delivery. To assess the extent of postnatal care utilization, women who were interviewed in the LDHS were asked about their most recent birth in the five years preceding the survey, specifically, whether they received a health check-up after the delivery, the timing of the first checkup, and the type of health provider performing the postnatal checkup. This information is presented according to background characteristics in Tables 9.7 and 9.8.

Table 9.7 Timing of first postnatal checkup

Among women age 15-49 with a birth in the five years preceding the survey, the percent distribution by timing of first postnatal checkup for the last live birth, according to background characteristics, Liberia 2007

Background characteristic	Timing of first postnatal checkup, relative to delivery: Less than 4 hours	4-23 hours	2 days	3-41 days	Don't know/ missing	No postnatal checkup[1]	Total	Number of women
Mother's age at birth								
<20	45.6	6.3	10.5	8.1	1.8	27.6	100.0	637
20-34	44.6	6.8	9.2	8.6	1.8	29.0	100.0	2,546
35-49	40.1	5.7	10.0	8.0	1.9	34.3	100.0	744
Birth order								
1	49.5	7.9	10.1	7.0	1.8	23.7	100.0	867
2-3	43.6	7.3	9.8	8.7	1.4	29.2	100.0	1,323
4-5	44.1	5.3	8.5	8.2	1.6	32.3	100.0	873
6+	38.7	5.1	9.8	9.5	2.7	34.2	100.0	865
Place of delivery								
Health facility	63.9	9.9	8.9	2.8	3.1	11.4	100.0	1,635
Elsewhere	29.8	4.2	10.1	12.5	0.9	42.6	100.0	2,280
Residence								
Urban	56.7	8.6	8.0	4.1	2.5	20.1	100.0	1,310
Rural	37.5	5.5	10.3	10.6	1.5	34.6	100.0	2,618
Region								
Monrovia	59.7	8.9	7.7	3.9	2.8	17.0	100.0	933
North Western	25.3	5.6	21.9	5.6	0.2	41.4	100.0	332
South Central	47.8	3.4	5.8	3.8	1.1	38.2	100.0	616
South Eastern A	24.5	4.9	11.3	3.9	3.2	52.3	100.0	256
South Eastern B	40.6	4.1	9.1	5.4	2.9	37.9	100.0	272
North Central	40.6	7.2	9.4	14.9	1.4	26.4	100.0	1,519
Education								
No education	39.8	4.9	9.2	8.0	2.0	36.2	100.0	1,845
Primary	41.9	7.9	10.5	10.0	1.6	28.1	100.0	1,319
Secondary and higher	57.5	8.1	8.9	6.8	1.8	17.0	100.0	757
Wealth quintile								
Lowest	33.0	5.9	10.3	8.2	1.5	41.1	100.0	828
Second	34.9	5.9	9.7	13.5	2.6	33.4	100.0	857
Middle	43.6	7.1	10.9	9.4	0.7	28.3	100.0	847
Fourth	54.5	6.1	8.6	5.0	1.6	24.3	100.0	844
Highest	58.6	8.4	8.0	4.4	3.1	17.5	100.0	553
Total	43.9	6.5	9.6	8.4	1.8	29.8	100.0	3,928

Note: Total includes some cases missing place of delivery and education.
[1] Includes women who received a checkup after 41 days

The data reveal that postnatal coverage is low in Liberia. According to the survey, 44 percent of mothers receive postnatal care within four hours of delivering, 7 percent receive care within four to 23 hours after delivering, and 10 percent received care within two days of delivering. Almost one-third of mothers (30 percent) do not get any postnatal care.

Younger mothers and those delivering their first babies are more likely than other mothers to receive postnatal care services within two days. The vast majority of women who deliver in a health facility (83 percent) also get a postnatal checkup within two days of the birth.

Geographically, there are variations in postnatal care between mothers residing in urban and rural environments. For example, 73 percent of mothers in urban areas received postnatal care within two days of delivery, compared with only 53 percent of women in rural areas. The use of timely postnatal care ranges from a high of 76 percent of mothers in Monrovia to a low of 41 percent in South Eastern A region.

Mother's education is related to the use of postnatal care. Seventy-five percent of mothers with at least some secondary school receive postnatal care within two days of delivery, compared with 54 percent of mothers with no education. There are also significant differences by wealth quintile; 75 percent of women in the highest wealth quintile receive postnatal care within two days after delivery, compared with 49 percent of those in the lowest wealth quintile.

Table 9.8 presents information on the types of postnatal care providers used, according to mothers' background characteristics. In Liberia, 46 percent of mothers obtain postnatal care from a health professional, and 24 percent get postnatal care from a traditional midwife. As mentioned above, 30 percent of women in Liberia do not receive any postnatal care at all.

Table 9.8 Type of provider of first postnatal checkup

Among women age 15-49 giving birth in the five years preceding the survey, the percent distribution by type of provider at mother's first postnatal health check for the last live birth, according to background characteristics, Liberia 2007

Background characteristic	Health provider at first postnatal checkup: Doctor/ nurse/ midwife	Physician assistant	Tradi-tional midwife	Other	Don't know/ missing	No postnatal checkup[1]	Total	Number of women
Mother's age at birth								
<20	41.8	6.1	24.0	0.3	0.0	27.6	100.0	637
20-34	43.3	3.5	23.6	0.2	0.4	29.0	100.0	2,546
35-49	36.7	3.7	24.5	0.1	0.7	34.3	100.0	744
Birth order								
1	49.5	4.9	21.5	0.2	0.2	23.7	100.0	867
2-3	43.2	2.8	24.4	0.4	0.1	29.2	100.0	1,323
4-5	38.3	4.9	24.1	0.0	0.4	32.3	100.0	873
6+	35.4	3.9	25.3	0.1	1.1	34.2	100.0	865
Residence								
Urban	66.9	5.2	7.7	0.1	0.1	20.1	100.0	1,310
Rural	29.2	3.4	32.0	0.3	0.5	34.6	100.0	2,618
Region								
Monrovia	71.5	4.8	6.6	0.0	0.1	17.0	100.0	933
North Western	35.9	3.1	18.1	1.2	0.2	41.4	100.0	332
South Central	34.8	2.1	24.7	0.0	0.3	38.2	100.0	616
South Eastern A	30.0	1.6	15.1	0.6	0.4	52.3	100.0	256
South Eastern B	35.0	3.9	21.9	0.4	0.9	37.9	100.0	272
North Central	30.8	4.8	37.3	0.1	0.6	26.4	100.0	1,519
Education								
No education	31.7	4.2	27.4	0.2	0.3	36.2	100.0	1,845
Primary	42.8	3.8	24.7	0.0	0.6	28.1	100.0	1,319
Secondary and higher	64.8	3.7	13.8	0.6	0.1	17.0	100.0	757
Wealth quintile								
Lowest	23.4	2.8	32.0	0.4	0.3	41.1	100.0	828
Second	26.3	4.9	34.2	0.1	1.1	33.4	100.0	857
Middle	38.9	3.2	28.9	0.6	0.1	28.3	100.0	847
Fourth	59.9	4.9	10.8	0.1	0.1	24.3	100.0	844
Highest	70.2	4.0	8.0	0.0	0.3	17.5	100.0	553
Total	41.8	4.0	23.9	0.2	0.4	29.8	100.0	3,928

[1] Includes women who received a checkup after 41 days

Differentials in the type of postnatal care provider are similar to those for postnatal care coverage in general. Mothers in urban areas and in Monrovia and those with more education and in the higher wealth quintiles are more likely to receive postnatal care from a health professional. For example, 72 percent of mothers in urban areas receive postnatal care from health professionals, compared with 33 percent of mothers in the rural areas. Similarly, 69 percent of mothers with secondary and higher education receive postnatal care from health professionals, compared with 36 percent of those with no education. Finally, 74 percent of mothers in the highest wealth quintile receive postnatal care from health professionals, compared with 26 percent of mothers in the lowest quintile.

9.8 Problems in Accessing Health Care

Many factors can prevent women from getting medical advice or treatment for themselves when they are sick. Information on such factors is particularly important in understanding and addressing the barriers women may face in seeking care during pregnancy and at the time of delivery. In the 2007 LDHS, women were asked whether each of the following factors would be a big problem or not a big problem in seeking medical care for themselves: getting permission to go for treatment, getting money for treatment, distance to a health facility, having to take transportation, concern that there may not be a health provider, and concern that there may be no drugs available.

As shown in Table 9.9, over half of Liberian women indicated that the major problems they faced in accessing health care are getting money for treatment (54 percent) and the concern that no drugs are available (51 percent). Additionally, distance to a health facility, the need to take transport, and concern that no health provider will be available are cited by 41-50 percent of women. Only 8 percent of women perceived getting permission to go for treatment to be a very serious problem. Three-quarters of women interviewed cited at least one of the stated factors to be a serious problem in accessing health care.

Younger women (15-19), women with no children, women who have never married, and those who are not employed are less likely to cite any of the factors as being a serious problem in accessing health care. Urban women and those in Monrovia are also less likely than women in rural areas or other regions to cite at least one problem. The proportion of women who report one or more of the factors as a serious problem in getting health care decreases with increasing education and wealth quintile.

As for specific factors, distance to a health facility and having to take transport appear to be bigger issues in South Eastern A region and among the poorest women, and concern that there are no drugs available is particularly widely cited among women in North Western region.

Table 9.9 Problems in accessing health care

Percentage of women age 15-49 who reported that they have serious problems in accessing health care for themselves when they are sick, by type of problem, according to background characteristics, Liberia 2007

Background characteristic	Problems in accessing health care						At least one problem accessing health care	Number of women
	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Having to take transport	Concern no provider available	Concern no drugs available		
Age								
15-19	9.5	46.5	38.2	40.3	35.7	43.1	68.2	1,312
20-34	7.1	54.6	49.1	50.4	41.4	52.7	78.0	3,485
35-49	8.2	56.3	53.6	54.4	43.1	54.0	78.3	2,295
Number of living children								
0	8.6	45.1	37.7	39.3	36.4	44.4	68.7	1,514
1-2	7.7	52.4	46.4	47.3	38.8	49.5	75.8	2,496
3-4	7.6	59.9	55.1	57.1	43.2	55.1	80.3	1,746
5+	7.9	57.4	56.2	57.2	46.9	57.8	80.5	1,336
Marital status								
Never married	8.1	47.1	35.1	37.3	35.6	42.0	66.5	1,853
Married or living together	7.7	55.1	54.7	55.8	42.2	54.5	79.5	4,540
Divorced/separated/widowed	9.0	61.6	44.5	44.5	46.4	55.4	81.5	699
Employed last 12 months								
Employed for cash	9.0	58.2	49.7	50.3	36.2	51.8	78.1	2,860
Employed not for cash	6.2	54.3	67.7	68.4	62.4	66.8	84.7	1,739
Not employed	7.9	47.3	33.9	36.0	30.9	39.8	68.0	2,444
Residence								
Urban	7.3	45.9	23.2	26.9	30.0	38.8	64.5	2,998
Rural	8.3	59.3	67.1	66.6	48.8	60.6	84.9	4,094
Region								
Monrovia	6.6	46.1	21.4	26.6	30.0	39.4	64.0	2,329
North Western	9.8	70.5	58.7	57.1	42.7	84.4	94.2	509
South Central	8.5	54.4	61.3	56.7	21.6	40.4	71.9	1,011
South Eastern A	15.6	65.9	73.4	70.3	58.0	71.5	88.8	375
South Eastern B	5.2	54.3	66.0	63.1	48.4	50.6	82.9	451
North Central	7.9	55.0	60.2	62.2	55.0	57.5	82.9	2,417
Education								
No education	9.5	61.6	60.1	60.7	44.2	55.5	82.9	3,005
Primary	8.6	52.8	49.5	50.1	44.4	52.9	77.3	2,280
Secondary and higher	4.4	41.4	28.1	31.4	31.2	42.7	64.0	1,799
Wealth quintile								
Lowest	12.6	74.1	83.0	82.1	54.0	67.0	95.2	1,251
Second	7.0	63.7	70.3	69.6	52.1	61.5	88.6	1,332
Middle	7.8	50.6	50.3	51.2	46.1	56.0	78.6	1,359
Fourth	6.3	47.9	28.1	29.7	34.4	44.6	69.5	1,580
Highest	6.6	37.2	21.8	26.4	23.0	33.0	55.5	1,569
Total	7.9	53.6	48.6	49.8	40.9	51.3	76.3	7,092

Note: Total includes some cases with information missing on employment and education.

CHILD HEALTH 10

This chapter, which deals primarily with child health in the Liberian setting, depicts findings on neonatal conditions (birth weight and size at birth), children's vaccination status, and treatment practices that are prevalent among children suffering from the three major illnesses: acute respiratory infection (ARI), fever, and diarrhea. The information on children's birth weight and size, treatment practices, and contact with health facilities when children are sick paves the way to strategic planning, designing, and implementing programs geared towards reducing neonatal and infant mortality.

10.1 CHILD'S SIZE AT BIRTH

A child's birth weight or size at birth is an important indicator of the child's vulnerability to the risk of childhood illnesses and the chances of survival. Children whose birth weight is less than 2.5 kilograms, or children reported to be "very small" or "smaller than average" are considered to have a higher than average risk of early childhood death. For births in the five years preceding the survey, birth weight was recorded in the questionnaire if available from either a written record or the mother's recall. Because birth weight may not be known for many babies, the mother's estimate of the baby's size at birth was also obtained. Even though it is subjective, it can be a useful proxy for the weight of the child. Table 10.1 presents information on child's weight and size at birth according to background characteristics.

Table 10.1 Child's weight and size at birth

Percent distribution of live births in the five years preceding the survey with a reported birth weight by birth weight, percent distribution of all live births in the five years preceding the survey by mother's estimate of baby's size at birth, and percentage of all births with a reported birth weight, according to background characteristics, Liberia 2007

Background characteristic	Percent distribution of births with a reported birth weight[1]				Percentage of all births with a reported birth weight	Percent distribution of all live births by size of child at birth					
	Less than 2.5 kg	2.5 kg or more	Total	Number of births		Very small	Smaller than average	Average or larger	Don't know/ missing	Total	Number of births
Mother's age at birth											
<20	13.0	87.0	100.0	140	14.7	13.9	14.6	69.7	1.7	100.0	956
20-34	11.8	88.2	100.0	639	17.3	9.6	12.5	75.6	2.3	100.0	3,702
35-49	9.4	90.6	100.0	135	14.5	10.7	12.1	74.8	2.3	100.0	935
Birth order											
1	10.7	89.3	100.0	252	19.9	13.4	12.3	71.8	2.4	100.0	1,266
2-3	14.6	85.4	100.0	327	17.1	10.4	12.5	75.1	2.0	100.0	1,918
4-5	7.5	92.5	100.0	187	15.2	7.5	12.2	78.6	1.7	100.0	1,224
6+	11.9	88.1	100.0	149	12.6	10.7	14.5	71.9	2.9	100.0	1,185
Mother's smoking status											
Smokes cigarettes/tobacco	*	*	100.0	14	9.8	12.2	12.3	74.9	0.5	100.0	147
Does not smoke	11.7	88.3	100.0	900	16.5	10.5	12.8	74.4	2.3	100.0	5,443
Residence											
Urban	12.0	88.0	100.0	486	28.7	10.7	12.3	75.4	1.5	100.0	1,694
Rural	11.2	88.8	100.0	429	11.0	10.4	13.0	74.0	2.5	100.0	3,900
Region											
Monrovia	13.9	86.1	100.0	358	30.6	11.2	11.1	76.9	0.7	100.0	1,169
North Western	30.5	69.5	100.0	55	10.6	12.9	10.9	73.9	2.4	100.0	523
South Central	10.6	89.4	100.0	62	6.8	7.3	22.1	68.9	1.8	100.0	915
South Eastern A	8.3	91.7	100.0	26	6.5	14.4	12.1	67.2	6.2	100.0	405
South Eastern B	7.2	92.8	100.0	22	5.3	10.3	6.9	79.9	2.9	100.0	414
North Central	7.5	92.5	100.0	391	18.0	10.2	11.5	75.9	2.3	100.0	2,167

Continued…

Table 10.1—*Continued*

Background characteristic	Percent distribution of births with a reported birth weight[1]				Percentage of all births with a reported birth weight	Percent distribution of all live births by size of child at birth					
	Less than 2.5 kg	2.5 kg or more	Total	Number of births		Very small	Smaller than average	Average or larger	Don't know/ missing	Total	Number of births
Mother's education											
No education	8.6	91.4	100.0	310	11.4	9.5	14.5	73.4	2.6	100.0	2,729
Primary	13.6	86.4	100.0	306	16.0	12.0	11.6	74.0	2.3	100.0	1,915
Secondary and higher	12.7	87.3	100.0	299	31.7	10.5	10.4	78.1	1.0	100.0	942
Wealth quintile											
Lowest	9.0	91.0	100.0	114	9.1	9.9	15.0	72.2	2.9	100.0	1,254
Second	8.8	91.2	100.0	128	9.6	9.9	13.8	74.1	2.2	100.0	1,332
Middle	9.3	90.7	100.0	183	15.3	10.5	12.1	75.0	2.4	100.0	1,197
Fourth	17.6	82.4	100.0	272	23.9	11.7	11.6	74.8	1.9	100.0	1,137
Highest	9.2	90.8	100.0	218	32.4	10.8	10.2	77.7	1.3	100.0	673
Total	11.6	88.4	100.0	915	16.4	10.5	12.8	74.4	2.2	100.0	5,594

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Based on either a written record or the mother's recall

Unfortunately, birth weights were reported for only 16 percent of all births in the five years preceding the survey. Because these births are unlikely to be representative of all births (i.e., more urban, higher wealth, etc.), the patterns of birth weight by background characteristics are likely to be biased.

The data on the reported size of the child at birth show only small differences by background characteristics. The proportion of births that are reported to be of average size or larger increases slightly with mother's age at birth and with increasing education and wealth quintile of mother, though the differences are not large. South Eastern A has the lowest proportion of babies reported as being of average size or larger and South Eastern B region has the highest.

10.2 VACCINATION COVERAGE

Universal immunization of children against the six vaccine-preventable diseases—namely, tuberculosis, diphtheria, whooping cough (pertussis), tetanus, polio, and measles—is crucial to reducing infant and child mortality. Differences in vaccination coverage among subgroups of the population are useful for program planning and targeting resources to areas most in need.

The 2007 Liberia Demographic and Health Survey (LDHS) collected information on vaccination coverage for all living children born in the five years preceding the survey. According to the guidelines developed by the World Health Organization, children are considered fully vaccinated when they have received a vaccination against tuberculosis (BCG); three doses each of the diphteria, pertussis, and tetanus (DPT) and polio vaccines; and a measles vaccination by the age of 12 months. BCG should be given at birth or at first clinical contact; DPT and polio require three vaccinations at approximately 6, 10, and 14 weeks of age; and measles should be given at or soon after reaching 9 months of age.

Information on vaccination coverage was collected in two ways in the LDHS: from vaccination cards shown to the interviewer and from mothers' verbal reports. If the cards were available, the interviewer copied the vaccination dates directly onto the questionnaire. When there was no vaccination card for the child or if a vaccine had not been recorded on the card as being given, the respondent was asked to recall the vaccines given to her child.

Table 10.2 and Figure 10.1 show the percentage of children age 12-23 months who have received the various vaccinations by source of information, that is, from the vaccination card or mother's report. This is the youngest cohort of children who have reached the age by which they should be fully vaccinated. Vaccination cards were shown to the interviewer for less than half of these children (48 percent).

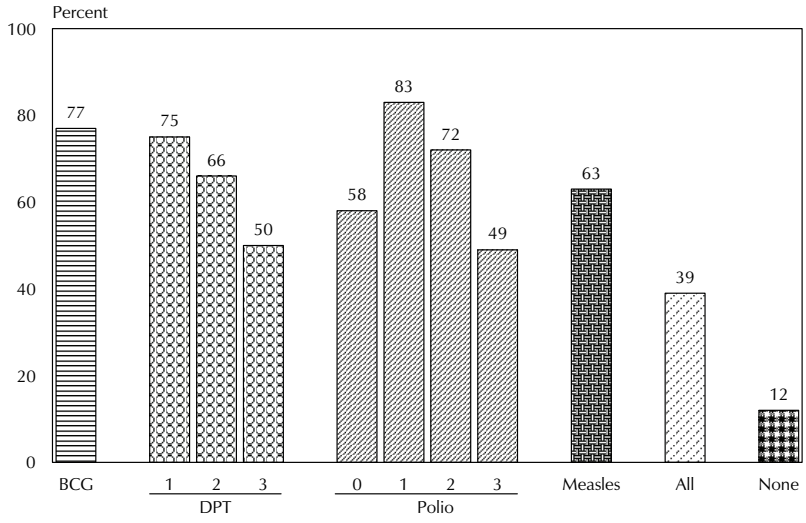
Table 10.2 Vaccinations by source of information

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Liberia 2007

Source of information	BCG	DPT 1	DPT 2	DPT 3	Polio 0[1]	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[2]	No vaccinations	Number of children
Vaccinated at any time before survey												
Vaccination card	46.8	46.2	42.3	36.9	40.6	45.1	41.3	36.4	37.6	31.9	0.0	465
Mother's report	30.3	29.1	23.4	13.3	17.6	38.1	30.8	13.1	25.4	7.1	12.2	512
Either source	77.1	75.3	65.6	50.3	58.2	83.2	72.1	49.4	63.0	39.0	12.2	977
Vaccinated by 12 months of age[3]	76.5	74.6	62.9	47.2	57.4	81.9	68.9	46.9	52.6	33.7	12.9	977

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles. and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)
[3] For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

Figure 10.1 **Percentage of Children Age 12-23 Months with Specific Vaccinations**



Note: Percentage of children who received the vaccine at any time before the survey.
All includes BCG, measles, and three doses each of DPT and polio vaccine (excluding polio 0).

LDHS 2007

According to information from both the vaccination card and the mothers' reports, overall only 39 percent of children aged 12-23 months are fully vaccinated with BCG, measles, and three doses eac of DPT and polio. Looking at coverage for specific vaccines, 77 percent of children have received the BCG vaccination, 75 percent the first DPT dose, and 83 percent the first polio dose (Polio 1). Coverage decreases for subsequent doses, with only 50 percent of children receiving the recommended three doses of DPT and 49 percent receiving all three doses of polio. Only 63 percent of children receive the measles vaccine. Twelve percent of children have received no vaccinations at all.

Vaccinations are most effective when given at the proper age; thus, it is recommended that children complete the schedule of immunizations during their first year of life, i.e. by 12 months of age. Overall, only 34 percent of children age 12-23 months had all the recommended vaccinations before their first birthday.

Table 10.3 presents vaccination coverage (according to card information and mothers' reports) among children age 12-23 months by selected background characteristics. The table shows that a higher proportion of girls than boys receive all the basic vaccinations (42 percent for females vs. 36 percent for males). The data also show that the proportion of children fully immunized tends to decrease somewhat as birth order increases, ranging from 45 percent of first births to a low of 33 percent among births of order four or five.

Urban children are much more likely than rural children to receive all the basic childhood vaccinations (53 percent vs. 33 percent; see Figure 10.2). Vaccination coverage varies dramatically by region, ranging from 55 percent of children in Monrovia being fully immunized to a low of only 13 percent of children in South Eastern A region. Children whose mothers have no education or only primary school are less likely to be fully vaccinated than children whose mothers have reached secondary school. The proportion of children fully immunized increases steadily as wealth quintile increases, more than doubling from 23 percent to 56 percent.

Table 10.3 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Liberia 2007

Background characteristic	BCG	DPT			Polio				Measles	All basic vaccinations[2]	No vaccinations	Percentage with a vaccination card seen	Number of children
		1	2	3	0[1]	1	2	3					
Sex													
Male	74.5	74.4	64.6	49.0	54.4	82.1	74.3	47.7	61.3	36.1	13.4	44.9	521
Female	80.0	76.3	66.8	51.6	62.5	84.6	69.7	51.4	65.0	42.4	10.7	50.7	457
Birth order													
1	81.1	78.1	69.9	56.4	65.7	83.8	74.1	55.2	68.2	44.5	10.1	50.9	243
2-3	75.7	76.3	67.1	51.9	58.0	81.4	70.7	46.8	61.1	39.3	14.9	44.8	340
4-5	74.5	73.9	61.9	43.1	49.4	81.5	73.0	45.3	58.7	33.2	14.0	44.8	200
6+	77.1	71.5	61.5	47.1	58.3	87.4	71.3	51.1	64.6	37.7	8.0	51.3	195
Residence													
Urban	91.6	88.6	83.0	69.8	78.8	91.0	84.1	64.1	76.7	52.5	4.2	58.0	318
Rural	70.1	68.9	57.3	40.8	48.3	79.5	66.4	42.4	56.4	32.5	16.0	42.6	660
Region													
Monrovia	93.7	89.7	85.3	75.1	84.4	93.1	85.7	66.1	79.8	55.4	2.4	58.0	231
North Western	85.2	81.4	76.3	63.4	61.6	87.4	78.3	57.3	67.8	49.6	11.5	47.3	88
South Central	76.5	75.8	62.8	39.5	59.0	78.4	61.1	36.9	57.8	27.5	15.3	42.7	157
South Eastern A	68.1	70.6	52.6	24.9	35.1	72.2	58.2	26.5	51.7	12.5	20.1	39.3	70
South Eastern B	49.6	60.2	36.5	19.1	19.6	87.7	70.7	35.1	40.0	16.0	11.3	19.9	65
North Central	71.5	68.2	59.5	46.4	51.8	79.4	69.8	49.4	59.8	40.3	15.7	49.7	366
Mother's education													
No education	71.5	70.4	61.6	46.5	51.7	78.2	66.6	46.9	57.9	36.8	17.0	48.0	434
Primary	76.2	74.2	60.8	43.3	54.3	83.7	72.1	43.1	60.7	33.1	9.9	41.4	340
Secondary and higher	90.5	87.8	82.3	69.9	78.6	93.2	84.1	65.3	77.9	53.7	5.7	57.0	204
Wealth quintile													
Lowest	62.7	60.7	46.4	29.6	36.4	75.8	61.5	35.7	45.1	23.2	19.9	34.5	212
Second	64.8	64.3	52.0	38.2	47.6	74.9	64.0	38.9	55.2	30.2	20.0	37.6	215
Middle	78.4	77.6	68.1	55.2	56.1	84.0	72.6	50.8	64.0	41.5	11.9	54.7	219
Fourth	94.1	91.3	85.8	65.7	79.0	94.5	84.9	64.2	74.4	51.7	2.8	57.4	205
Highest	92.1	88.8	84.0	71.9	82.7	90.4	82.5	64.1	86.2	55.7	1.5	58.5	127
Total	77.1	75.3	65.6	50.3	58.2	83.2	72.1	49.4	63.0	39.0	12.2	47.6	977

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

10.3 TRENDS IN VACCINATION COVERAGE

Determining trends in vaccination coverage is difficult due to differences in questionnaires and tabulations across surveys. For example, in the 1986 LDHS, if a child did not have a vaccination card, the mother was only asked if the child ever received any vaccinations, without inquiring about which ones. Moreover, data were tabulated for all children under five instead of the now more standard age range of 12-23 months.

In the 1999-2000 LDHS, the questionnaire implies that data were only collected from the health card as well; however, the text says that mothers were asked whether the child received the basic vaccinations and, if so, the number of doses of each was recorded. Vaccination cards were shown to the interviewer for 31 percent of children age 12-23 months. The table shows that, based on mothers' reports, 87 percent of children 12-23 months were reported to be fully immunized, compared with only 32 percent of those with health cards. The report states that the rate based on health cards was more reliable. Comparing only the data for children based on health cards shows no change between 1999-2000 and 2007 in the proportion of children 12-23 months fully immunized (32 percent in both surveys).

10.4 ACUTE RESPIRATORY INFECTION

Acute respiratory infection (ARI) is among the leading causes of childhood morbidity and mortality throughout the world. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths caused by ARI. In the 2007 Liberia DHS, the prevalence of ARI was estimated by asking mothers whether their children under age five had been ill in the two weeks preceding the survey with a cough accompanied by short, rapid breathing that the mother considered to be chest-related. These symptoms are compatible with ARI. It should be noted that the morbidity data collected are subjective in the sense that they are based on the mother's perception of illness without validation by medical personnel.

Table 10.4 shows that 9 percent of children under age five years are reported to have had a cough with short rapid breathing in the two weeks before the survey that was not just due to a blocked or runny nose. Reported symptoms of ARI peak among children age 6-23 months (11 percent). Children in South Eastern B (19 percent) and, to a lesser extent, South Central (13 percent) regions are considerably more likely to have symptoms of ARI than children in Monrovia (5 percent).

Table 10.4 also shows that around six in ten children with symptoms were taken to a health facility or provider for treatment. Less likely to be taken for treatment are younger children, rural children, and children whose mothers have less education.

Treatment with antibiotics can often ameliorate the symptoms of ARI and can save lives. In the LDHS, nearly half of children under five who had ARI symptoms in the two weeks before the survey were reported by their mothers to have been given antibiotics for the illness. It should be noted that mothers may not be aware of the names of medicines given to their children, and even if they are, interviewers may not always know whether to code the medicine as an antibiotic or other drug.

Children in urban areas are more likely than rural children to be given antibiotics when they have symptoms of ARI. The proportion of children given antibiotics is also higher among children whose mothers have been to secondary school and those in the higher wealth quintiles.

Table 10.4 Prevalence and treatment of symptoms of ARI

Among children under age five, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey, and among children with symptoms of ARI, the percentage for whom advice or treatment was sought from a health facility or provider and percentage who received antibiotics as treatment, according to background characteristics, Liberia 2007

	Children under age five		Children under age five with symptoms of ARI		
Background characteristic	Percentage with symptoms of ARI[1]	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Percentage who received antibiotics	Number of children
Age in months					
<6	5.0	497	(69.6)	(69.4)	25
6-11	10.5	591	51.6	38.5	62
12-23	11.2	977	64.9	46.9	109
24-35	9.3	1,059	60.3	51.3	98
36-47	7.5	1,102	59.6	51.2	83
48-59	7.0	906	71.4	46.8	63
Sex					
Male	8.4	2,651	63.6	50.0	222
Female	8.8	2,481	60.8	47.5	218
Mother's smoking status					
Smokes cigarettes/tobacco	3.8	137	*	*	5
Does not smoke	8.7	4,992	62.3	49.3	435
Cooking fuel					
Fire coal/coal/charcoal	8.7	1,731	68.2	60.2	150
Wood	8.5	3,389	59.1	42.8	289
Residence					
Urban	6.7	1,563	72.9	57.7	104
Rural	9.4	3,569	58.9	46.0	336
Region					
Monrovia	5.2	1,094	(83.7)	(66.7)	57
North Western	7.0	475	(62.8)	(31.0)	33
South Central	12.9	819	49.1	60.2	106
South Eastern A	8.1	371	(38.4)	(30.0)	30
South Eastern B	18.6	380	69.6	53.5	71
North Central	7.2	1,993	64.5	38.8	143
Mother's education					
No education	8.7	2,500	56.5	44.6	216
Primary	8.3	1,754	62.8	47.5	145
Secondary and higher	9.0	874	76.8	62.6	78
Wealth quintile					
Lowest	7.8	1,133	58.5	40.3	88
Second	10.0	1,233	45.8	39.1	123
Middle	7.7	1,103	72.1	45.5	85
Fourth	8.5	1,038	62.4	54.1	88
Highest	8.9	625	(89.0)	(80.1)	56
Total	8.6	5,132	62.2	48.7	440

Note: Figures in parentheses are based on 25-49 unweighted cases, and an asterisk represents a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Symptoms of ARI (cough accompanied by short, rapid breathing that was chest-related) is considered a proxy for pneumonia.
[2] Excludes pharmacy, shop, and traditional practitioner

10.5 FEVER

Fever is a symptom of malaria and other acute infections in children. Malaria and other illnesses that cause fever contribute to high levels of malnutrition and mortality. While fever can occur year-round, malaria is more prevalent after the end of the rainy season. For this reason, temporal factors must be taken into account when interpreting fever as an indicator of malaria prevalence. Because malaria is a major contributory cause of death in infancy and childhood in many developing countries, the so-called presumptive treatment of fever with antimalarial medication is

advocated in many countries where malaria is endemic. Malaria is discussed in greater detail in Chapter 12.

Table 10.5 shows the percentage of children under five with fever during the two weeks preceding the survey and the percentage receiving various treatments, by selected background characteristics. Fever is most common among children age 6-35 months (35-40 percent) and then decreases with age. Prevalence of fever is similar for both sexes and residence groups. Regional differentials show that the proportion of children with fever is highest in South Eastern B region (42 percent) and lowest in Monrovia (26 percent). Fever prevalence increases slightly as education of the mother increases but shows no clear relationship by wealth quintile.

Table 10.5 Prevalence and treatment of fever

Among children under age five, the percentage who had a fever in the two weeks preceding the survey, and among children with fever, the percentage of children for whom treatment was sought from a health facility or provider, the percentage who took antimalarial drugs, and the percentage who took antibiotic drugs, by background characteristics, Liberia 2007

	Children under age five		Among children under age five with fever:			
Background characteristic	Percentage with fever	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider	Percentage who took antimalarial drugs	Percentage who took antibiotic drugs	Number of children
Age in months						
<6	18.4	497	64.0	48.6	43.9	91
6-11	39.9	591	54.7	53.8	36.7	236
12-23	35.7	977	61.0	59.1	36.7	349
24-35	35.5	1,059	55.3	64.5	34.7	376
36-47	26.7	1,102	55.4	53.6	29.5	295
48-59	25.4	906	53.5	64.9	29.3	230
Sex						
Male	30.7	2,651	57.5	60.6	34.6	814
Female	30.8	2,481	55.9	56.9	33.8	763
Residence						
Urban	28.8	1,563	66.7	60.6	43.6	450
Rural	31.6	3,569	52.8	58.1	30.4	1,127
Region						
Monrovia	25.7	1,094	69.0	63.6	47.6	282
North Western	31.7	475	53.0	43.5	27.1	151
South Central	36.4	819	48.4	51.3	43.8	298
South Eastern A	27.0	371	41.4	35.9	24.1	100
South Eastern B	41.6	380	58.9	54.7	38.0	158
North Central	29.5	1,993	58.0	69.2	25.4	589
Mother's education						
No education	28.8	2,500	49.1	56.6	30.2	719
Primary	31.9	1,754	60.6	59.5	33.4	559
Secondary and higher	34.0	874	68.2	62.6	45.6	297
Wealth quintile						
Lowest	27.3	1,133	42.2	51.0	23.9	309
Second	31.9	1,233	49.9	54.3	28.5	393
Middle	30.4	1,103	66.0	64.1	34.7	336
Fourth	32.7	1,038	64.0	63.6	39.6	339
Highest	32.0	625	64.6	62.9	51.5	200
Total	30.7	5,132	56.7	58.8	34.2	1,577

[1] Excludes pharmacy, shop, and traditional practitioner

Almost 6 in 10 children with fever are taken to a health facility or provider for treatment and the same proportion are given antimalarial drugs. Just over one-third of children with fever are given antibiotics. The proportion of children who receive these treatments is higher in urban areas and among those whose mothers are better educated and wealthier.

10.6 DIARRHEAL DISEASE

Dehydration caused by severe diarrhea is a major cause of morbidity and mortality among young children, although the condition can be easily treated with oral rehydration therapy (ORT). Exposure to diarrhea-causing agents is frequently related to the use of contaminated water and to unhygienic practices in food preparation and disposal of excreta. In interpreting the findings of the 2007 LDHS, it should be borne in mind that prevalence of diarrhea varies seasonally.

Table 10.6 shows the percentage of children under five with diarrhea in the two weeks preceding the survey according to selected background characteristics. The table shows that one in five children had diarrhea in the two weeks before the survey and one in 20 had diarrhea with blood, a symptom of dysentery.

Diarrhea prevalence increases with age to peak at 6-11 months (29 percent), then falls at older ages. This is the age when children start to be weaned and introduction of other liquids and foods can also facilitate the spread of disease-causing microbes. Differences in diarrhea prevalence by other background characteristics are generally minimal. The only exception is by region, where prevalence is particularly low in North Western region (10 percent) and higher than average in South Eastern B (28 percent). Interestingly, there are no significant differences according to either source of drinking water or type of toilet facility.

In the 2007 LDHS, mothers of children who had diarrhea were asked about what was done to treat the illness. Table 10.7 shows the percentage of children with diarrhea who received specific treatments by background characteristics.

Table 10.6 Prevalence of diarrhea

Percentage of children under age five who had diarrhea in the two weeks preceding the survey, by background characteristics, Liberia 2007

Background characteristic	Diarrhea in the two weeks preceding the survey: All diarrhea	Diarrhea with blood	Number of children
Age in months			
<6	8.6	0.4	497
6-11	29.0	3.1	591
12-23	26.3	7.2	977
24-35	24.7	7.1	1,059
36-47	14.9	4.3	1,102
48-59	13.0	4.1	906
Sex			
Male	20.2	4.4	2,651
Female	19.3	5.4	2,481
Source of drinking water[1]			
Improved	19.5	4.8	3,270
Not improved	20.1	5.1	1,857
Toilet facility[2]			
Improved, not shared	21.4	6.3	330
Nonimproved or shared	19.7	4.8	4,738
Residence			
Urban	18.8	4.3	1,563
Rural	20.2	5.2	3,569
Region			
Monrovia	15.5	3.3	1,094
North Western	9.8	2.7	475
South Central	20.6	4.3	819
South Eastern A	18.0	5.8	371
South Eastern B	27.9	8.1	380
North Central	22.8	5.7	1,993
Mother's education			
No education	19.3	4.4	2,500
Primary	20.7	6.7	1,754
Secondary and higher	19.3	2.6	874
Wealth quintile			
Lowest	19.3	5.4	1,133
Second	19.2	4.8	1,233
Middle	21.1	5.0	1,103
Fourth	20.0	4.9	1,038
Highest	19.0	3.9	625
Total	19.8	4.9	5,132

Note: Total includes some missing values for characteristics.
[1] See Table 2.7 for definition of categories.
[2] See Table 2.8 for definition of categories.

The data indicate that half of the children who were ill with diarrhea were taken to a health facility or provider. Children in South Eastern B and North Western regions are more likely than other children to be taken for professional medical treatment when they have diarrhea, as are children whose mothers have been to secondary school or who are in the higher wealth quintiles.

ORT, which involves giving either oral rehydration solution from a packet or a home-made sugar-salt solution, is a simple and effective response to diarrheal illness. Mothers reported that almost three in four (72 percent) of the children with diarrhea were treated with some form of ORT or increased fluids, and over half were given a solution prepared using a packet of oral rehydration salts (ORS). The use of ORT to treat diarrhea is most common among children who had bloody diarrhea, those in urban areas, and those in South Eastern B region. There is a steady increase in use of ORT by wealth quintile.

A surprisingly high proportion of children with diarrhea are treated with Flagyl (49 percent). This proportion is high among all categories of background characteristics.

Table 10.7 Diarrhea treatment

Among children under age five who had diarrhea in the two weeks preceding the survey, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage given oral rehydration therapy (ORT), the percentage given increased fluids, the percentage given ORT or increased fluids, and the percentage who were given other treatments, by background characteristics, Liberia 2007

Background characteristic	Percentage of children with diarrhea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)					Other treatments						
		ORS packets	Recommended home fluids (RHF)	Either ORS or RHF	Increased fluids	ORT or increased fluids	Antibiotic drugs	Flagyl	Zinc supplements	Home remedy/ other	Missing	No treatment	Number of children
Age in months													
<6	(50.5)	(26.0)	(26.9)	(35.9)	(25.4)	(54.4)	(13.5)	(41.6)	(0.0)	(45.8)	(0.0)	(23.6)	43
6-11	51.8	48.8	12.5	55.3	26.7	68.0	8.6	43.1	1.4	29.6	1.0	9.5	171
12-23	46.7	55.2	12.6	61.5	31.2	75.3	11.3	52.8	0.0	18.8	0.0	9.6	257
24-35	51.3	56.0	10.1	61.2	36.4	77.0	13.7	54.7	0.8	18.3	1.7	9.6	261
36-47	50.5	56.1	8.8	58.3	26.3	69.2	18.3	50.7	0.0	24.9	0.3	10.9	164
48-59	44.4	54.1	7.8	55.5	24.7	71.0	18.1	37.2	0.0	9.1	1.7	9.1	118
Sex													
Male	50.6	55.7	12.7	59.7	25.9	69.8	15.9	49.4	0.2	25.3	0.3	11.1	535
Female	47.7	50.2	9.9	56.2	34.5	74.7	10.8	48.7	0.7	17.2	1.4	9.5	479
Type of diarrhea													
Nonbloody	48.1	51.3	11.2	55.8	29.0	68.8	10.6	51.9	0.6	23.5	0.3	11.5	752
Bloody	53.2	58.7	12.0	65.3	31.4	81.7	22.5	40.0	0.0	16.5	2.5	7.1	251
Residence													
Urban	52.4	57.0	9.7	61.6	32.7	74.8	18.4	51.8	0.7	17.4	0.0	9.2	293
Rural	48.0	51.5	12.0	56.6	28.9	71.1	11.5	48.0	0.3	23.2	1.2	10.8	721
Region													
Monrovia	55.9	58.4	11.4	62.5	34.5	76.9	27.8	54.0	1.2	15.5	0.0	8.1	170
North Western	61.2	59.1	8.9	62.1	70.3	79.9	17.1	52.6	0.0	3.0	0.0	15.5	47
South Central	41.9	43.1	12.3	54.1	28.9	66.7	8.6	57.4	1.4	22.1	0.0	12.8	169
South Eastern A	34.0	29.2	18.0	42.4	37.7	60.7	3.4	25.4	0.0	20.8	0.5	24.3	67
South Eastern B	63.9	65.4	1.4	66.8	39.6	83.2	23.5	37.9	0.0	7.9	1.0	7.4	106
North Central	47.1	54.9	12.6	57.7	21.2	70.7	8.7	49.8	0.0	28.7	1.6	8.4	455
Mother's education													
No education	47.7	51.1	12.2	58.2	27.0	72.0	11.4	47.1	0.0	22.5	0.3	10.4	482
Primary	46.5	53.3	10.3	56.0	32.2	71.7	13.6	48.0	0.6	19.4	1.9	10.7	362
Secondary and higher	60.3	58.2	11.4	61.7	33.0	73.2	19.2	56.4	1.2	23.4	0.2	9.4	168
Wealth quintile													
Lowest	37.4	40.8	14.5	50.7	20.7	62.6	11.6	35.1	0.4	23.3	2.8	15.4	218
Second	48.8	51.1	13.1	53.4	21.2	65.5	15.4	47.1	0.0	25.8	1.0	12.0	237
Middle	49.2	58.3	9.1	60.4	35.3	77.3	5.8	57.7	0.6	24.8	0.0	7.8	233
Fourth	56.2	56.4	9.6	63.0	39.6	77.8	14.4	54.7	0.0	15.7	0.0	8.3	208
Highest	59.8	64.0	9.9	67.8	37.2	82.8	26.5	51.7	1.7	13.4	0.0	6.2	119
Total	49.3	53.1	11.4	58.1	30.0	72.1	13.5	49.1	0.4	21.5	0.8	10.3	1,014

Note: ORT includes solution prepared from oral rehydration salt (ORS) and recommended home fluids (RHF). Numbers in parentheses are based on 25-49 unweighted cases.

[1] Excludes pharmacy, shop, and traditional practitioner

Mothers are encouraged to continue normally feeding children with diarrhea and to increase the amount of fluids. These practices help to reduce dehydration and minimize the adverse consequences of diarrhea on the child's nutritional status. Mothers interviewed in the 2007 LDHS were asked whether they gave the child less, the same amount, or more fluids and food than usual when their child had diarrhea. Table 10.8 shows the percent distribution of children under five who had diarrhea in the two weeks preceding the survey by feeding practices, according to background characteristics.

Table 10.8 Feeding practices during diarrhea

Percent distribution of children under age five who had diarrhea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, the percentage of children given increased fluids and continued feeding during the diarrhea episode, and the percentage of children who continued feeding and were given ORT and/or increased fluids during the episode of diarrhea, by background characteristics, Liberia 2007

Background characteristic	Amount of liquids offered							Amount of food offered								Percentage given increased fluids and continued feeding[1, 2]	Percentage who continued feeding and were given ORT and/or increased fluids[1]	Number of children with diarrhea
	More	Same as usual	Some-what less	Much less	None	Don't know/ missing	Total	More	Same as usual	Some-what less	Much less	None	Never gave food	Don't know/ missing	Total			
Age in months																		
<6	25.4	20.3	14.1	37.5	2.6	0.0	100.0	13.6	23.9	27.6	24.9	2.5	4.9	2.6	100.0	20.2	50.2	43
6-11	26.7	23.1	9.6	33.6	5.9	1.1	100.0	7.9	30.5	27.3	20.2	5.4	8.1	0.6	100.0	19.1	65.2	171
12-23	31.2	26.7	14.3	25.9	1.9	0.0	100.0	8.2	32.5	30.5	20.2	7.2	1.3	0.0	100.0	24.7	72.3	257
24-35	36.4	21.1	16.1	24.2	1.0	1.2	100.0	11.4	23.8	32.1	23.5	8.6	0.7	0.0	100.0	25.3	73.2	261
36-47	26.3	30.3	9.0	33.5	0.6	0.3	100.0	8.7	34.2	25.1	28.6	2.3	0.8	0.3	100.0	21.1	67.5	164
48-59	24.7	27.3	10.7	31.2	6.0	0.1	100.0	5.2	30.3	18.3	34.6	11.6	0.0	0.0	100.0	16.4	68.2	118
Sex																		
Male	25.9	28.2	13.4	30.1	2.0	0.4	100.0	7.3	29.6	33.5	22.8	4.8	1.7	0.4	100.0	19.4	68.6	535
Female	34.5	21.6	11.8	28.0	3.3	0.8	100.0	10.8	29.5	21.8	26.0	8.9	2.8	0.1	100.0	25.3	69.8	479
Type of diarrhea																		
Nonbloody	29.0	26.8	12.8	28.6	2.2	0.8	100.0	9.7	31.1	29.4	20.9	6.0	2.5	0.4	100.0	22.3	66.6	752
Bloody	31.4	20.9	12.4	31.2	4.2	0.0	100.0	6.8	25.8	23.4	34.3	8.5	1.3	0.0	100.0	21.0	76.8	251
Residence																		
Urban	32.7	27.8	12.7	24.6	2.1	0.0	100.0	7.7	33.3	26.6	26.0	5.9	0.6	0.0	100.0	23.8	72.0	293
Rural	28.9	23.9	12.7	30.9	2.9	0.8	100.0	9.5	28.0	28.5	23.6	7.1	2.9	0.4	100.0	21.5	68.0	721
Region																		
Monrovia	34.5	22.6	12.2	30.2	0.5	0.0	100.0	7.3	28.1	33.1	28.8	2.7	0.0	0.0	100.0	24.4	72.9	170
North Western	70.3	11.4	2.5	9.1	6.5	0.2	100.0	12.1	14.1	42.1	13.9	7.8	10.1	0.0	100.0	56.5	70.5	47
South Central	28.9	46.4	14.3	9.8	0.6	0.0	100.0	10.8	46.8	24.9	10.0	4.8	2.7	0.0	100.0	22.0	64.3	169
South Eastern A	37.7	45.3	8.2	5.3	3.5	0.0	100.0	3.2	35.7	25.3	23.0	4.0	7.2	1.7	100.0	23.9	55.0	67
South Eastern B	39.6	11.7	8.4	38.3	1.5	0.5	100.0	18.8	10.8	9.8	56.1	2.7	1.4	0.5	100.0	20.4	74.5	106
North Central	21.2	19.6	15.0	39.2	3.9	1.1	100.0	7.1	28.7	30.4	21.8	10.3	1.5	0.2	100.0	18.0	70.2	455
Mother's education																		
No education	27.0	27.9	14.6	26.3	3.1	1.1	100.0	9.8	32.4	27.5	21.6	5.2	3.0	0.5	100.0	21.5	70.1	482
Primary	32.2	23.9	10.3	31.1	2.4	0.1	100.0	7.8	26.7	27.9	26.1	9.7	1.6	0.1	100.0	20.9	67.1	362
Secondary+	33.0	19.5	12.6	33.0	1.9	0.0	100.0	9.0	27.7	28.8	28.4	4.7	1.3	0.0	100.0	26.1	70.5	168
Wealth quintile																		
Lowest	20.7	28.5	19.0	26.1	5.4	0.3	100.0	6.9	27.8	34.3	21.8	5.0	3.4	0.7	100.0	14.1	59.8	218
Second	21.2	23.6	12.4	39.1	2.9	0.8	100.0	9.2	27.8	24.1	29.2	5.1	4.0	0.5	100.0	17.1	63.0	237
Middle	35.3	22.3	7.8	33.3	1.3	0.0	100.0	6.6	28.8	30.5	24.3	8.9	0.9	0.0	100.0	26.7	73.5	233
Fourth	39.6	27.4	11.4	18.6	1.4	1.6	100.0	11.1	32.3	25.4	20.9	9.3	1.0	0.0	100.0	27.1	73.4	208
Highest	37.2	22.9	13.2	24.9	1.8	0.0	100.0	13.1	32.8	23.4	25.1	4.6	1.0	0.0	100.0	29.7	82.5	119
Total	30.0	25.0	12.7	29.1	2.6	0.6	100.0	8.9	29.6	28.0	24.3	6.8	2.2	0.3	100.0	22.2	69.1	1,014

[1] Equivalent to the UNICEF/WHO indicator "Home management of diarrhea"
[2] Continued feeding practices includes children who were given more, same as usual, or somewhat less food during the diarrhea episode.

The table shows that 30 percent of children with diarrhea are given more to drink than usual, 25 percent are given the same as usual, and 44 percent are given less to drink than usual or nothing at all. It is particularly disconcerting to note that 32 percent of children with diarrhea are given much less or nothing to drink.

Food intake is curtailed even more than fluid intake during an episode of diarrhea. Only 9 percent of children with diarrhea are offered more to eat than usual, 30 percent are offered the same amount of food as usual, and 59 percent are given less food to eat than usual. These patterns reflect a gap in practical knowledge among some mothers regarding the nutritional requirements of children during episodes of diarrheal illness. This indicates a need for further health education efforts to reduce the number of children becoming dehydrated or malnourished due to diarrhea.

Overall, 22 percent of children with diarrhea are given increased fluids and continued feeding, and 69 percent are given increased fluids, continued feeding, and ORT. Differentials in these indicators by background characteristics are not large. However, there is a clear increase in both indicators with increasing wealth quintile.

Table 10.9 Knowledge of ORS

Percentage of mothers age 15-49 who gave birth in the five years preceding the survey who know about ORS for treatment of diarrhea by background characteristics, Liberia 2007

Background characteristic	Percentage of women who know about ORS	Number of women
Age		
15-19	90.7	336
20-24	92.5	985
25-34	92.2	1,556
35-49	89.8	1,051
Residence		
Urban	95.1	1,310
Rural	89.7	2,618
Region		
Monrovia	96.5	933
North Western	94.1	332
South Central	95.2	616
South Eastern A	75.4	256
South Eastern B	84.0	272
North Central	90.4	1,519
Education		
No education	88.7	1,845
Primary	93.7	1,319
Secondary and higher	94.6	757
Wealth quintile		
Lowest	85.7	828
Second	89.1	857
Middle	92.7	847
Fourth	95.8	844
Highest	95.6	553
Total	91.5	3,928

ORS = Oral rehydration salts

10.7 KNOWLEDGE OF ORS PACKETS

As mentioned earlier, a simple and effective response to dehydration caused by diarrhea is a prompt increase in the child's fluid intake through some form of ORT, which may include the use of a solution prepared from packets of ORS. To ascertain how widespread knowledge of ORS is in Liberia, mothers were asked whether they know about ORS packets.

Table 10.9 shows that knowledge of ORS is very widespread in Liberia, with 92 percent of mothers having heard about it. Knowledge of ORS is slightly higher among urban mothers and it increases with education and wealth of mothers. Mothers in South Eastern A are considerably less likely than mothers in other regions to have heard of ORS.

10.8 STOOL DISPOSAL

If human feces are left uncontained, disease may spread by direct contact or by animal contact with the feces. Hence, the proper disposal of children's stools is extremely important in preventing the spread of disease. Table 10.10 presents information on the disposal of the stools of children under five, by background characteristics.

The table shows that the most commonly used method of disposal of young children's stools is throwing them into the garbage (23 percent). Other methods of disposal include rinsing stools into a toilet or latrine (19 percent), rinsing them away (16 percent), putting them into a drain or ditch (15 percent), or burying them (12 percent). Overall, just over one-third of children have their stools disposed of safely.

Table 10.10 Disposal of children's stools

Percent distribution of youngest children under age five living with the mother by the manner of disposal of the child's last fecal matter, and percentage of children whose stools are disposed of safely, according to background characteristics, Liberia 2007

Background characteristic	Manner of disposal of children's stools								Total	Percentage of children whose stools are disposed of safely	Number of mothers
	Child used toilet or latrine	Put/ rinsed into toilet or latrine	Buried	Put/ rinsed into drain or ditch	Thrown into garbage	Rinsed away	Other	Missing			
Age in months											
<6	1.7	16.7	5.9	27.6	20.8	14.3	4.3	8.7	100.0	24.3	486
6-11	1.2	20.6	5.8	19.3	24.6	11.5	8.2	8.8	100.0	27.6	574
12-23	2.3	20.7	10.5	17.4	21.8	15.7	4.4	7.2	100.0	33.5	890
24-35	3.0	21.0	12.8	10.8	24.6	16.0	1.8	10.1	100.0	36.8	751
36-47	4.5	16.5	19.6	4.2	24.6	17.6	2.4	10.5	100.0	40.6	522
48-59	10.2	17.7	20.4	4.8	18.5	19.9	3.6	4.9	100.0	48.3	307
Toilet facility											
Improved, not shared[1]	8.9	48.2	7.5	9.9	8.4	6.0	2.9	8.1	100.0	64.6	250
Non-improved or shared	2.7	17.1	12.3	15.1	24.0	16.2	4.2	8.5	100.0	32.0	3,240
Residence											
Urban	5.0	28.2	9.8	18.5	16.4	5.9	6.8	9.3	100.0	43.0	1,148
Rural	2.3	15.1	12.7	12.8	25.9	20.2	2.8	8.2	100.0	30.1	2,384
Region											
Monrovia	4.7	28.6	9.3	19.3	15.3	5.7	8.6	8.5	100.0	42.6	820
North Western	1.4	41.0	15.5	6.5	9.1	13.0	12.7	0.9	100.0	57.9	308
South Central	2.6	17.9	17.2	24.2	29.6	2.7	3.3	2.5	100.0	37.7	544
South Eastern A	5.8	11.8	18.4	17.7	30.3	9.8	1.1	5.0	100.0	36.0	232
South Eastern B	2.4	19.8	7.6	13.8	31.8	15.1	1.0	8.4	100.0	29.9	249
North Central	2.7	10.7	9.9	9.6	24.9	28.1	0.8	13.3	100.0	23.3	1,378
Education											
No education	3.5	16.9	13.4	14.1	24.2	15.2	2.9	9.8	100.0	33.8	1,683
Primary	1.6	16.7	11.4	15.1	23.7	20.2	4.9	6.5	100.0	29.6	1,186
Secondary and higher	5.4	30.2	8.4	15.4	17.8	8.0	5.8	9.0	100.0	44.0	658
Wealth quintile											
Lowest	1.8	6.9	15.3	13.3	25.9	22.1	1.7	12.9	100.0	24.0	754
Second	2.9	13.0	13.6	14.3	26.3	18.7	3.2	8.0	100.0	29.5	783
Middle	2.8	18.6	11.6	11.0	25.6	19.0	4.1	7.3	100.0	33.0	759
Fourth	2.7	27.0	11.3	18.6	19.5	9.2	5.7	6.1	100.0	41.0	747
Highest	7.2	38.1	4.5	17.0	13.4	4.6	6.9	8.3	100.0	49.8	487
Total	3.2	19.3	11.8	14.7	22.8	15.5	4.1	8.5	100.0	34.3	3,531

[1] Non-shared facilities that are of the following types: flush or pour flush into a piped sewer system/septic tank/pit latrine; ventilated, improved pit latrine; pit latrine with a slab; and a composting toilet. Excludes cases missing information on type of toilet

A closer look at the table shows marked differentials in fecal matter disposal. For example, older children are more likely than younger children to have their stools disposed of safely. As expected, urban children and children living in households with an improved toilet facility are more likely to have safe fecal disposal than rural children and those in households without such facilities. The proportion of children whose stools are disposed of safely ranges from 23 percent of those in North Central region to 58 percent of those in North Western region. In terms of mothers' education, uneducated women and those with primary school only are less likely to dispose of their children's stools safely than women with some secondary education. Safe fecal disposal increases with wealth quintile.

NUTRITION OF CHILDREN AND WOMEN 11

This chapter covers nutritional concerns for children and women. Infant and young child feeding practices, including breastfeeding and feeding with solid/semisolid foods, are presented for children in Liberia. Anthropometric assessment of nutritional status, diversity of foods consumed, micronutrient intake, and vitamin A deficiency are also presented for women and children under age five.

Adequate nutrition is critical to child development. The period from birth to two years of age is important for optimal growth, health, and development. Unfortunately, this period is often marked by growth faltering, micronutrient deficiencies, and common childhood illnesses such as diarrhea and acute respiratory infections (ARI). Optimal feeding practices reported in this chapter include early initiation of breastfeeding, exclusive breastfeeding during the first 6 months of life, continued breastfeeding for up to two years of age and beyond, timely introduction of complementary feeding at 6 months of age, frequency of feeding solid/semisolid foods, and the diversity of food groups fed to children between 6 and 23 months of age. A summary indicator that describes the quality of infant and young child (age 6-23 months) feeding practices (IYCF) is included.

A woman's nutritional status has important implications for her health as well as the health of her children. Malnutrition in women results in reduced productivity, an increased susceptibility to infections, slow recovery from illness, and heightened risks of adverse pregnancy outcomes. For example, a woman who has poor nutritional status—as indicated by a low body mass index (BMI), short stature, or other micronutrient deficiencies—has a greater risk of obstructed labor, of having a baby with low birth weight, of producing lower quality breast milk, of mortality due to postpartum hemorrhage, and of morbidity of both herself and her baby.

11.1 NUTRITIONAL STATUS OF CHILDREN

Anthropometric data on height and weight collected in the 2007 Liberia Demographic and Health Survey (LDHS) permit the measurement and evaluation of the nutritional status of young children in Liberia. This evaluation allows identification of subgroups of the child population that are at increased risk of faltered growth, disease, impaired mental development, and death.

11.1.1 Measurement of Nutritional Status among Young Children

The 2007 LDHS collected data on the nutritional status of children by measuring the height and weight of all children under six years of age. Data were collected with the aim of calculating three indices—weight-for-age, height-for-age, and weight-for-height—all of which take age and sex into consideration. Weight measurements were obtained using lightweight, bathroom-type scales with a digital screen designed and manufactured under the guidance of the United Nations Children's Fund (UNICEF). Height measurements were carried out using a measuring board produced by Shorr Productions. Children younger than 24 months were measured lying down (recumbent length) on the board and standing height was measured for older children.

For the 2007 LDHS, the nutritional status of children is calculated using new growth standards published by the World Health Organization (WHO) in 2006. These new growth standards were generated using data collected in the WHO Multicentre Growth Reference Study (WHO, 2006). The study, whose sample included 8,440 children in six countries, was designed to provide a description of how children should grow under optimal conditions. The WHO child growth standards can therefore be used to assess children all over the world, regardless of ethnicity, social and economic influences, and feeding practices. Each of the three nutritional status indicators described

below is expressed in standard deviation units from the median of the Multicentre Growth Reference Study sample.

Each of these indices—height-for-age, weight-for-height, and weight-for-age—provides different information about growth and body composition that is used to assess nutritional status. The height-for-age index is an indicator of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2 SD) are considered short for their age (stunted) and are chronically malnourished. Children who are below minus three standard deviations (-3 SD) are considered severely stunted. Stunting reflects failure to receive adequate nutrition over a long period of time and is also affected by recurrent and chronic illness. Height-for-age, therefore, represents the long-term effects of malnutrition in a population and is not sensitive to recent, short-term changes in dietary intake.

The weight-for-height index measures body mass in relation to body height or length and describes current nutritional status. Children whose Z-scores are below -2 SD are considered thin (wasted) and are acutely malnourished. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of inadequate food intake or a recent episode of illness causing loss of weight and the onset of malnutrition. Children whose weight-for-height is below -3 SD are considered severely wasted.

Weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic malnutrition. Children whose weight-for-age is below -2 SD are classified as underweight. Children whose weight-for-age is below -3 SD are considered severely underweight.

11.1.2 Results of Data Collection

Measurement of height and weight were obtained for all children under age six living in the households selected for the LDHS sample. The results include children who were not biological offspring of the women interviewed in the survey.

Although data were collected for all children under age six, for purposes of comparability, the analysis is limited to children under age five. Valid height and weight measurements were obtained for 88 percent of the 5,863 children under age five in the LDHS households. Measurements were missing for just over 5 percent of the children, presumably because the child was not present, the parents refused or the child was ill. Another 5 percent of children were considered to have implausibly high or low values for the height or weight measures, and an additional 1 percent lacked data on age in months. The following analysis focuses on the children for whom complete and plausible anthropometric and age data were collected. Table 11.1 and Figure 11.1 indicate the percentage of children under age five classified as malnourished according to height-for-age, weight-for-height, and weight-for age indices, by the child's age and other selected demographic characteristics.

Table 11.1 Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Liberia 2007

Background characteristic	Height-for-age			Weight-for-height				Weight-for-age				Number of children
	Percent-age below -3 SD	Percent-age below -2 SD[1]	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[1]	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[1]	Percent-age above +2 SD	Mean Z-score (SD)	
Age in months												
<6	3.7	8.9	-0.1	3.1	9.4	7.2	0.0	2.4	10.1	4.4	-0.1	451
6-8	9.5	17.3	-0.6	6.7	15.2	3.7	-0.5	5.5	20.5	1.9	-0.8	283
9-11	6.3	20.1	-0.7	4.4	16.9	3.0	-0.7	5.7	20.1	0.0	-1.0	288
12-17	14.9	33.2	-1.3	5.1	12.2	2.9	-0.5	6.7	21.1	1.0	-1.0	458
18-23	20.9	44.4	-1.7	2.7	9.9	3.4	-0.4	7.7	22.2	1.1	-1.1	520
24-35	27.4	49.0	-1.9	2.8	6.1	3.6	0.0	6.6	21.1	0.4	-1.1	1,069
36-47	25.9	48.7	-2.0	1.9	4.5	4.4	0.2	6.0	19.1	0.5	-1.1	1,132
48-59	23.9	44.7	-1.9	0.9	3.0	3.3	0.0	5.3	18.2	0.0	-1.1	964
Sex												
Male	22.2	42.2	-1.7	2.7	7.5	4.3	-0.1	6.2	20.5	1.1	-1.0	2,680
Female	18.5	36.5	-1.4	2.9	7.4	3.5	-0.1	5.5	17.8	0.6	-0.9	2,486
Birth interval in months[2]												
First birth[3]	22.8	40.1	-1.7	2.9	7.3	3.8	-0.2	8.0	24.6	1.0	-1.1	903
<24	24.2	46.2	-1.8	2.5	8.0	4.1	-0.1	7.0	22.8	0.6	-1.1	526
24-47	17.0	36.7	-1.4	2.5	7.6	4.3	-0.1	4.5	16.0	0.7	-0.9	1,743
48+	17.1	33.5	-1.3	3.1	7.5	3.8	0.0	4.4	14.1	1.4	-0.7	1,103
Size at birth[2]												
Very small	22.2	43.8	-1.8	4.0	10.9	2.3	-0.4	11.9	29.1	0.1	-1.4	430
Small	19.9	39.1	-1.5	3.3	10.3	2.6	-0.3	6.5	22.4	1.0	-1.1	549
Average or larger	18.4	36.7	-1.4	2.5	6.8	4.5	-0.0	4.6	16.2	1.0	-0.9	3,237
Mother's interview status												
Interviewed	19.1	37.8	-1.5	2.7	7.6	4.0	-0.1	5.5	18.2	0.9	-0.9	4,274
Not interviewed but in household	20.0	42.3	-1.7	2.4	6.7	5.6	-0.1	2.7	20.0	0.0	-1.0	154
Not interviewed and not in the household[4]	28.1	48.5	-1.8	2.9	7.0	3.0	-0.1	8.3	24.8	0.8	-1.1	738
Mother's nutritional status[5]												
Thin (BMI <18.5)	26.7	44.0	-1.8)	3.8	9.5	1.9	-0.4	11.9	24.1	0.8	-1.3	342
Normal (BMI 18.5-24.9)	19.3	38.5	-1.5	2.7	7.6	4.4	-0.1	5.0	18.5	0.9	-1.0	3,251
Overweight/obese (BMI ≥25)	14.2	32.5	-1.3	2.1	6.1	4.2	0.1	4.3	13.4	1.3	-0.7	708
Residence												
Urban	14.1	30.6	-1.2	4.0	8.7	4.6	-0.2	5.5	17.2	1.3	-0.9	1,559
Rural	23.2	43.2	-1.7	2.2	6.9	3.6	-0.1	6.0	20.0	0.7	-1.0	3,607
Region												
Monrovia	13.6	30.1	-1.2	4.6	9.8	4.1	-0.3	5.8	17.8	1.1	-0.9	1,093
North Western	14.3	38.0	-1.6	0.5	3.7	2.9	0.0	3.6	15.0	1.0	-0.9	513
South Central	17.3	37.7	-1.5	2.9	8.1	3.4	-0.1	6.2	18.8	0.5	-1.0	803
South Eastern A	23.3	39.4	-1.6	1.9	8.3	3.6	-0.0	7.4	22.6	1.6	-1.0	379
South Eastern B	25.9	45.2	-1.7	3.8	8.9	6.1	-0.0	7.7	21.7	0.7	-1.0	371
North Central	25.4	44.5	-1.7	2.2	6.5	3.9	-0.0	5.7	20.0	0.8	-1.0	2,008
Mother's education[6]												
No education	21.2	40.5	-1.6	2.2	7.0	4.0	-0.1	5.5	18.3	1.0	-1.0	2,223
Primary	19.3	38.8	-1.5	3.0	8.4	4.3	-0.1	6.2	20.5	0.7	-1.0	1,493
Secondary and higher	12.6	28.0	-1.1	3.8	7.5	3.7	-0.2	3.8	13.4	1.1	-0.7	710
Wealth quintile												
Lowest	25.9	44.5	-1.8	1.9	7.3	3.7	-0.1	6.9	21.1	0.9	-1.1	1,145
Second	24.6	45.1	-1.7	2.2	7.5	3.1	-0.1	6.3	20.5	0.5	-1.0	1,256
Middle	20.3	39.8	-1.6	4.0	9.5	4.0	-0.2	6.7	22.1	0.8	-1.0	1,091
Fourth	15.4	34.6	-1.4	2.2	5.1	5.0	-0.0	5.1	16.1	1.5	-0.8	1,013
Highest	11.0	26.4	-1.1	4.1	7.9	4.0	-0.2	3.0	13.2	0.8	-0.8	660
Total	20.4	39.4	1.6	2.8	7.5	3.9	-0.1	5.8	19.2	0.9	-1.0	5,166

Note: Table is based on children who slept in the household the night before the interview with valid month and year of birth and valid measurement of both height and weight. Each of the indices is expressed in standard deviation units (SD) from the median of the 2006 WHO Child Growth Standards.

[1] Includes children who are below -3 standard deviations (SD) from the International Reference Population median

[2] Excludes children whose mothers were not interviewed

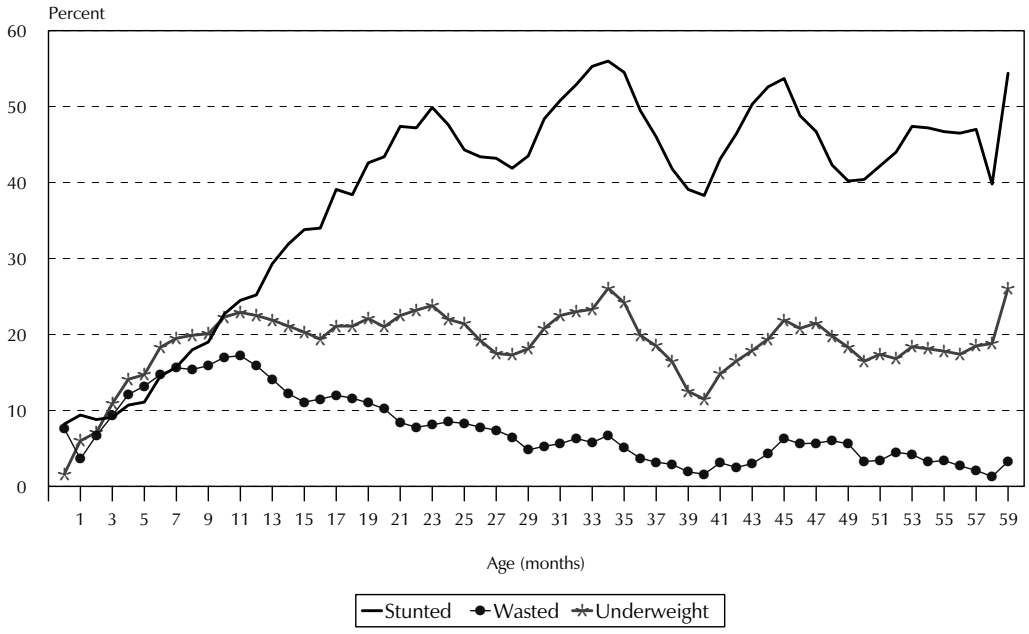
[3] First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

[4] Includes children whose mothers are deceased

[5] Excludes children whose mothers were not weighed and measured. Mother's nutritional status in terms of (Body Mass Index) is presented in Table 11.18.

[6] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire

Figure 11.1 Nutritional Status of Children by Age



Note: *Stunting* reflects chronic malnutrition; *wasting* reflects acute malnutrition; *underweight* reflects chronic or acute malnutrition or a combination of both. Plotted values are smoothed by a five-month moving average.

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11.1.3 Levels of Malnutrition

The data show that 39 percent of children under five are stunted (below -2 SD). Children 24-35 months (49 percent) and 36-47 months (49 percent) are most likely to be stunted and those less than 6 months are the least likely (9 percent). Male children are slightly more likely to be stunted than female children (42 percent compared with 37 percent). The extent of stunting decreases as the size at birth and mother's nutritional status increase. The level of stunting is high in the rural areas (43 percent) and low in the urban areas (31 percent). Stunting varies by region; it is highest in the South Eastern B and North Central regions (45 percent) and lowest in Monrovia (30 percent). Stunting also decreases with the level of mother's education and wealth quintile.

The weight-for-height index gives information about children's recent experience with food intake. Wasting represents failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent illness or of seasonal variations of food. Overall, 8 percent of children under five are wasted. Wasting is highest among children 9-11 months (17 percent) and is lowest among children 48-59 months (3 percent). The level of wasting varies slightly with sex, birth interval, and residence. The extent of wasting decreases as mother's nutritional status improves. Wasting varies by region; it is lowest in North Western (4 percent) and, rather surprisingly, highest in Monrovia (10 percent).

Overall, 19 percent of children are underweight, which may reflect stunting, wasting, or both. More children age 18-23 months are likely to be underweight (22 percent) than those less than 6 months (10 percent). The percent who are underweight decreases as birth interval, size at birth, and mother's nutritional status increase. Underweight varies by region, being highest in South Eastern A (23 percent) and lowest in North Western (15 percent).

The data from the 2007 LDHS on children's nutritional status can be compared to data from two surveys conducted in Liberia—one conducted in early 2006 in areas outside of Monrovia and the companion survey conducted in December 2006 in Greater Monrovia (Government of Liberia, 2006; Government of Liberia, 2007).[1] However, several factors impede comparison. The LDHS tabulates nutritional status for all children under five, but the two food security surveys used children age 6-59 months as a basis. Because children under 6 months of age are far less likely to be malnourished than older children, omitting them serves to increase the levels of stunting and wasting. Second, the LDHS analysis is based on the new WHO child growth reference standards, while the rural food security survey used the older National Center for Health Statistics (NCHS) version of the reference standard and data for Greater Monrovia are presented using both standards. For comparison purposes, data from the LDHS were also tabulated according to the older reference population (Appendix Table A.1). Finally, although the LDHS data refer to a nationally representative sample of children, the data from the food security surveys are split between "outside Monrovia" and "within Monrovia".

Nevertheless, using the older reference standard and omitting children under 6 months of age would yield a level of stunting of 38 percent at the national level, which compares closely to the level of 39 percent outside Monrovia and 27 percent in Greater Monrovia from the two food security surveys. Similarly, data from the LDHS provide a level of wasting of 7 percent among children 6-59 months, compared to 7 percent for rural Liberia and 8 percent for Greater Monrovia from the two other surveys.

11.2 Initiation of Breastfeeding

Early initiation of breastfeeding is encouraged for a number of reasons. Mothers benefit from early suckling because it stimulates breast milk production and facilitates the release of oxytocin, which helps the contraction of the uterus and reduces postpartum blood loss. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases. Early initiation of breastfeeding also fosters bonding between mother and child.

Table 11.2 shows the percentage of all children born in the five years before the survey, by breastfeeding status and the timing of initial breastfeeding and by background characteristics. Overall, 95 percent of children born in the past five years have been breastfed at some time and 67 percent of children were breastfed within one hour of birth. These figures are very similar to the data from the 1999/2000 LDHS, which showed that 97 percent of young children were breastfed and 68 percent started breastfeeding within one hour of birth (MPEA, 2000).

Data from the 2007 LDHS show that urban children are slightly less likely to receive breast milk during the first hour after birth than rural children. The proportion of children who receive early breastfeeding varies by region. Whereas 78 percent of newborns in North Central region were breastfed within an hour of delivery, only 43 percent of newborns in South Eastern A received the same attention.

Eighty-seven percent of babies were breastfed within the first 24 hours after delivery. Survey results show that about one in four babies (24 percent) receive a prelacteal feed. This practice is more common in urban than rural areas. It also seems to be practiced more commonly in South Eastern A region and in Monrovia.

[1] The latter survey used the same sampling points selected for the LDHS; however, because it preceded the data collection for the LDHS and to avoid respondent fatigue, different households were selected from the household listing.

Table 11.2 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and for the last children born in the five years preceding the survey ever breastfed, the percentage who started breastfeeding within one hour and within one day of birth and the percentage who received a prelacteal feed, by background characteristics, Liberia 2007

Background characteristic	Breastfeeding among children born in past five years		Among last-born children ever breastfed:			
	Percentage ever breastfed	Number of children born in past five years	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Percentage who received a prelacteal feed[2]	Number of last-born children ever breastfed
Sex						
Male	94.5	2,911	68.0	87.4	23.1	1,972
Female	94.9	2,682	66.7	87.0	24.4	1,780
Residence						
Urban	95.4	1,694	62.9	84.0	28.0	1,259
Rural	94.3	3,900	69.7	88.8	21.6	2,492
Region						
Monrovia	97.0	1,169	61.9	82.4	32.4	906
North Western	96.8	523	76.3	88.3	11.2	326
South Central	97.7	915	64.0	91.7	10.5	600
South Eastern A	97.6	405	42.6	67.9	36.5	251
South Eastern B	96.2	414	49.8	76.3	29.7	266
North Central	90.8	2,167	78.2	93.7	23.3	1,402
Mother's education						
No education	94.1	2,729	69.6	88.1	20.4	1,755
Primary	95.3	1,915	68.0	87.8	26.1	1,266
Secondary and higher	95.0	942	60.6	84.0	27.3	724
Assistance at delivery						
Health professional[3]	94.6	2,588	63.7	85.2	19.3	1,916
Traditional birth attendant	94.3	2,682	72.1	91.1	28.3	1,669
Other	97.2	203	70.6	81.0	28.7	125
No one	(100.0)	30	(62.6)	(65.5)	(38.4)	19
Place of delivery						
Health facility	94.0	2,064	61.2	84.6	19.4	1,552
At home	94.9	3,411	72.0	89.6	26.8	2,156
Other	100.0	49	(82.2)	(90.0)	(31.9)	30
Wealth quintile						
Lowest	95.3	1,254	66.1	88.2	23.3	798
Second	95.1	1,332	72.1	88.6	23.0	819
Middle	93.8	1,197	71.4	89.7	22.9	806
Fourth	94.7	1,137	62.8	84.3	23.3	805
Highest	94.2	673	62.9	84.4	27.3	524
Total	94.7	5,594	67.4	87.2	23.7	3,752

Note: Table is based on births in the last five years whether the children are living or dead at the time of interview. Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes children who started breastfeeding within one hour of birth
[2] Children given something other than breast milk during the first three days of life
[3] Doctor, nurse/midwife, or auxiliary midwife

11.3 BREASTFEEDING STATUS BY AGE

UNICEF and WHO recommend that children be exclusively breastfed during the first 6 months of life and that children be given solid or semisolid complementary food in addition to continued breastfeeding from 6 months until age 24 months or more when the child is fully weaned. Exclusive breastfeeding is recommended because breast milk is uncontaminated and contains all the nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to disease. Early supplementation is discouraged for several reasons. First, it exposes infants to pathogens and increases their risk of infection, especially disease. Second, it decreases infants' intake of breast milk and therefore suckling, which reduces breast milk production. Third, in low-resource settings, supplementary food is often nutritionally inferior.

Information on complementary feeding was obtained by asking mothers about the current breastfeeding status of all children under five years of age and—for the youngest child born in the three-year period before the survey and living with the mother—foods and liquids given to the child the day and night before the survey.

Table 11.3 shows the percent distribution of youngest children under three years of age living with the mother by breastfeeding status, and percentage of children under three years using a bottle with a nipple, according to age in months. The data presented in Table 11.3 and Figure 11.2 show that breastfeeding durations are long. For example, more than half of children 18-23 months old are still being breastfed. However, exclusive breastfeeding is not as common; only 38 percent of children under 2 months are exclusively breastfed and this decreases to less than 20 percent of those age 4-5 months. This is far less than the 100 percent recommended level.

Most older children are breastfeeding and given foods as well. More than 80 percent of breastfed children age 9-11 months are given complementary foods. Use of bottles with nipples is not widespread in Liberia, which is encouraging because they can cause contamination.

Table 11.3 Breastfeeding status by age

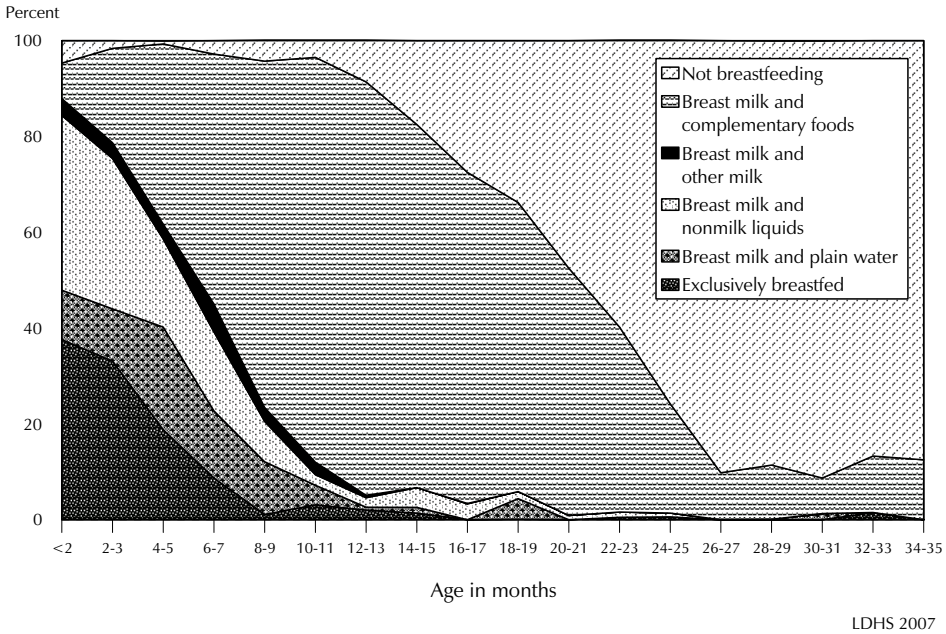
Percent distribution of youngest children under three years living with their mother, by breastfeeding status; and the percentage currently breastfeeding; and the percentage of all children under three years using a bottle with a nipple, according to age in months, Liberia 2007

		Breastfeeding and consuming:									
Age in months	Not breast-feeding	Exclusively breastfed	Plain water only	Non-milk liquids/ juice	Other milk	Comple-mentary foods	Total	Percentage currently breast-feeding	Number of youngest children under three years	Percentage using a bottle with a nipple[1]	Number of children
0-1	4.7	37.6	10.3	36.5	3.5	7.4	100.0	95.3	142	12.2	148
2-3	1.6	33.1	10.9	31.4	3.3	19.7	100.0	98.4	164	15.0	167
4-5	0.6	18.8	21.4	18.4	3.1	37.6	100.0	99.4	180	13.0	182
6-8	3.7	6.4	13.1	13.8	4.9	58.1	100.0	96.3	289	10.1	298
9-11	3.5	2.2	6.2	4.1	2.6	81.5	100.0	96.5	285	6.5	293
12-17	17.8	1.2	0.6	3.1	0.2	77.1	100.0	82.2	423	8.5	457
18-23	46.2	0.2	1.4	1.2	0.0	51.1	100.0	53.8	468	5.5	520
24-35	86.4	0.3	0.2	0.1	0.0	12.9	100.0	13.6	751	3.5	1,059
0-3	3.0	35.2	10.6	33.8	3.4	14.0	100.0	97.0	306	13.7	315
0-5	2.1	29.1	14.6	28.1	3.3	22.7	100.0	97.9	486	13.4	497
6-9	3.6	4.9	12.5	12.4	4.3	62.2	100.0	96.4	382	9.1	394
12-15	13.3	1.7	0.9	3.1	0.2	80.8	100.0	86.7	289	6.5	307
12-23	32.7	0.6	1.1	2.1	0.1	63.4	100.0	67.3	890	6.9	977
20-23	52.5	0.2	0.0	1.0	0.0	46.4	100.0	47.5	310	5.8	355

Note: Breastfeeding status refers to a 24-hour period (yesterday and the past night). Children who are classified as "breastfeeding and consuming plain water only" consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, nonmilk liquids/juice, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus, children who receive breast milk and nonmilk liquids and who do not receive complementary foods are classified in the nonmilk liquid category even though they may also get plain water. Any children who get complementary foods are classified in that category as long as they are breastfeeding as well.

[1] Based on all children under three years

Figure 11.2 Infant Feeding Practices by Age



LDHS 2007

11.4 Duration and Frequency of Breastfeeding

Table 11.4 shows the median duration of breastfeeding by selected background characteristics. The estimates of median and mean durations of breastfeeding are based on current status data, that is, the proportion of children in the three years preceding the survey who were being breastfed at the time of the survey.

The median duration of any breastfeeding is 20 months in Liberia, although the median duration of exclusive breastfeeding is extremely short—less than one month. Differences in both these durations by background characteristics are limited. Rural children are breastfed somewhat longer than urban children. Median duration of any breastfeeding also decreases with increasing education of women and with increasing wealth.

Almost all children less than 6 months old are breastfed at least six times a day. On average, children were fed more in the day than in the night. The frequency of breastfeeding varies only slightly by background characteristics of the child.

The median duration of any breastfeeding was 17 months according to both the 1986 and the 1999/2000 LDHS surveys and was 12 months according to the 2006 food security surveys (Government of Liberia, 2007). Although this comparison implies that breastfeeding durations are increasing, differences in methods of collecting data and calculating the median are also likely to cause the differences.

Table 11.4 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, percentage of breastfeeding children under six months living with the mother who were breastfed six or more times in the 24 hours preceding the survey, and mean number of feeds (day/night), by background characteristics, Liberia 2007

Background characteristic	Median duration (months) of breastfeeding among children born in the past three years[1]			Frequency of breastfeeding among children under six months[2]			Number of children
	Any breast-feeding	Exclusive breast-feeding	Predomi-nant breast-feeding[3]	Percentage breastfed 6+ times in past 24 hours	Mean number of day feeds	Mean number of night feeds	
Sex							
Male	19.4	0.6	5.1	96.0	7.4	5.4	253
Female	20.0	0.6	4.5	96.9	7.0	5.0	212
Residence							
Urban	17.6	0.6	3.4	91.1	6.9	4.8	142
Rural	20.8	0.6	5.3	98.7	7.4	5.4	323
Region							
Monrovia	17.3	0.5	2.9	91.0	6.3	4.6	96
North Western	20.8	(0.6)	6.3	97.1	6.5	4.7	47
South Central	18.5	0.7	3.9	94.1	7.8	5.0	81
South Eastern A	21.4	(0.4)	7.9	99.5	7.9	5.4	39
South Eastern B	18.2	0.6	6.0	100.0	7.8	4.6	38
North Central	21.2	0.6	5.1	99.0	7.5	5.9	164
Mother's education							
No education	21.2	0.7	5.4	98.1	7.6	5.7	216
Primary	19.1	0.6	4.6	97.8	6.7	4.8	172
Secondary and higher	18.5	(0.5)	3.2	88.7	7.2	4.9	78
Wealth quintile							
Lowest	19.5	0.6	5.6	100.0	7.3	5.7	104
Second	22.8	0.5	5.4	99.8	7.9	5.7	115
Middle	21.3	0.6	4.0	89.2	7.1	4.6	85
Fourth	19.1	0.6	5.1	94.9	6.9	4.7	112
Highest	15.4	(0.5)	(3.1)	(96.7)	(6.5)	(5.5)	49
Total	19.6	0.6	4.8	96.4	7.2	5.2	465
Mean for all children	19.3	2.5	6.1	na	na	na	na

Note: Median and mean durations are based on current status. Includes children living and deceased at the time of the survey. Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable
[1] It is assumed that non-last-born children and last-born children not currently living with the mother are not currently breastfeeding.
[2] Excludes children without a valid answer on the number of times breastfed
[3] Either exclusively breastfed or received breast milk and plain water, and/or nonmilk liquids only

11.5 TYPES OF COMPLEMENTARY FOODS

UNICEF and WHO recommend the introduction of solid food to infants around the age of 6 months because by that age breast milk alone is no longer sufficient to maintain a child's optimal growth. In the transition to eating the family diet, children from the age of 6 months should be fed small quantities of solid and semisolid foods throughout the day. During this transition period (ages 6-23 months), the prevalence of malnutrition increases substantially in many countries because of increased infections and poor feeding practices.

Table 11.5 provides information on the types of food given to the youngest children under three years of age who are living with their mother on the day and night preceding the survey, according to their breastfeeding status.

Among all breastfeeding children under three years, 68 percent receive solid or semi-solid foods. The most commonly used supplementary foods for breastfeeding children under three years include other liquids (60 percent); food made from grains (61 percent); fruits and vegetables rich in vitamin A (47 percent); and meat, fish, poultry, and eggs (42 percent).

Table 11.5 Foods and liquids consumed by children in the day or night preceding the interview

Percentage of youngest children under three years of age who are living with the mother, by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Liberia 2007

Age in months	Liquids			Solid or semi-solid foods											
	Infant formula	Other milk[1]	Other liquids[2]	Food made from grains[3]	Fruits and vege-tables rich in vitamin A[4]	Other fruits and vege-tables	Food made from roots and tubers	Food made from legumes and nuts	Meat, fish, poultry, and eggs	Cheese, yogurt, other milk products	Any solid or semi-solid food	Palm butter, red palm soup, anything cooked with palm oil	Food made with other oil, fat, and butter	Sugary foods	Number of children
BREASTFEEDING CHILDREN															
0-1	4.9	2.8	47.8	5.9	1.8	0.2	0.2	0.2	1.8	0.0	7.8	1.2	1.7	0.0	135
2-3	9.7	6.8	48.2	17.3	6.4	1.7	3.2	2.0	5.8	0.4	20.0	3.8	1.6	2.6	161
4-5	12.6	10.4	37.1	26.4	13.2	0.3	7.1	0.0	8.8	1.9	37.9	11.3	5.5	0.4	179
6-8	12.5	11.4	60.9	53.0	28.1	8.1	13.3	5.1	24.5	2.5	60.2	21.3	14.5	9.5	278
9-11	8.9	11.2	67.4	73.9	58.8	15.9	26.9	15.1	50.1	6.1	84.2	50.4	31.3	27.1	275
12-17	6.7	10.8	66.0	86.4	73.6	20.8	39.2	20.9	67.2	8.7	93.8	57.8	39.8	31.3	348
18-23	2.8	5.3	69.8	88.9	75.9	20.4	43.8	15.5	74.6	5.7	94.8	63.0	37.7	26.3	252
24-35	4.9	6.2	68.1	86.9	82.7	22.4	46.0	27.2	69.3	14.0	93.6	68.3	40.1	33.5	102
6-23	7.8	9.8	66.0	75.9	59.6	16.5	31.0	14.5	54.4	5.9	83.6	48.3	31.2	23.9	1,153
Total	8.1	8.9	60.0	60.5	46.7	12.5	24.4	11.5	42.0	5.0	67.6	37.9	24.0	18.2	1,731
NONBREASTFEEDING CHILDREN															
0-11	(12.6)	(25.0)	(41.1)	(45.6)	(37.7)	(1.4)	(12.4)	(8.6)	(33.4)	(4.4)	(46.0)	(25.8)	(14.3)	(14.7)	31
12-17	12.6	22.1	58.2	88.9	76.2	22.6	37.5	18.6	66.4	10.7	98.4	56.3	38.5	35.3	75
18-23	5.2	6.2	76.6	95.1	83.2	23.8	45.4	21.1	79.1	9.1	99.4	70.9	46.7	41.6	216
24-35	4.5	7.5	66.6	93.0	85.9	25.9	48.2	22.2	79.8	10.1	96.9	72.4	41.3	41.5	649
6-23	7.9	11.8	69.2	91.9	79.7	22.0	41.7	20.0	74.1	9.4	97.1	65.2	43.0	38.8	312
Total	5.6	8.9	67.3	91.6	83.0	24.4	45.6	21.3	77.1	9.8	95.9	69.3	41.4	40.2	971

Note: Breastfeeding status and food consumed refer to a 24-hour period (yesterday and the past night). Figures in parentheses are based on 25-49 unweighted cases.
[1] Other milk includes fresh, tinned, and powdered cow or other animal milk.
[2] Other liquids does not include plain water.
[3] Includes fortified baby food
[4] Includes pumpkins, yellow-orange sweet potatoes, potato greens, bitter leaf, other dark green leafy vegetables, ripe mangoes, pawpaws

Consumption of palm butter, red palm soup, and anything cooked with palm oil generally begins at 4-5 months (11 percent) and increases steadily to 68 percent by 24-35 months. As expected, as children get older, the proportion who are given each type of food generally increases.

11.6 INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES

Infant and young child feeding (IYCF) practices include timely initiation of feeding solid/semisolid foods from age 6 months and increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding. Guidelines have been established with respect to IYCF practices for children age 6-23 months (PAHO/WHO, 2003; WHO, 2005).

Table 11.6 presents a summary indicator of IYCF practices. The indicator takes into account the percentages of children for whom feeding practices meet minimum standards with respect to food diversity (i.e., the number of food groups consumed) and feeding frequency (i.e., the number of times the child is fed), as well the consumption of breast milk or other milks or milk products. Breastfed children are considered as being fed with the minimum standards if they consume at least three food groups[2] and receive foods other than breast milk at least twice per day in the case of infants 6-8 months and at least three times per day in the case of children 9-23 months. Nonbreastfed children are considered to be fed in accordance with the minimum standards if they consume milk or milk products, are fed four food groups (including milk products), and are fed at least four times per day.

Table 11.6 Infant and young child feeding (IYCF) practices

Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based on the number of food groups received and the number of times fed during the day and night preceding the survey, by breastfeeding status and background characteristics, Liberia 2007

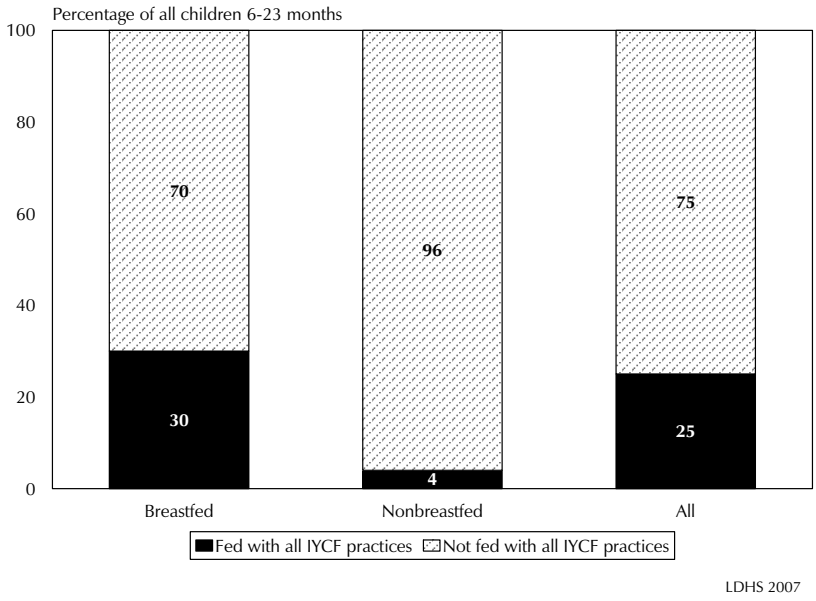
	Among breastfed children 6-23 months, percentage fed:				Among nonbreastfed children 6-23 months, percentage fed:					Among all children 6-23 months, percentage fed:				
Background characteristic	3+ food groups[1]	Minimum times or more[2]	Both 3+ food groups and minimum times or more	Number of breastfed children 6-23 months	Milk or milk products[3]	4+ food groups[1]	4+ times or more	With 3 IYCF practices[4]	Number of nonbreastfed children 6-23 months	Breast milk or milk products[3]	3+ or 4+ food groups[5]	Minimum times or more[6]	With all 3 IYCF practices	Number of all children 6-23 months
Age														
6-8	20.6	50.8	17.7	278	*	*	*	*	11	97.7	20.8	49.3	17.3	289
9-11	45.0	42.4	23.3	275	*	*	*	*	10	98.1	44.7	41.3	22.5	285
12-17	62.1	51.4	36.6	348	29.7	43.8	18.8	5.4	75	87.5	58.9	45.6	31.0	423
18-23	63.1	58.9	42.4	252	15.5	42.2	20.4	3.1	216	61.0	53.5	41.1	24.2	468
Sex														
Male	47.8	50.2	29.5	592	16.9	43.9	20.9	2.8	174	81.1	46.9	43.6	23.4	766
Female	48.7	51.3	30.8	561	25.6	39.0	17.5	4.8	137	85.4	46.8	44.6	25.6	699
Residence														
Urban	51.1	53.7	32.0	356	36.0	50.0	25.2	8.4	125	83.3	50.8	46.2	25.9	481
Rural	47.0	49.4	29.3	797	10.4	36.2	15.5	0.5	186	83.0	44.9	43.0	23.8	983
Region														
Monrovia	54.2	59.2	36.4	246	39.9	53.8	28.6	10.8	96	83.1	54.1	50.6	29.2	342
North Western	37.9	25.0	15.6	125	(6.0)	(54.4)	(1.3)	(0.6)	17	88.7	39.9	22.1	13.8	142
South Central	50.4	44.8	29.1	175	18.4	51.3	13.4	1.4	59	79.5	50.6	36.9	22.2	234
South Eastern A	54.2	45.8	36.1	85	(36.0)	(40.8)	(9.6)	(0.0)	16	90.0	52.1	40.2	30.4	100
South Eastern B	54.5	47.3	33.5	77	15.6	33.4	21.4	0.6	22	81.2	49.8	41.5	26.2	99
North Central	44.8	57.2	29.4	445	5.2	24.6	18.3	0.0	102	82.4	41.0	50.0	23.9	547
Mother's education														
No education	46.8	43.8	25.9	537	14.4	38.4	13.1	3.9	120	84.4	45.3	38.2	21.9	657
Primary	46.1	54.8	30.6	414	15.4	42.0	20.6	0.1	110	82.2	45.2	47.6	24.2	524
Secondary and higher	56.4	61.0	40.3	202	37.3	46.4	27.1	8.3	81	82.0	53.6	51.3	31.1	283
Wealth quintile														
Lowest	48.5	41.3	29.7	241	8.5	18.8	15.0	0.0	71	79.2	41.8	35.3	22.9	313
Second	38.0	46.7	21.6	267	12.9	30.8	18.1	0.0	60	84.1	36.7	41.5	17.7	326
Middle	49.3	54.5	31.8	285	(15.4)	(54.8)	(20.6)	(0.2)	47	87.9	50.1	49.7	27.3	332
Fourth	55.5	52.5	32.4	235	21.4	52.8	21.4	5.0	63	83.4	54.9	45.9	26.6	298
Highest	53.4	65.5	40.9	125	42.6	55.5	22.5	11.7	70	79.4	54.1	50.0	30.4	196
Total	48.2	50.7	30.1	1,153	20.7	41.7	19.4	3.7	312	83.1	46.8	44.1	24.5	1,465

Note: Numbers in parentheses are based on 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Food groups: a. infant formula, milk other than breast milk, cheese or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge, fortified baby food from grains; c. vitamin A-rich fruits and vegetables (and red palm oil); d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts; h. foods made with oil, fat, butter.
[2] At least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months
[3] Includes commercial infant formula; fresh, tinned, and powdered animal milk; cheese, yogurt, and other milk products
[4] Nonbreastfed children ages 6-23 months are considered to be fed with a minimum standard of three IYCF practices if they receive other milk or milk products and are fed at least the minimum number of times per day with at least the minimum number of food groups.
[5] 3+ food groups for breastfed children and 4+ food groups for nonbreastfed children
[6] Fed solid or semi-solid food at least twice a day for infants 6-8 months, 3+ times for other breastfed children, and 4+ times for nonbreastfed children

[2] Food groups used in the assessment of minimum standard of feeding practices include: infant formula, milk other than breast milk, cheese or yogurt or other milk products; foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; fruits and vegetables rich in vitamin A; other fruits and vegetables; eggs; meat, poultry, fish, and shellfish (and organ meats); beans, peas, and nuts; and foods made with oil, fat, or butter.

According to the results presented in Table 11.6, among breastfed children age 6-23 months, almost half (48 percent) were given foods from three or more food groups in the 24 hours before the survey, and just over half (51 percent) were fed the minimum number of times in the previous 24 hours. The combined percentage of children who fall in both categories is 30 percent (Figure 11.3). The proportion of breastfeeding children 6-23 months who are given a variety of foods a minimum number of times a day generally increases with mother's education and wealth; however, it is particular low among children 6-8 months of age and those in North Western region.

Figure 11.3 Infant and Young Child Feeding Practices



LDHS 2007

Among nonbreastfed children 6-23 months, 21 percent are given milk or milk products, 42 percent are given food from at least four food groups, and 19 percent are fed four or more times per day. However, only 4 percent of nonbreastfeeding children are fed in accordance with all three IYCF practices. The small number of nonbreastfeeding children in many categories makes it difficult to interpret differences by background characteristics.

Looking at all children age 6-23 months, the vast majority (83 percent) are given either breast milk or other milk products, and just under half are given foods from the appropriate number of food groups and are fed the appropriate number of times per day. Overall, one in four Liberian children is fed in accordance with IYCF practices. Those more likely to be fed appropriately are those in South Eastern A region and in Monrovia, those whose mothers are better educated, and those from higher wealth quintiles, although differences are not large.

11.7 Micronutrient Intake among Children

Micronutrient deficiency is a serious contributor to childhood morbidity and mortality. Children can receive micronutrients from foods, food fortification, and direct supplementation. Table 11.7 looks at measures relating to intake of several key micronutrients among children.

Table 11.7 Micronutrient intake among children

Among youngest children age 6-35 months who are living with their mother, the percentages who consumed vitamin A-rich and iron-rich foods in the day or night preceding the survey, and among all children 6-59 months, the percentages who were given vitamin A supplements in the six months preceding the survey, who were given iron supplements in the last seven days, and who were given deworming medication in the six months preceding the survey, by background characteristics, Liberia 2007

	Among youngest children age 6-35 months living with the mother:			Among all children age 6-59 months:			
Background characteristic	Percentage who consumed foods rich in vitamin A in past 24 hours[1]	Percentage who consumed foods rich in iron in past 24 hours[2]	Number of children 6-35 months	Percentage given vitamin A supplements in past 6 months	Percentage given iron supplements in past 7 days	Percentage given deworming medication in past 6 months[3]	Number of children 6-59 months
Age in months							
6-8	34.0	24.5	289	49.4	20.3	13.6	298
9-11	66.4	51.1	285	54.8	23.3	27.4	293
12-17	83.3	67.1	423	52.2	25.0	48.3	457
18-23	90.7	76.7	468	44.9	20.9	49.4	520
24-35	92.6	78.4	751	43.1	17.0	50.2	1,059
36-47	na	na	0	40.3	12.3	50.1	1,102
48-59	na	na	0	34.4	13.4	46.1	906
Sex							
Male	80.5	66.1	1,155	43.6	17.5	44.3	2,382
Female	78.3	64.4	1,061	42.3	16.4	46.4	2,254
Breastfeeding status							
Breastfeeding	69.4	55.7	1,255	48.9	21.4	36.4	1,310
Not breastfeeding	92.8	78.5	936	41.3	15.3	49.6	3,160
Residence							
Urban	80.1	70.2	733	53.2	23.4	57.1	1,413
Rural	79.1	62.9	1,483	38.5	14.2	40.2	3,223
Region							
Monrovia	81.8	73.8	519	59.1	25.9	61.2	991
North Western	72.0	52.8	200	29.0	10.1	32.1	428
South Central	82.5	71.0	326	47.8	12.7	47.6	736
South Eastern A	83.6	71.4	148	27.6	4.3	39.2	331
South Eastern B	81.0	73.8	152	47.2	9.7	44.0	341
North Central	77.5	58.5	871	37.5	19.3	40.2	1,809
Mother's education							
No education	78.3	63.4	1,014	40.6	13.9	40.1	2,269
Primary	80.5	65.8	785	40.9	15.7	45.7	1,572
Secondary and higher	80.2	68.9	417	54.2	28.6	59.2	790
Wealth quintile							
Lowest	79.2	64.1	478	33.9	10.0	33.3	1,024
Second	73.2	59.4	486	36.7	11.1	40.1	1,109
Middle	83.2	64.6	500	42.5	17.3	41.3	1,012
Fourth	80.2	70.8	457	52.6	25.0	56.9	916
Highest	82.3	69.8	295	56.7	27.7	65.4	575
Total	79.4	65.3	2,216	43.0	17.0	45.3	4,635

Note: Information on vitamin A and iron supplements and deworming medication is based on the mother's recall.
na = Not applicable
[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, yellow-orange sweet potatoes, potato greens, bitter leaf, other dark green leafy vegetables, mango, pawpaws, and palm butter, red palm soup, and palm oil
[2] Includes meat (including organ meat)
[3] Deworming for intestinal parasites is commonly done for helminthes and for schistosomiasis.

Vitamin A is an essential micronutrient for the immune system and plays an important role in maintaining the epithelial tissue in the body. Severe vitamin A deficiency can cause eye damage. Vitamin A deficiency can also increase the severity of infections such as measles and diarrheal diseases in children and slow recovery from illness. Vitamin A is found in breast milk, other milks, liver, eggs, fish, butter, red palm oil, mangoes, papayas, carrots, pumpkins, yellow-orange sweet potatoes, and dark green leafy vegetables. The liver can store an adequate amount of the vitamin for 4-6 months. Periodic dosing (usually every 6 months) of vitamin A supplements is one method of ensuring that children at risk do not develop vitamin A deficiency.

Iron is essential for cognitive development. Low iron intake can also contribute to anemia. Iron requirements are greatest between the ages of 6 and 12 months, when growth is extremely rapid. The 2007 LDHS collected information on the consumption of foods rich in vitamin A and foods rich in iron.

Table 11.7 shows that 79 percent of children age 6-35 months living with the mother consumed foods rich in vitamin A in the 24 hours preceding the survey, and 65 percent consumed foods rich in iron. There is a steady increase with age in the proportion of children who eat foods rich in vitamin A and iron, from 34 percent of children 6-8 months to 93 percent of those age 24-35 months for foods rich in vitamin A and from 25 percent of children 6-8 months to 78 percent of those 24-35 months for foods rich in iron. Children who are not breastfeeding are more likely to consume foods rich in vitamin A and iron, compared with their breastfeeding counterparts, presumably because they are older than breastfeeding children. Differences by other characteristics are not large, although urban children are more likely than rural children to be given iron-rich foods. Also, children in North Western region are considerably less likely to consume iron-rich foods than children in other regions.

The 2007 LDHS also collected data on vitamin A supplementation and iron supplementation. As shown in Table 11.7, 43 percent of all children 6-59 months received vitamin A supplements in the 6 months preceding the survey. Supplementation is higher among younger children; around half of children age 6-17 months receive vitamin A supplements, compared with only one-third of those age 48-59 months. Children who are breastfeeding are more likely than nonbreastfeeding children to have received a vitamin A supplement in the last 6 months. The data show that children in urban areas (53 percent) are more likely to receive a vitamin A supplement than children in rural areas (39 percent). The proportion of children receiving vitamin A supplements is highest in Monrovia (59 percent) and lowest in South Eastern A (28 percent). The proportion of children receiving a vitamin A supplement generally increases with mother's educational attainment and wealth quintile.

With regard to iron supplements, only 17 percent of children age 6-59 months received an iron supplement in the seven days preceding the survey. As with vitamin A supplementation, iron supplementation is higher among breastfeeding children, urban children, children whose mothers have been to secondary school, and children in the higher wealth quintiles. Consumption of iron supplements is highest in Monrovia (26 percent) and lowest in South Eastern A (4 percent).

11.8 NUTRITIONAL STATUS OF WOMEN

Anthropometric data on height and weight were collected for women age 15-49 interviewed in the survey. In this report, two indicators of nutritional status based on these data are presented: the percentage of women with very short stature (less than 145 cm) and body mass index (BMI).

BMI or the Quetelet index, is used to measure thinness or obesity. BMI is defined as weight in kilograms divided by height squared in meters (kg/m^2). A cutoff point of 18.5 is used to define thinness or acute undernutrition and a BMI of 25.0 or above usually indicates overweight or obesity. The height of a woman is associated with past socioeconomic status and nutrition during childhood and adolescence. Low pre-pregnancy BMI and short stature are risk factors for poor birth outcomes and obstetric complications. In developing countries, maternal underweight is a leading risk factor for preventable death and diseases.

Table 11.8 presents the mean values of the two indicators of nutritional status and the proportions of women falling into high-risk categories, according to background characteristics. Respondents for whom there was no information on height and/or weight and for whom a BMI could not be estimated are excluded from this analysis. The analysis of height is based on 6,955 women, and the analysis of BMI is based on 6,057 women age 15-49 years.

Table 11.8 Nutritional status of women

Among women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Liberia 2007

Background characteristic	Height		BMI[1]								
	Percentage below 145 cm	Number of women	Mean Body Mass Index (BMI)	18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17 (moderately and severely thin)	≥25.0 (total overweight or obese)	25.0-29.9 (overweight)	≥30.0 (obese)	Number of women
Age											
15-19	4.7	1,285	20.8	74.0	17.9	13.2	4.7	8.1	7.4	0.7	1,156
20-29	2.7	2,474	22.0	75.3	8.8	7.5	1.3	15.9	12.8	3.1	2,008
30-39	1.5	1,884	23.4	64.8	7.1	5.0	2.1	28.1	19.8	8.3	1,636
40-49	1.4	1,313	23.8	61.8	8.7	6.5	2.2	29.5	18.5	11.1	1,257
Residence											
Urban	2.3	2,934	23.4	63.6	8.1	5.9	2.2	28.3	19.4	8.8	2,652
Rural	2.7	4,021	21.8	73.9	11.5	9.1	2.4	14.5	11.3	3.3	3,405
Region											
Monrovia	2.4	2,282	23.5	62.9	8.0	5.9	2.1	29.1	20.0	9.1	2,062
North Western	1.8	498	22.4	71.9	9.3	8.2	1.2	18.8	13.0	5.8	418
South Central	3.8	996	22.5	65.9	13.1	11.0	2.1	21.0	13.6	7.4	874
South Eastern A	2.2	362	22.0	75.5	9.5	7.0	2.5	15.0	12.4	2.6	309
South Eastern B	4.9	440	22.0	75.1	9.8	7.1	2.7	15.1	12.2	2.9	358
North Central	1.9	2,377	21.7	75.1	11.1	8.2	2.8	13.8	11.4	2.4	2,036
Education											
No education	2.7	2,965	22.5	70.4	9.7	7.0	2.6	20.0	14.6	5.4	2,556
Primary	3.1	2,228	22.0	72.0	12.2	9.7	2.5	15.9	11.8	4.1	1,899
Secondary and higher	1.6	1,754	23.3	64.8	8.2	6.5	1.7	27.1	18.9	8.1	1,595
Wealth quintile											
Lowest	2.4	1,228	21.4	76.2	13.7	11.0	2.7	10.1	8.1	2.0	1,016
Second	3.2	1,308	21.6	76.8	11.6	9.2	2.4	11.6	9.5	2.1	1,115
Middle	2.6	1,327	22.1	72.7	9.4	6.9	2.5	17.9	14.2	3.6	1,141
Fourth	1.6	1,563	23.2	66.3	8.5	6.3	2.1	25.2	17.2	8.0	1,400
Highest	2.9	1,528	23.8	59.0	8.1	6.1	2.0	32.9	22.2	10.7	1,384
Total	2.5	6,955	22.5	69.4	10.0	7.7	2.3	20.5	14.8	5.7	6,057

Note: The BMI is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2).
[1] Excludes pregnant women and women with a birth in the preceding 2 months

The data show that less than 3 percent of women age 15-49 are less than 145 cm in height. The mean BMI for women 15-49 is 23. Analysis by background characteristics shows that the mean BMI falls in the normal range (18.5-24.9) for all categories of background characteristics. At the national level, 10 percent of women are considered to be thin (BMI < 18.5); however, only 2 percent of women are considered to be severely thin (BMI < 17).

The proportion of overweight or obese women stands at 21 percent, with 6 percent of women considered to be obese (BMI ≥ 30.0). The proportion of overweight or obese women is positively correlated with the women's age. Thus, the age group 40-49 has the highest proportion (30 percent) of overweight or obese women, and the age group 15-19 has the lowest proportion (8 percent).

The data show that urban women are more likely to be overweight or obese than rural women. A regional comparison shows that North Central region has the lowest proportion of overweight or obese women (14 percent), and Monrovia has the highest proportion (29 percent). Wealth has a positive relationship with overweight levels; women in the highest wealth quintile are more likely to be overweight or obese (33 percent) than those in the lowest quintile (10 percent).

11.9 FOODS CONSUMED BY MOTHERS

The quality and quantity of food that mothers consume influence their health and that of their children, especially the health of breastfeeding children. The 2007 LDHS included questions on the type of foods consumed by mothers of children under age three during the day and night preceding the interview. Table 11.9 shows that the most commonly consumed foods among mothers living with a child under three years include foods made from grains (89 percent); vitamin A-rich fruits and vegetables (86 percent); meat, fish, shellfish, poultry, and eggs (79 percent); and palm butter, red palm soup, and food cooked with palm oil (71 percent). Differences in consumption of these food groups by background characteristics are not large, although there is a tendency for consumption to be higher among urban mothers, those in Monrovia, those with more education, and those in the higher wealth quintiles.

The data show that only 7 percent of mothers drank milk in the day or night preceding the interview. Women in urban areas (15 percent) are more likely to drink milk than those in rural areas (3 percent). At the regional level, the percentage of women drinking milk is highest in South Eastern A (23 percent) and lowest in South Eastern B (2 percent) and North Western (2 percent) regions.

Table 11.9 Foods consumed by mothers in the day or night preceding the interview

Among mothers age 15-49 with a child under age three years living with them, the percentage who consumed specific types of foods in the day or night preceding the interview, by background characteristics, Liberia 2007

	Liquids		Solid or semi-solid foods											
Background characteristic	Milk	Tea/ coffee	Foods made from grains	Foods made from roots/ tubers	Foods made from legumes	Meat/ fish/ shellfish/ poultry/ eggs	Cheese/ yogurt	Vitamin A-rich fruits/ vege-tables[1]	Other fruits/ vege-tables	Palm butter, red palm soup, food cooked with palm oil	Foods made with oil/fat/ butter	Other solid or semi-solid foods	Sugary foods	Number of women
Age														
15-19	3.8	8.4	90.6	52.3	15.6	77.0	9.0	89.8	19.6	76.9	43.5	25.8	25.8	284
20-29	6.7	10.7	89.1	51.5	21.7	79.7	9.9	85.4	22.7	67.1	43.0	25.7	25.7	1,350
30-39	7.8	11.3	89.5	54.8	24.1	79.3	10.6	88.1	24.7	74.6	44.2	26.1	26.1	849
40-49	5.3	7.1	85.7	53.2	24.6	78.0	11.7	80.0	21.5	67.6	40.4	23.4	23.4	219
Residence														
Urban	15.0	21.4	92.1	40.8	25.4	86.6	15.0	89.2	24.5	74.5	50.4	38.1	38.1	878
Rural	2.6	5.0	87.6	58.5	20.5	75.5	7.8	84.9	22.2	68.6	39.7	19.7	19.7	1,824
Region														
Monrovia	14.8	23.3	93.7	35.4	25.3	90.8	16.6	90.2	25.6	76.6	50.5	40.7	40.7	617
North Western	2.1	4.1	91.3	54.9	20.8	71.8	5.3	90.2	16.1	72.5	34.1	32.3	32.3	247
South Central	2.6	5.5	89.1	48.8	15.2	85.6	5.3	88.5	11.8	81.0	55.4	13.9	13.9	408
South Eastern A	23.3	21.1	93.0	57.3	37.5	84.9	25.4	90.4	40.9	81.7	41.9	34.1	34.1	187
South Eastern B	1.6	3.1	89.1	72.7	30.9	87.6	23.5	93.0	32.3	79.0	32.5	18.3	18.3	191
North Central	2.4	5.5	85.2	59.5	18.9	69.0	4.2	80.2	22.4	59.0	38.5	19.7	19.7	1,051
Education														
No education	5.7	7.2	86.9	54.7	20.4	78.8	9.4	86.7	23.6	71.5	41.3	22.6	22.6	1,240
Primary	5.8	8.7	90.4	55.9	23.4	77.5	9.1	85.1	21.1	68.5	41.7	25.5	25.5	963
Secondary and higher	10.7	21.5	92.2	41.7	23.7	83.1	13.9	87.5	24.8	72.1	50.9	33.7	33.7	498
Wealth quintile														
Lowest	3.3	3.4	87.9	64.8	21.5	77.1	10.1	83.6	24.2	66.1	38.4	17.6	17.6	585
Second	2.9	4.4	87.9	54.1	20.3	73.4	8.2	83.8	21.7	65.6	35.5	17.3	17.3	609
Middle	4.0	7.1	88.2	56.0	18.9	76.3	7.0	87.1	18.5	70.3	42.9	25.1	25.1	591
Fourth	9.3	15.1	90.5	43.3	23.4	85.3	10.4	87.4	22.8	76.8	50.8	34.6	34.6	571
Highest	19.0	30.2	92.6	39.7	29.6	87.3	18.6	91.9	30.8	76.8	53.1	40.6	40.6	345
Total	6.6	10.4	89.1	52.7	22.1	79.1	10.1	86.3	22.9	70.5	43.2	25.7	25.7	2,701

Note: Foods consumed in the last "24-hour" period (yesterday and last night)
[1] Includes pumpkins, yellow-orange sweet potatoes, potato greens, bitter leaf, other dark green leafy vegetables, ripe mangoes, pawpaws

11.10 MICRONUTRIENT INTAKE AMONG MOTHERS

Adequate micronutrient intake by women has important benefits for women and their children. Breastfeeding children benefit from micronutrient supplementation that mothers receive, especially vitamin A. Iron supplementation of women during pregnancy protects mother and infant against anemia. It is estimated that one-fifth of perinatal mortality and one-tenth of maternal mortality are attributable to iron deficiency anemia. Anemia also results in an increased risk of premature delivery and low birth weight. Finally, iodine deficiency is also related to a number of adverse pregnancy outcomes.

Table 11.10 includes a number of measures that are useful in assessing the extent to which women are receiving adequate intake of vitamin A and iron and the proportion who take deworming medication during pregnancy. The first indicators focus on the percentages of women with children under age three who reported that they consumed foods rich in vitamin A and iron during the 24-hour period before the interview. The results indicate that 94 percent of mothers with young children consumed vitamin A-rich foods during the 24 hours preceding the interview, and 79 percent consumed iron-rich foods.

Table 11.10 Micronutrient intake among mothers

Among women age 15-49 with a child under age three years living with her, the percentages who consumed vitamin A-rich and iron-rich foods in the 24 hours before the survey and with a live birth in the five years before the survey, percentage who received a vitamin A dose in the first two months after the birth of the last child and percentage who took iron tablets or syrup for specific numbers of days and percentage who took deworming medication during the pregnancy for the last child, according to background characteristics, Liberia 2007

Background characteristic	Among women with a child under three years living with her			Percentage who received vitamin A dose post-partum[3]	Number of days women took iron tablets or syrup during pregnancy of last birth					Percentage of women who took deworming medication during pregnancy of last birth[5]	Number of women
	Percentage consumed vitamin A-rich foods[1]	Percentage consumed iron-rich foods[2]	Number of women		None	<60	60-89	90+	Don't know/ missing[4]		
Age											
15-19	94.6	77.0	284	61.1	8.7	49.7	15.5	11.0	15.1	30.2	336
20-29	94.6	79.7	1,350	63.4	10.7	43.6	13.5	14.5	17.6	28.8	1,868
30-39	95.1	79.3	849	62.1	14.0	41.1	13.3	13.5	18.0	27.2	1,285
40-49	89.8	78.0	219	52.4	17.6	38.6	14.4	11.3	18.0	29.6	439
Residence											
Urban	96.4	86.6	878	79.3	4.8	33.9	15.4	18.7	27.3	34.9	1,310
Rural	93.4	75.5	1,824	52.6	16.2	47.2	12.9	11.0	12.7	25.3	2,618
Region											
Monrovia	98.1	90.8	617	81.8	3.0	31.5	15.5	19.5	30.5	36.7	933
North Western	91.7	71.8	247	56.3	11.0	57.8	13.5	1.8	15.9	15.6	332
South Central	96.5	85.6	408	71.6	7.8	41.8	16.6	8.4	25.4	28.2	616
South Eastern A	95.8	84.9	187	44.1	36.5	30.2	12.9	4.1	16.2	29.0	256
South Eastern B	96.8	87.6	191	43.0	20.2	58.0	4.9	11.3	5.6	22.7	272
North Central	91.4	69.0	1,051	52.4	14.9	46.0	13.3	16.5	9.3	27.4	1,519
Education											
No education	94.7	78.8	1,240	57.4	16.1	43.6	11.6	12.6	16.0	25.1	1,845
Primary	93.8	77.5	963	59.3	12.4	44.6	14.6	12.5	15.9	29.9	1,319
Secondary and higher	94.7	83.1	498	75.8	3.4	37.2	17.4	17.8	24.1	34.6	757
Wealth quintile											
Lowest	94.3	77.1	585	44.6	25.2	41.9	14.2	8.0	10.5	22.0	828
Second	92.7	73.4	609	50.2	14.6	51.1	11.8	9.3	13.2	26.0	857
Middle	93.5	76.3	591	61.2	11.7	45.3	12.6	14.1	16.3	25.8	847
Fourth	94.4	85.3	571	77.9	5.0	39.0	17.3	17.6	21.1	33.1	844
Highest	99.1	87.3	345	80.1	2.2	32.8	12.0	21.5	31.5	39.4	553
Total	94.4	79.1	2,701	61.5	12.4	42.7	13.7	13.6	17.6	28.5	3,928

[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, red-orange sweet potatoes, potato greens, bitter leaf, other dark green leafy vegetables, mango, pawpaw, and palm butter, red palm soup, and palm oil.
[2] Includes meat (and organ meat), fish, poultry, eggs
[3] In the first two months after delivery
[4] Includes Don't know/missing as to whether took iron as well as Don't know/missing as to number of days.
[5] Deworming for intestinal parasites is commonly done for helminthes and for schistosomias.

Table 11.10 also looks at the extent to which women receive vitamin A supplements after giving birth. Sixty-two percent of mothers with young children reported that they had received a postpartum vitamin dose within 2 months of delivering, but this varies slightly with area of residence, region, educational attainment, and wealth. Women in urban areas (79 percent) are more likely to receive vitamin A supplements than those in rural areas (53 percent). At the regional level, the percentage of women who reported receiving a postpartum vitamin A dose is highest in Monrovia (82 percent) and lowest in South Eastern B (43 percent). There is also a steady increase in vitamin A supplementation as wealth quintile increases.

With regard to iron supplementation during pregnancy, 12 percent of women did not take iron tablets or syrup during pregnancy; the majority of women said they took iron tablets but for fewer than 60 days. A relatively large proportion of mothers (18 percent) said they did not know if they had received a vitamin A supplement. Intake varies considerably by region. Thirty-seven percent of women in South Eastern A and 20 percent in South Eastern B did not take any iron supplement during pregnancy, compared with 3 percent in Monrovia and 8 percent in South Central.

Twenty-nine percent of mothers said they took deworming medication during their most recent pregnancy. This proportion is higher among urban women, better educated women, and those in the higher wealth quintiles.

MALARIA 12

Although it is preventable and curable, malaria remains a major public health problem in Liberia, taking its greatest toll on young children and pregnant women. Malaria is the leading cause of attendance at out-patient departments (40-45 percent) and is also the number one cause of inpatient deaths. Hospital records suggest that at least 18 percent of inpatient deaths are attributable to malaria (NMCP, 2006). This health problem was exacerbated by 15 years of civil conflict that resulted in large population displacements as well as damage to the health systems. In an effort to reduce the malaria burden in Liberia, the Ministry of Health and Social Welfare (MOHSW) introduced a policy and strategic plan for malaria control and prevention. This plan is in line with the Abuja Declaration, which the Government of Liberia signed in April 2000. The measures laid out in the National Strategic Plan are attempts to fulfill WHO's Roll Back Malaria objective for reducing malaria morbidity and mortality by 50 percent by the year 2010. As part of this plan, the MOHSW has endorsed the use of more effective drugs for treatment in Liberia—Artesunate plus Amodiaquine (ACT) replacing chloroquine—as well as multiple preventive measures such as intermittent preventive treatment (IPT) for pregnant women, the use of insecticide-treated nets (ITNs), and indoor residual spraying (IRS), especially in camps for Liberians who were internally displaced due to the civil conflict. Data from the 2007 Liberia Demographic and Health Survey (LDHS) can be used to assess the extent of implementation of several of these malaria control strategies.

In 2005, the National Malaria Control Program at the MOHSW implemented a nationally representative, household-based Malaria Indicators Survey (MIS) (NMCP, 2006). The overall objective of this survey was to update the core baseline indicators of malaria in Liberia. Data collection in 8,226 households was conducted by the Liberia Institute for Statistics and Geo-Information Services (LISGIS), with funding from several international donors, including the United Nations Development Program; the Global Fund to Fight AIDS, Tuberculosis, and Malaria; and the World Health Organization. Among the more important findings of the survey was the fact that 66 percent of children under five were infected with the malaria parasite (*Plasmodium falciparum*) at the time of the survey and that 87 percent of children under five had anemia (NMCP, 2006).

12.1 HOUSEHOLD OWNERSHIP OF MOSQUITO NETS

Bednets and window screening have long been considered useful protection methods against mosquitoes and other insects. Nets provide a physical barrier to reduce the number of bites from infective vectors. However, nets and screens rarely provide complete coverage against mosquitoes, which led to the introduction of impregnating nets with an insecticide to repel or kill mosquitoes before or shortly after feeding. Currently, ITNs are regarded as a promising malaria control tool, and if used by most members of the community, they may reduce overall malaria transmission.

As a means of measuring the coverage of mosquito nets, the 2007 LDHS household questionnaire included questions on net ownership. Table 12.1 provides information on the percentage of households that have a net, the percentage that have more than one net, and the average number of nets per household, according to residence, region, and wealth quintile. Questions about whether the nets were insecticide-treated and which household members slept under nets the previous night were not included in the LDHS, in part because such data had already been collected in the 2005 MIS.

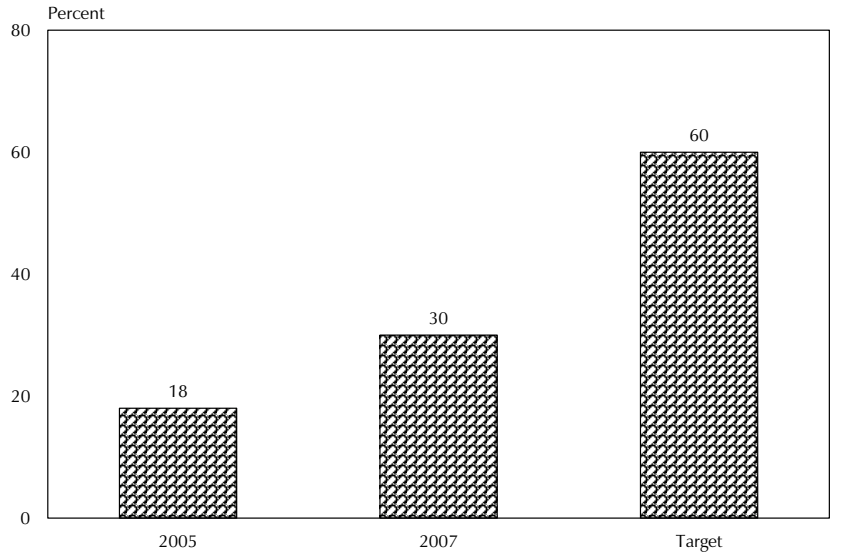
Overall, 30 percent of households in Liberia have at least one mosquito net (treated or untreated), and 10 percent have more than one (Table 12.1). Although this is an improvement over the household net ownership of 18 percent recorded in 2005, it still represents only half of the level of 60 percent targeted by the government (Figure 12.1).

Table 12.1 Ownership of mosquito nets

Percentage of households with at least one and more than one mosquito net (treated or untreated), and the average number of nets per household, by background characteristics, Liberia 2007

Background characteristic	Any type of mosquito net			Number of households
	Percentage with at least one	Percentage with more than one	Average number of nets per household	
Residence				
Urban	31.3	11.7	0.5	2,486
Rural	29.9	8.4	0.4	4,338
Region				
Monrovia	31.5	12.4	0.5	1,889
North Western	9.4	0.9	0.1	694
South Central	26.5	6.1	0.3	1,024
South Eastern A	28.1	8.3	0.4	466
South Eastern B	38.8	15.4	0.6	424
North Central	36.6	10.7	0.5	2,326
Wealth quintile				
Lowest	21.8	4.1	0.3	1,466
Second	27.4	6.9	0.4	1,412
Middle	32.4	10.9	0.5	1,331
Fourth	30.1	8.6	0.4	1,357
Highest	42.4	18.8	0.7	1,258
Total	30.4	9.6	0.4	6,824

Figure 12.1 Ownership of Mosquito Nets



Note: Data refer to the percentage of households with at least one net, whether or not treated.

LDHS 2007

There is almost no difference in the proportion of urban versus rural households that own mosquito nets. The North Western region of Liberia has by far the lowest percentage of households with a mosquito net (9 percent) compared with the remaining five regions, with ownership levels ranging from 27 to 39 percent. The reasons for this difference are not clear. Wealth seems to influence household ownership of mosquito nets. The wealthiest households are almost twice as likely to own a mosquito net than those in the poorest wealth quintile (42 percent compared with 22 percent, respectively).

12.2 INTERMITTENT PREVENTIVE TREATMENT OF MALARIA IN PREGNANCY

In malaria endemic areas, adults acquire some immunity that protects them from repeated malaria infection. However, pregnant women—especially those pregnant for the first time—are more susceptible to malaria infection. In some cases, malaria infections remain asymptomatic but may lead to the development of anemia. Malaria infection during pregnancy can also interfere with the maternal-fetus exchange, leading to low birth weight.

For these reasons, government policy calls for pregnant women to receive two doses of intermittent preventive treatment (IPT) using sulfadoxine-pyrimethamine (SP/Fansidar) in the second and third trimesters in order to reduce the risk of malaria infection. In the 2007 LDHS, women who had a live birth in the two years preceding the survey were asked if they had taken any drugs to prevent getting malaria during the pregnancy for their most recent birth and, if yes, which drug. Table 12.2 shows the percentage of pregnant women who took antimalarial drugs for prevention and those who took SP/Fansidar.

Table 12.2 Prophylactic use of antimalarial drugs by women during pregnancy

Percentage of women 15-49 with a live birth in the two years preceding the survey who during the pregnancy took any antimalarial drugs for prevention, and who took any SP/Fansidar, by background characteristics, Liberia 2007

Background characteristic	Percentage who took any antimalarial drug	Percentage who took any SP/Fansidar	Number of women
Residence			
Urban	81.5	17.3	685
Rural	73.9	10.1	1,435
Region			
Monrovia	79.9	18.6	480
North Western	57.2	6.5	206
South Central	77.4	16.3	357
South Eastern A	57.1	15.6	150
South Eastern B	70.9	13.3	149
North Central	83.5	7.7	777
Education			
No education	74.2	9.6	954
Primary	76.8	14.2	773
Secondary and higher	80.7	16.0	392
Missing	100.0	0.0	0
Wealth quintile			
Lowest	69.1	9.9	461
Second	70.0	8.3	483
Middle	79.6	8.6	457
Fourth	80.7	18.7	451
Highest	87.3	20.4	268
Total	76.3	12.4	2,120

The survey results show that more than three-quarters (76 percent) of women 15-49 with a live birth in the two years preceding the survey took some kind of antimalarial medicine for prevention of malaria during the last pregnancy. However, in the vast majority of cases, the practice was not in accordance with the national policy, i.e., only 12 percent of women said they took SP/Fansidar—the recommended drug for prevention of malaria during pregnancy in Liberia—at least once during the pregnancy. This is exactly the same level that was measured in the 2005 MIS (NMCP, 2006).

The National Policy for Malaria Control and Prevention (NMCP, 2004) recommends that pregnant women take at least two doses of SP/Fansidar during pregnancy as IPT against malaria. Unfortunately, the 2007 LDHS did not ask the number of times women took SP/Fansidar during pregnancy, so there is no way to know whether this changed from the 4 percent measured in the 2005 survey, which is far below the Abuja target of 60 percent.

12.3 MALARIA CASE MANAGEMENT AMONG CHILDREN

The 2007 LDHS asked mothers whether their children under five years had had a fever and/or convulsions in the two weeks preceding the survey and, if so, whether any treatment was sought. Questions were also asked about the types of drugs given to the child and how soon and for how long the drugs were taken. Table 12.3 shows the percentage of children under five who had a fever in the two weeks preceding the survey and the percentage of these children who took antimalarial drugs.

Table 12.3 Prevalence and treatment of fever

Percentage of children under age five with fever in the two weeks preceding the survey, and among children with fever, the percentage who took antimalarial drugs, by background characteristics, Liberia 2007

Background characteristic	Among children under age five:		Among children under age five with fever:	
	Percentage with fever in the two weeks preceding the survey	Number of children	Percentage who took antimalarial drugs	Number of children
Age (in months)				
<12	30.1	1,088	52.4	327
12-23	35.7	977	59.1	349
24-35	35.5	1,059	64.5	376
36-47	26.7	1,102	53.6	295
48-59	25.4	906	64.9	230
Residence				
Urban	28.8	1,563	60.6	450
Rural	31.6	3,569	58.1	1,127
Region				
Monrovia	25.7	1,094	63.6	282
North Western	31.7	475	43.5	151
South Central	36.4	819	51.3	298
South Eastern A	27.0	371	35.9	100
South Eastern B	41.6	380	54.7	158
North Central	29.5	1,993	69.2	589
Mother's education				
No education	28.8	2,500	56.6	719
Primary	31.9	1,754	59.5	559
Secondary and higher	34.0	874	62.6	297
Wealth quintile				
Lowest	27.3	1,133	51.0	309
Second	31.9	1,233	54.3	393
Middle	30.4	1,103	64.1	336
Fourth	32.7	1,038	63.6	339
Highest	32.0	625	62.9	200
Total	30.7	5,132	58.8	1,577

Survey results show that 31 percent of children under five had a fever in the two weeks preceding the survey and, of these, 59 percent took some type of antimalarial drug. As mentioned in Chapter 10, fever is more common among children age 6-35 months (35-40 percent) and decreases with age. Regional differentials show that the proportion of children with fever is highest in South Eastern B region (42 percent) and lowest in Monrovia (26 percent). The proportion of children with fever who are given antimalarial drugs is somewhat higher among children whose mothers are better educated or from wealthier homes (middle and higher wealth quintiles). It is also relatively higher among children in North Central region and Monrovia.

Details on the types of antimalarial drugs given to children to treat fever are given in Table 12.4. In interpreting the data, it is important to remember that the information is based on reports from the mothers of the ill children, many of whom may not have known the specific drug given to the child. The drug newly recommended according to the national policy—Artesunate plus Amodiaquine (ACT)—is commonly called the "new malaria tablet" in Liberia, so that was the name put on the list of codes in the questionnaire. However, it is also often referred to simply as "Amodiaquine," making it difficult to distinguish use of the single drug and the combination therapy.

Table 12.4 Type of antimalarial drugs

Among children under age five with fever in the two weeks preceding the survey, percentage who took specific antimalarial drugs by background characteristics, Liberia 2007

Background characteristic	Percentage of children who took drug: SP/ Fansidar	Chloro-quine	Amodia-quine	Quinine	New malaria tablet	Other anti-malarial	Number of children with fever
Age (in months)							
<12	2.2	38.9	4.1	5.1	5.7	2.3	327
12-23	4.3	43.5	5.8	1.2	7.5	0.3	349
24-35	4.1	46.2	4.4	3.9	12.4	1.0	376
36-47	3.1	39.4	3.1	4.9	8.0	1.0	295
48-59	1.6	48.2	5.9	2.0	10.7	3.1	230
Residence							
Urban	4.8	42.5	7.4	4.4	7.4	1.9	450
Rural	2.5	43.3	3.5	3.1	9.5	1.2	1,127
Region							
Monrovia	6.2	45.6	7.3	4.5	5.8	2.2	282
North Western	2.0	33.7	5.6	1.8	2.3	0.1	151
South Central	3.0	34.7	2.6	3.9	11.5	1.7	298
South Eastern A	3.6	25.1	1.2	1.0	10.6	1.7	100
South Eastern B	2.0	49.6	2.3	0.4	1.8	1.0	158
North Central	2.3	49.8	5.3	4.4	12.3	1.3	589
Mother's education							
No education	2.7	43.6	3.1	2.1	10.2	1.1	719
Primary	2.7	40.5	6.5	3.8	8.9	2.1	559
Secondary and higher	5.2	46.4	4.6	6.0	5.7	0.9	297
Wealth quintile							
Lowest	2.8	39.3	2.4	1.3	9.3	1.6	309
Second	2.8	46.0	1.1	2.9	6.5	0.8	393
Middle	3.6	42.7	7.6	3.2	11.4	1.2	336
Fourth	2.8	41.3	8.4	4.0	11.2	2.9	339
Highest	4.5	46.9	3.5	7.4	4.5	0.1	200
Total	3.2	43.1	4.6	3.5	8.9	1.4	1,577

This "new malaria tablet" (ACT) was only mentioned by 9 percent of mothers as being used to treat fever in their children under the age of five. This is a disappointingly small increase from the 3 percent reported to be using ACT as measured in the 2005 MIS (NMCP, 2006). However, Amodiaquine, which is a component of ACT, was cited as given to 5 percent of children to treat fever. Because the use of Amodiaquine alone is not recommended in Liberia, it is possible that respondents were referring to ACT when they cited Amodiaquine. Together, the new malaria tablet and Amodiaquine account for a total of 14 percent, a more realistic percentage considering that ACT is now being used in more than 75 percent of health facilities in Liberia (NMCP, 2007). Chloroquine still seems to be the most commonly used drug; 43 percent of children with fever were treated with chloroquine. Differences in the types of antimalarial drugs used according to background characteristics are small and erratic.

Because of the need to treat malaria quickly, it can be useful for parents to have antimalarial drugs at home. In Liberia, however, the policy requires that antimalarial drugs be prescribed by trained health personnel after proper diagnosis. Consequently, it is not recommended for caregivers to have these drugs at home. This may account for the LDHS finding that antimalarial drugs were at

home when the child became ill in only one-fifth of the cases (Table 12.5). The proportion having the antimalarial drugs at home was higher for those treated with chloroquine and SP/Fansidar; mothers of only 4 percent of the children treated with the new malaria tablet reported having had the drug in the household when the child became ill.

In conclusion, the results provided in this report highlight the enormous gap between the national targets set for 2006 within the national malaria policy and the present coverage of the interventions. Advocacy programs need to be implemented to increase the use of insecticide-treated mosquito nets, their re-treatment, management of pediatric fevers, and uptake of IPT. Subsidized nets and insecticides should be made available to close the gap between the poor and rich in net ownership. The prevalence of childhood fever in the two weeks preceding the survey was high in all regions. However, in the majority of cases, the fever was not managed appropriately, with ACT not being given as recommended in the national policy.

Table 12.5 Availability at home of antimalarial drugs taken by children with fever

Among children under age five who had fever in the two weeks preceding the survey and who took specific antimalarial drugs, the percentage for whom the drug was at home when the child became ill with fever, Liberia 2007

Drug	Percentage for whom the drug was at home when child became ill with fever	Number of children who took antimalarial drug
SP/Fansidar	22.6	50
Chloroquine	24.9	680
Amodiaquine	11.9	73
Quinine	19.8	55
New malaria tablet	4.2	140
Other antimalarial	0.9	22
Any antimalarial drugs	21.1	928

HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOR 13

Acquired immune-deficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV), which weakens the immune system and makes the body susceptible to and unable to recover from other opportunistic diseases and eventually leads to death through these secondary infections. The predominant mode of HIV transmission is through heterosexual contact, followed in magnitude by perinatal transmission in which the mother passes the virus to the child during pregnancy, delivery, or breastfeeding. Other modes of transmission are through infected blood and unsafe injections.

The future course of Liberia's AIDS epidemic depends on a number of variables including levels of HIV/AIDS-related knowledge among the general population; social stigmatization; risk behavior modification; access to high-quality services for sexually transmitted infections (STI); provision and uptake of HIV counseling and testing; and access to care, including prevention and treatment of opportunistic infections and antiretroviral therapy (ART). The principal objective of this chapter is to establish the prevalence of relevant knowledge, perceptions, and behaviors at the national level and also within geographic and socioeconomic subpopulations. In this way, prevention programs can target those groups of individuals most in need of information and most at risk of HIV infection.

In this chapter, data about HIV/AIDS knowledge, attitudes, and related behavioral indicators are presented for the general adult population age 15-49. The chapter also focuses on HIV/AIDS knowledge and patterns of sexual activity among young adults age 15-24, as they are the main target of many HIV/AIDS prevention efforts.

13.1 HIV/AIDS KNOWLEDGE, TRANSMISSION, AND PREVENTION METHODS

13.1.1 Awareness of HIV/AIDS

Respondents to the Liberia Demographic and Health Survey (LDHS) were asked whether they had heard of HIV or AIDS. Those who reported having heard of HIV or AIDS were asked a number of questions about whether and how HIV/AIDS can be avoided. Table 13.1 shows that 89 percent of women and 93 percent of men have heard about AIDS, indicating that awareness of AIDS in Liberia is near universal. Generally, awareness is higher among older men (96-97 percent among those age 30-49) than younger men (87 percent among men age 15-24). However, the reverse is true for women; younger women age 15-24 years (92 percent) are more likely to have heard about AIDS than older women age 40-49 years (85 percent).

Awareness of AIDS is highest among never-married respondents who have ever had sex and is lowest among never-married respondents who have never had sex. By place of residence, both women and men in urban areas are more likely to have heard about AIDS than those in the rural areas. There are also some differences in the level of knowledge by region. As can be seen from Table 13.1, awareness of AIDS is lowest among women and men in North Central region and highest among those in Monrovia.

Knowledge about AIDS increases with educational status. Almost all women and men with at least some secondary education (99 percent of women and 98 percent of men) have heard about AIDS, compared with 83 percent of women and 86 percent of men who have no education.

Table 13.1 Knowledge of AIDS

Percentage of women and men age 15-49 who have heard of AIDS, by background characteristics, Liberia 2007

Background characteristic	Women		Men	
	Has heard of AIDS	Number of women	Has heard of AIDS	Number of men
Age				
15-24	91.8	2,675	87.4	2,195
15-19	90.2	1,312	82.1	1,156
20-24	93.4	1,363	93.3	1,039
25-29	88.2	1,166	93.8	917
30-39	89.3	1,912	96.6	1,597
40-49	84.9	1,339	95.5	1,300
Marital status				
Never married	93.6	1,853	88.3	2,278
Ever had sex	96.3	1,488	95.5	1,608
Never had sex	82.7	365	71.0	670
Married/living together	87.2	4,540	95.1	3,413
Divorced/separated/widowed	90.9	699	95.2	319
Residence				
Urban	97.1	2,998	97.5	2,426
Rural	83.5	4,094	89.2	3,583
Region				
Monrovia	97.9	2,329	97.8	1,862
North Western	91.0	509	96.7	405
South Central	92.2	1,011	97.4	894
South Eastern A	82.3	375	92.6	357
South Eastern B	86.4	451	88.5	407
North Central	80.9	2,417	85.8	2,084
Education				
No education	82.7	3,005	86.1	1,056
Primary	90.5	2,280	87.3	1,895
Secondary and higher	98.7	1,799	98.0	3,056
Wealth quintile				
Lowest	76.4	1,251	87.6	1,062
Second	83.6	1,332	90.1	1,181
Middle	89.4	1,359	90.6	1,170
Fourth	95.5	1,580	95.2	1,160
Highest	97.9	1,569	97.7	1,437
Total 15-49	89.2	7,092	92.5	6,009

Note: Total includes some cases with information missing on education

13.1.2 Knowledge of HIV Prevention Methods

HIV among adults is mainly transmitted through heterosexual contact between an infected partner and a noninfected partner. Consequently, HIV prevention programs focus their messages and efforts on three important aspects of behavior: using condoms, limiting the number of sexual partners or staying faithful to one partner, and delaying sexual debut for young persons (abstinence).

In the 2007 LDHS, women and men were specifically asked if people can reduce their chance of getting the AIDS virus by using a condom every time they have sex, by having just one uninfected sex partner who has no other sex partners, and by not having sexual intercourse at all. As shown in Table 13.2, 50 percent of women and 71 percent of men know that using condoms is an HIV prevention method. In addition, 58 percent of women and 77 percent of men know that limiting sex to only one uninfected partner is a means of preventing HIV infection. Forty-four percent of women and 66 percent of men know both these preventive measures. Less than half of women (47 percent) and 61 percent of men know about abstinence as a method of preventing HIV infection. Thus, knowledge is far higher among men than women for each of the three specified prevention methods.

Table 13.2 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having one sex partner who is not infected and has no other partners, and by abstaining from sexual intercourse, by background characteristics, Liberia 2007

	Women					Men				
Background characteristic	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of women	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of men
Age										
15-24	52.2	58.6	45.8	47.5	2,675	65.9	70.7	60.1	55.3	2,195
15-19	46.6	55.4	41.6	43.7	1,312	58.5	63.3	52.1	51.7	1,156
20-24	57.7	61.6	49.7	51.1	1,363	74.1	78.9	69.1	59.4	1,039
25-29	50.2	59.1	46.0	48.4	1,166	74.5	78.7	69.3	60.8	917
30-39	50.5	59.5	45.2	46.2	1,912	73.7	81.3	69.2	63.4	1,597
40-49	43.0	54.2	38.6	42.9	1,339	74.1	82.8	71.1	67.3	1,300
Marital status										
Never married	54.9	62.7	49.4	49.2	1,853	66.9	71.4	60.8	55.7	2,278
Ever had sex	60.4	68.4	54.5	53.3	1,488	76.7	80.8	70.6	61.9	1,608
Never had sex	32.4	39.4	28.5	32.5	365	43.3	48.9	37.2	40.8	670
Married/living together	47.2	56.4	41.9	44.9	4,540	73.8	81.4	70.1	64.8	3,413
Divorced/separated/widowed	52.2	56.8	46.6	49.2	699	71.4	75.8	65.2	56.5	319
Residence										
Urban	60.6	66.3	54.2	52.9	2,998	79.3	87.0	75.0	67.4	2,426
Rural	41.7	52.1	37.0	41.7	4,094	65.4	70.8	60.4	56.6	3,583
Region										
Monrovia	60.6	67.7	55.3	53.3	2,329	79.4	88.3	75.6	68.8	1,862
North Western	24.4	24.4	16.6	23.6	509	77.5	81.2	69.9	70.9	405
South Central	55.2	71.7	48.5	54.0	1,011	66.2	70.7	58.6	45.2	894
South Eastern A	38.9	39.6	27.7	29.0	375	67.3	70.9	58.9	44.9	357
South Eastern B	26.8	43.1	22.7	26.6	451	57.3	66.0	51.3	51.0	407
North Central	48.2	55.9	44.4	47.9	2,417	67.7	73.0	64.8	63.4	2,084
Education										
No education	41.6	51.4	37.0	41.7	3,005	57.9	65.0	53.3	50.9	1,056
Primary	49.4	57.4	44.0	46.9	2,280	62.0	68.8	57.0	54.0	1,895
Secondary and higher	63.4	70.1	56.8	53.7	1,799	81.2	86.9	76.6	68.7	3,056
Wealth quintile										
Lowest	37.8	48.3	33.8	39.4	1,251	58.2	67.2	54.0	48.6	1,062
Second	40.4	50.5	34.7	40.4	1,332	67.2	69.1	60.7	54.8	1,181
Middle	47.4	56.8	42.8	44.3	1,359	70.0	75.8	65.0	63.2	1,170
Fourth	57.9	62.2	51.3	53.4	1,580	77.8	84.1	73.4	67.8	1,160
Highest	60.8	69.2	55.1	52.1	1,569	79.1	87.4	75.2	67.7	1,437
Total 15-49	49.7	58.1	44.3	46.5	7,092	71.0	77.3	66.3	60.9	6,009

[1] Using condoms every time they have sexual intercourse
[2] Partner who has no other partners

Knowledge of HIV prevention methods tends to increase somewhat among older men, but for women, it is highest among those age 20-24. Knowledge of HIV prevention methods is highest among urban residents, better educated respondents, and those in the higher wealth quintiles. Among women, those in Monrovia and South Central regions are most likely to know about HIV prevention methods, while those in North Western region are the least knowledgeable. In particular, knowledge of condom use is particularly low among women in North Western and South Eastern B regions (around one-quarter). Educating women about condom use as an HIV prevention method could help to empower them to better negotiate safe sexual practices, especially during higher-risk sexual encounters. This explains why women need to be empowered with knowledge and given condom negotiation skills in order to effectively use condoms in all higher-risk sexual encounters. Men in Monrovia and North Western region are most likely and those in South Eastern B region are generally the least likely to know about HIV prevention methods.

13.1.3 Rejection of Misconceptions about HIV/AIDS

In addition to knowing about effective ways to avoid contracting HIV, it is also useful to be able to identify incorrect beliefs about AIDS to eliminate misconceptions. Common misconceptions about AIDS include the idea that HIV-infected people always appear ill and the belief that the virus can be transmitted through mosquito or other insect bites, by sharing food with someone who is infected, or by witchcraft or other supernatural means. Respondents were asked about these misconceptions and the findings are presented in Tables 13.3.1 and 13.3.2 for women and men, respectively.

Table 13.3.1 Comprehensive knowledge about AIDS: Women

Percentage of women age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Liberia 2007

	Percentage of respondents who say that:						
Background characteristic	A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of women
Age							
15-24	65.7	53.2	68.0	64.2	36.8	20.5	2,675
15-19	62.1	50.7	63.9	60.3	33.9	18.1	1,312
20-24	69.1	55.6	72.0	68.0	39.5	22.8	1,363
25-29	65.8	51.5	68.2	65.0	37.1	20.8	1,166
30-39	64.1	53.1	67.3	64.6	37.3	18.4	1,912
40-49	58.5	47.4	61.3	55.0	33.0	17.4	1,339
Marital status							
Never married	70.7	56.3	70.2	66.7	40.9	25.0	1,853
Ever had sex	75.4	59.1	74.9	71.1	43.8	27.9	1,488
Never had sex	51.4	45.0	51.2	48.8	28.9	12.9	365
Married/living together	61.3	49.7	64.9	60.5	34.1	17.1	4,540
Divorced/separated/ widowed	63.1	53.3	67.9	66.7	38.0	19.7	699
Residence							
Urban	74.6	63.1	75.0	72.5	46.1	27.8	2,998
Rural	56.1	43.5	60.4	55.5	29.1	13.2	4,094
Region							
Monrovia	75.0	64.9	74.7	71.8	47.3	29.1	2,329
North Western	47.2	51.8	61.9	51.4	32.2	7.3	509
South Central	67.9	49.7	68.0	66.7	34.7	19.9	1,011
South Eastern A	52.1	44.5	56.1	54.6	27.0	9.6	375
South Eastern B	52.8	50.2	54.6	56.3	40.0	15.7	451
North Central	59.0	41.5	63.1	57.2	27.9	14.7	2,417
Education							
No education	54.3	41.7	56.5	53.1	27.7	13.9	3,005
Primary	60.9	50.4	66.5	61.6	32.9	16.8	2,280
Secondary and higher	83.8	70.6	83.7	80.2	54.7	31.6	1,799
Wealth quintile							
Lowest	50.0	39.7	51.7	49.2	26.1	12.1	1,251
Second	56.1	42.8	60.8	54.5	28.2	11.3	1,332
Middle	60.9	47.3	65.8	61.8	32.1	16.7	1,359
Fourth	71.1	56.9	73.2	68.2	40.6	23.5	1,580
Highest	77.0	67.9	77.5	75.8	50.5	30.3	1,569
Total 15-49	63.9	51.8	66.6	62.7	36.3	19.4	7,092

Note: Total includes some cases with information missing on education
[1] Two most common local misconceptions: mosquito bites and sharing food with a person who has AIDS
[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

Table 13.3.2 Comprehensive knowledge about AIDS: Men

Percentage of men age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Liberia 2007

Background characteristic	Percentage of respondents who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of men
Age							
15-24	64.9	47.2	65.2	62.1	34.2	27.2	2,195
15-19	57.4	39.6	57.8	54.8	27.7	20.9	1,156
20-24	73.2	55.7	73.5	70.2	41.5	34.2	1,039
25-29	70.4	52.2	71.0	65.3	39.5	33.2	917
30-39	73.7	54.9	73.5	69.3	42.1	34.6	1,597
40-49	72.1	56.8	74.2	63.9	40.7	34.6	1,300
Marital status							
Never married	65.8	50.8	66.2	64.0	37.4	29.5	2,278
Ever had sex	74.5	59.7	74.3	72.7	45.5	36.8	1,608
Never had sex	44.9	29.4	46.7	42.9	18.0	12.0	670
Married/living together	71.9	53.0	72.7	65.8	39.1	33.0	3,413
Divorced/separated/ widowed	72.5	52.0	72.6	61.7	40.3	33.6	319
Residence							
Urban	81.8	64.3	80.5	77.2	51.1	42.5	2,426
Rural	61.4	43.8	63.3	56.6	30.0	24.3	3,583
Region							
Monrovia	82.8	66.5	80.9	76.7	52.7	44.0	1,862
North Western	71.0	39.6	72.9	69.3	27.1	21.5	405
South Central	71.4	46.3	69.9	67.2	35.1	23.1	894
South Eastern A	61.6	45.8	64.6	59.0	28.1	21.4	357
South Eastern B	54.5	39.5	62.1	51.6	23.9	17.5	407
North Central	61.2	47.7	62.9	56.1	34.2	30.9	2,084
Education							
No education	53.0	37.7	59.0	48.0	22.2	17.5	1,056
Primary	58.1	40.8	57.4	53.1	26.4	20.7	1,895
Secondary and higher	82.5	64.0	82.0	78.0	51.7	43.4	3,056
Wealth quintile							
Lowest	53.9	40.4	58.1	49.2	25.2	21.6	1,062
Second	61.1	42.2	63.1	54.8	28.1	21.4	1,181
Middle	66.6	47.7	67.1	64.5	34.1	27.5	1,170
Fourth	78.8	58.6	78.4	71.3	45.8	38.3	1,160
Highest	83.4	67.3	81.0	79.9	54.7	45.7	1,437
Total 15-49	69.6	52.1	70.2	64.9	38.5	31.7	6,009

Note: Total includes some cases with information missing on education

[1] Two most common local misconceptions: mosquito bites and sharing food with a person who has AIDS

[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

The misconception that a healthy-looking person cannot have the AIDS virus is not very widespread in Liberia. Sixty-four percent of women and 70 percent of men know that a healthy-looking person can have the AIDS virus. Just over half of women and men (52 percent each) know that HIV cannot be transmitted through mosquito bites. In addition, about two-thirds of women and men (67 percent of women and 70 percent of men) know that HIV cannot be transmitted by supernatural means.

A composite indicator has been developed that combines several of these pieces of data. *Comprehensive knowledge about AIDS* is defined as the percentage who know that consistent use of condoms and having just one uninfected, faithful partner can reduce the chance of getting the AIDS virus; who know that a healthy-looking person can have the AIDS virus; and who reject the two most common misconceptions (that AIDS can be transmitted by mosquito bites and by sharing food with a person who has AIDS). In Liberia, the percentage of women and men with comprehensive knowledge about AIDS is generally low—19 percent of women and 32 percent of men. Such a low level of knowledge about AIDS implies that a concerted effort is needed to address misconceptions about HIV transmission. Programs might be focused in rural areas and especially in North Western, South Eastern A, and South Eastern B regions where comprehensive knowledge is lowest.

13.2 Knowledge of Prevention of Mother-to-Child Transmission of HIV

Increasing the level of general knowledge of transmission of HIV from mother to child and reducing the risk of transmission using antiretroviral drugs is critical to the prevention of mother-to-child transmission (MTCT) of HIV. To assess MTCT knowledge, respondents were asked if the virus that causes AIDS can be transmitted from a mother to her baby during pregnancy, delivery, or breastfeeding, and whether they know of any special drugs a mother with HIV can take to reduce the risk of transmission to the baby. Knowledge of these issues is important if mothers are to avail themselves of the MTCT centers that are being set up under the National Response to AIDS Program in Liberia. The National AIDS Control Program has recently increased the number of MTCT centers to 19 which are spread throughout Liberia.

Table 13.4 shows that the overall knowledge that HIV can be transmitted through breastfeeding is relatively high among women and men. Sixty-one percent of women and almost as many men (58 percent) are aware that HIV can be transferred through breastfeeding. However, very few respondents (14 percent of women and 18 percent of men) are aware that a mother can reduce the risk of infecting her child by taking special drugs during pregnancy. As seen earlier, respondents' socioeconomic status as measured by education and wealth quintile have a positive correlation with knowledge of MTCT.

Table 13.4 Knowledge of prevention of mother-to-child transmission (MTCT) of HIV

Percentage of women and men who know that HIV can be transmitted from mother to child by breastfeeding and that the risk of MTCT of HIV can be reduced by mother taking special drugs during pregnancy, by background characteristics, Liberia 2007

Background characteristic	Women				Men			
	HIV can be transmitted through breastfeeding	Risk of MTCT can be reduced by mother taking special drugs	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs	Number of women	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs	Number of men
Age								
15-24	60.8	13.9	12.5	2,675	52.4	13.5	10.3	2,195
15-19	53.7	11.9	10.8	1,312	46.6	10.6	8.3	1,156
20-24	67.7	15.9	14.2	1,363	58.9	16.8	12.6	1,039
25-29	62.2	13.1	11.0	1,166	59.6	14.7	10.7	917
30-39	62.8	14.2	12.4	1,912	62.5	19.6	15.3	1,597
40-49	58.8	13.6	12.5	1,339	62.3	24.8	19.9	1,300
Marital status								
Never married	62.5	13.9	12.4	1,853	53.1	13.7	10.6	2,278
Ever had sex	68.3	15.4	13.9	1,488	59.9	17.0	13.0	1,608
Never had sex	38.9	7.8	6.2	365	36.7	5.9	4.9	670
Married/living together	60.5	14.3	12.7	4,540	61.6	20.2	15.5	3,413
Divorced/separated/widowed	62.7	10.2	9.0	699	60.9	20.7	18.3	319
Currently pregnant								
Pregnant	60.8	12.7	11.8	761	na	na	na	na
Not pregnant or not sure	61.3	13.9	12.3	6,331	na	na	na	na
Residence								
Urban	69.3	17.1	15.5	2,998	59.9	24.7	19.2	2,426
Rural	55.3	11.4	9.9	4,094	57.3	13.1	10.1	3,583
Region								
Monrovia	70.2	15.4	13.9	2,329	56.7	26.1	20.5	1,862
North Western	30.8	4.5	3.4	509	72.5	14.4	12.7	405
South Central	69.1	17.0	15.3	1,011	65.0	20.9	16.7	894
South Eastern A	48.5	5.1	4.6	375	67.0	12.0	10.3	357
South Eastern B	47.6	5.8	5.3	451	56.7	12.4	11.9	407
North Central	60.2	15.7	13.8	2,417	53.1	11.6	7.7	2,084
Education								
No education	53.9	9.8	8.9	3,005	52.3	6.0	4.7	1,056
Primary	57.8	12.0	10.0	2,280	51.9	10.2	8.3	1,895
Secondary and higher	78.0	22.7	20.7	1,799	64.5	26.5	20.3	3,056
Wealth quintile								
Lowest	52.6	8.1	6.7	1,251	55.0	8.6	7.9	1,062
Second	51.7	9.9	9.0	1,332	57.4	11.6	9.4	1,181
Middle	59.1	13.0	11.3	1,359	59.4	13.7	10.2	1,170
Fourth	67.5	15.3	13.7	1,580	60.3	23.7	16.8	1,160
Highest	71.6	20.8	18.8	1,569	59.1	28.1	22.2	1,437
Total 15-49	61.2	13.8	12.3	7,092	58.3	17.7	13.8	6,009

na = Not applicable

13.3 ATTITUDES TOWARD PEOPLE LIVING WITH AIDS

Widespread stigma and discrimination in a population can adversely affect people's willingness to be tested as well as their adherence to antiretroviral therapy. Reduction of stigma and discrimination in a population is, thus, an important impetus to the success of programs targeting HIV and AIDS prevention and control.

To assess the level of stigma, LDHS respondents who had heard of AIDS were asked if they would be willing to care for a relative sick with AIDS in their own households, if they would be willing to buy fresh vegetables from a shopkeeper who has the AIDS virus, if they thought a female teacher who has the AIDS virus but is not sick should be allowed to continue teaching, and if they would want to keep a family member's HIV status secret. Tables 13.5.1 and 13.5.2 show the results for women and men, respectively.

Table 13.5.1 Accepting attitudes toward those living with HIV: Women

Among women age 15-49 who have heard of HIV/AIDS, percentage expressing specific accepting attitudes toward people with HIV/AIDS, by background characteristics, Liberia 2007

Background characteristic	Percentage of respondents who: Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing accepting attitudes on all four indicators	Number of respondents who have heard of AIDS
Age						
15-24	50.5	37.1	38.4	72.3	12.1	2,457
15-19	52.2	35.4	37.4	71.8	11.2	1,183
20-24	49.0	38.7	39.3	72.7	12.9	1,273
25-29	52.8	38.8	40.1	72.6	13.4	1,028
30-39	51.6	37.1	36.9	71.1	13.6	1,707
40-49	50.2	32.6	35.0	73.9	10.9	1,137
Marital status						
Never married	54.5	42.0	44.9	69.0	13.8	1,735
Ever had sex	55.0	44.4	47.1	68.4	14.5	1,433
Never had sex	52.2	30.6	34.3	72.0	10.5	302
Married/living together	48.6	34.2	34.7	73.0	11.4	3,958
Divorced/separated/ widowed	57.8	36.8	36.0	77.0	16.0	635
Residence						
Urban	58.4	47.0	46.2	65.5	14.2	2,911
Rural	44.9	27.7	30.4	78.1	11.0	3,418
Region						
Monrovia	57.7	46.9	46.9	65.4	14.7	2,280
North Western	55.1	31.6	30.6	72.2	18.0	463
South Central	56.6	38.5	34.4	68.2	11.9	933
South Eastern A	54.0	41.1	36.3	67.2	9.4	309
South Eastern B	60.3	50.1	48.7	54.1	16.8	389
North Central	37.6	21.4	28.1	86.8	8.5	1,954
Education						
No education	43.5	25.5	26.6	78.3	8.9	2,484
Primary	47.7	32.0	34.3	73.5	11.3	2,065
Secondary and higher	65.7	57.2	56.9	62.5	18.9	1,775
Wealth quintile						
Lowest	38.5	25.7	25.5	77.0	7.8	957
Second	41.8	26.0	27.1	77.9	10.1	1,114
Middle	49.7	31.2	34.0	76.6	11.3	1,214
Fourth	54.3	39.9	39.9	71.8	13.3	1,508
Highest	63.9	52.1	53.5	62.3	17.4	1,535
Total 15-49	51.1	36.6	37.6	72.3	12.5	6,329

It is noteworthy to see that more than half of women and more than two-thirds of men say they would be willing to care for a family member with the AIDS virus in their home. Even more satisfying is that around three-quarters of women and men say they would not want to keep secret that a family member is infected with HIV. These results indicate that individuals are generally supportive in providing a caring environment for their family members if they were to get infected with HIV. This support can ensure early diagnosis and treatment, an approach that is encouraged by the national program in Liberia.

Empowering persons living with AIDS is also a critical program area. Survey data show that only 37 percent of women and slightly more than half of men responded that they would buy fresh vegetables from a shopkeeper who is living with AIDS. Roughly the same proportions of women and men say that a female teacher who is infected with the AIDS virus but is not sick should be allowed to continue teaching.

Table 13.5.2 Accepting attitudes toward those living with HIV: Men

Among men age 15-49 who have heard of HIV/AIDS, percentage expressing specific accepting attitudes toward people with HIV, by background characteristics, Liberia 2007

Background characteristic	Percentage of respondents who: Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing accepting attitudes on all four indicators	Number of respondents who have heard of AIDS
Age						
15-24	68.5	52.5	50.8	72.6	19.3	1,918
15-19	63.7	48.9	49.5	69.9	15.5	948
20-24	73.1	56.0	52.2	75.4	23.0	969
25-29	67.2	50.3	47.3	78.2	19.9	860
30-39	68.5	55.2	48.1	79.1	23.2	1,542
40-49	73.0	59.9	54.0	77.6	25.8	1,241
Marital status						
Never married	68.7	55.3	52.2	71.0	19.5	2,011
Ever had sex	70.9	59.7	54.6	71.2	21.7	1,536
Never had sex	61.6	41.1	44.3	70.2	12.4	476
Married/living together	69.2	54.4	48.7	79.8	23.0	3,247
Divorced/separated/widowed	74.4	51.3	53.7	75.8	27.0	303
Residence						
Urban	76.5	66.8	63.1	72.3	28.1	2,364
Rural	64.0	45.5	40.7	79.4	17.4	3,197
Region						
Monrovia	76.4	70.5	65.8	72.2	28.7	1,821
North Western	44.3	59.3	65.7	90.5	18.0	391
South Central	69.6	37.9	39.5	78.0	14.0	870
South Eastern A	68.8	45.6	42.1	82.0	20.2	331
South Eastern B	72.3	38.6	37.9	73.7	17.1	360
North Central	66.9	50.2	40.2	76.3	21.0	1,788
Education						
No education	61.7	39.5	32.9	81.2	12.8	909
Primary	61.1	39.8	37.5	77.9	12.9	1,653
Secondary and higher	76.2	67.2	62.5	74.1	29.6	2,996
Wealth quintile						
Lowest	62.4	36.6	33.1	82.3	14.9	930
Second	60.5	41.7	37.2	81.4	15.9	1,064
Middle	64.0	51.3	46.0	76.7	18.5	1,060
Fourth	75.0	64.6	60.1	72.8	26.4	1,104
Highest	80.0	70.7	66.8	71.3	30.2	1,404
Total 15-49	69.3	54.5	50.2	76.4	21.9	5,561

When all four of the stigma indicators are combined to provide a single measure, only 13 percent of women and 22 percent of men expressed accepting attitudes toward persons living with HIV/AIDS on all four indicators. This composite indicator is somewhat higher among women and men with secondary education and among those in the higher wealth quintiles. It is also higher in urban than rural areas, especially among men.

13.4 ATTITUDES TOWARD NEGOTIATING SAFER SEX

The high levels of sexual transmission of HIV make negotiating for safer sex indispensable, especially in marital unions where women's status is compromised by societal expectations, thereby increasing their vulnerability to HIV transmission. Therefore, in the LDHS, women and men were asked if they thought that a wife is justified in refusing to have sexual intercourse with her husband or asking that he use condoms if she knows that he has an STI.

Table 13.6 shows that 66 percent of women and 87 percent of men agreed that a wife is justified in refusing her husband sexual intercourse if he has an STI. Similarly, both women and men were also supportive of the use of condoms if the husband had an STI (64 percent of women and 85 percent of men). The data show relatively small differences by background characteristics of the respondents.

Table 13.6 Attitudes toward negotiating safer sex with husband

Percentage of women and men age 15-49 who believe that, if a husband has a sexually transmitted infection, his wife is justified in refusing to have sexual intercourse with him or asking that he use a condom, by background characteristics, Liberia 2007

Background characteristic	Women who believe that a wife is justified in:				Men who believe that a wife is justified in:			
	Refusing to have sexual intercourse	Asking that he use a condom	Refusing sexual intercourse or asking that he use a condom	Number of women	Refusing to have sexual intercourse	Asking that he use a condom	Refusing sexual intercourse or asking that he use a condom	Number of men
Age								
15-24	64.1	65.0	72.3	2,675	81.5	80.3	86.5	2,195
15-19	58.1	59.3	66.6	1,312	77.1	74.7	82.4	1,156
20-24	69.9	70.5	77.8	1,363	86.4	86.7	91.1	1,039
25-29	69.5	68.1	78.9	1,166	89.3	87.6	93.2	917
30-39	66.5	63.0	73.3	1,912	90.7	87.4	93.9	1,597
40-49	64.7	60.1	72.1	1,339	91.3	88.4	94.1	1,300
Marital status								
Never married	63.2	64.9	70.6	1,853	81.1	80.8	86.4	2,278
Ever had sex	69.5	71.4	77.6	1,488	87.0	88.0	92.3	1,608
Never had sex	37.3	38.4	42.3	365	66.8	63.6	72.3	670
Married/living together	66.3	62.9	74.2	4,540	91.0	87.7	93.9	3,413
Divorced/separated/widowed	69.1	69.2	77.6	699	91.0	87.1	95.9	319
Residence								
Urban	70.6	74.7	79.2	2,998	90.8	88.8	94.0	2,426
Rural	62.3	56.2	69.5	4,094	84.8	82.5	89.2	3,583
Region								
Monrovia	73.1	77.0	80.8	2,329	92.4	89.7	94.8	1,862
North Western	46.9	50.3	58.4	509	86.7	88.1	93.8	405
South Central	73.3	75.1	81.2	1,011	90.3	88.7	95.0	894
South Eastern A	69.0	63.4	74.7	375	84.8	83.9	91.6	357
South Eastern B	69.6	57.7	74.0	451	80.3	70.4	81.7	407
North Central	58.2	51.1	66.5	2,417	83.2	81.8	87.5	2,084
Education								
No education	64.4	57.4	70.7	3,005	85.2	80.9	89.1	1,056
Primary	61.7	62.4	70.6	2,280	82.7	79.8	86.8	1,895
Secondary and higher	73.2	77.1	82.4	1,799	90.8	89.7	94.5	3,056
Wealth quintile								
Lowest	62.7	54.7	68.5	1,251	84.6	82.8	89.7	1,062
Second	62.5	54.7	70.0	1,332	83.8	80.5	87.9	1,181
Middle	62.0	61.3	71.5	1,359	84.1	82.8	88.5	1,170
Fourth	67.7	69.2	75.6	1,580	91.7	89.1	94.4	1,160
Highest	72.3	76.5	80.6	1,569	91.0	89.0	94.4	1,437
Total 15-49	65.8	64.0	73.6	7,092	87.2	85.1	91.2	6,009

Note: Total includes some cases with information missing on education

13.5 Attitudes Toward Condom and Abstinence Education for Youth

Condom use is one of the main strategies for combating the spread of HIV. Social acceptance of condom use among young people is a key determinant for use of condoms to prevent the sexual transmission of HIV and other STIs, as well as to prevent early pregnancy. However, educating youth about condoms is sometimes controversial, with some saying it promotes early sexual experimentation. Others favor teaching youth to abstain from sexual intercourse until they are married. To gauge attitudes toward education about condoms and abstinence, LDHS respondents were asked if they thought that children age 12-14 should be taught about using a condom in order to avoid HIV, and about waiting until marriage to have sex. The results are shown in Table 13.7. Because the table focuses on adult opinion, results are tabulated for respondents age 18-49.

Among respondents age 18-49 years, almost three in five women and men (60 percent of women and 57 percent of men) agreed that children age 12-14 years should be taught about using a condom to avoid AIDS. Even higher proportions believe that children aged 12-14 years should be taught to wait until marriage to avoid AIDS—70 percent of women and 78 percent of men. The latter reflects strong support for traditional Liberian family values that frown on teenage sexuality.

Table 13.7 Adult support of education about condom use to prevent AIDS

Percentage of women and men age 18-49 who agree that children age 12-14 years should be taught about using a condom to avoid AIDS, and that children age 12-14 should be taught to wait until marriage to have sex, by background characteristics, Liberia 2007

	Women			Men		
Background characteristic	Percentage who agree that children age 12-14 should be taught about using a condom to avoid AIDS	Percentage who agree that children age 12-14 should be taught to wait until marriage to avoid AIDS	Number of women	Percentage who agree that children age 12-14 should be taught about using a condom to avoid AIDS	Percentage who agree that children age 12-14 should be taught to wait until marriage to avoid AIDS	Number of men
Age						
18-24	63.6	72.6	1,896	56.6	74.4	1,500
18-19	64.2	72.7	533	52.7	71.1	461
20-24	63.4	72.5	1,363	58.3	75.9	1,039
25-29	63.3	71.4	1,166	56.9	77.5	917
30-39	59.5	71.3	1,912	57.4	81.6	1,597
40-49	50.3	63.6	1,339	57.0	79.7	1,300
Marital status						
Never married	72.7	79.9	1,163	59.7	75.5	1,589
Married or living together	55.3	67.3	4,458	56.1	79.9	3,406
Divorced/separated/widowed	64.0	71.1	692	53.3	77.3	319
Residence						
Urban	78.9	82.2	2,578	66.0	83.4	2,148
Rural	46.0	61.7	3,735	50.9	75.0	3,166
Region						
Monrovia	81.0	84.2	2,000	65.8	83.2	1,651
North Western	47.6	67.4	469	59.0	87.4	365
South Central	60.7	77.4	920	55.7	84.4	801
South Eastern A	46.4	63.0	340	52.5	77.0	320
South Eastern B	58.2	63.5	396	53.5	59.9	350
North Central	44.2	56.9	2,188	50.7	73.4	1,829
Education						
No education	48.0	62.5	2,905	46.1	71.7	1,008
Primary	59.6	69.6	1,764	48.2	73.3	1,399
Secondary and higher	79.8	84.2	1,637	65.0	83.2	2,904
Wealth quintile						
Lowest	38.0	57.1	1,172	44.9	72.6	965
Second	42.3	60.9	1,208	49.0	74.5	1,061
Middle	56.7	66.2	1,222	55.7	75.7	1,015
Fourth	74.4	77.7	1,386	65.3	86.2	1,018
Highest	81.0	85.4	1,325	67.3	81.9	1,256
Total 18-49	59.5	70.1	6,313	57.0	78.4	5,314

Note: Total includes some cases with information missing on education

Responses vary with the socioeconomic status of respondents, with both women and men with secondary and higher education being more likely to support education for children age 12-14 years on condom use and abstinence until marriage. Similarly, Monrovia has the highest percentage of women and men who say that children age 12-14 should be taught about using a condom to avoid AIDS and the highest proportion of women who say that youth should be taught to wait until they are married before having sexual intercourse. Among men, North Western region has the highest proportion who favor teaching youth about abstinence until marriage.

13.6 HIGHER-RISK SEX

Information on sexual behavior is important in designing and monitoring intervention programs to control the spread of HIV. The 2007 LDHS included questions on respondents' sexual partners during their lifetime and in the 12 months preceding the survey. For male respondents, an additional question was asked on whether they paid anyone in exchange for sex during the 12 months preceding the interview. Information on the use of condoms at the last sexual encounter with each type of partner was collected for women and men. These questions are sensitive, and it is recognized that some respondents may have been reluctant to provide information on recent sexual behavior.

13.6.1 Multiple Partners and Condom Use

Tables 13.8.1 and 13.8.2 show the percentage of women and men, respectively, age 15-49 years who had more than one sexual partner and the percentage who engaged in higher-risk sexual intercourse in the past 12 months among those who had sex in the previous 12 months. Specifically, the data show that women are far less likely than men to report having had two or more sexual partners in the last 12 months (7 percent for women and 21 percent for men). Also, only one-third of women who had sexual intercourse in the previous 12 months report having had higher-risk sex, compared with over half of men (52 percent).

The 2007 LDHS also assessed condom use among women and men with multiple partners or higher-risk sex in the 12 months preceding the survey. Although truly effective protection would require condom use at every sexual encounter, the sexual encounters covered here are those considered to pose the greatest risk of HIV transmission.

Among women who had more than one partner in the 12 months before the survey, only 14 percent said they used a condom during the most recent sexual intercourse, far lower than the 22 percent reported by men. Among women who reported having had higher-risk intercourse in the past 12 months, only 14 percent used a condom at the last higher-risk sex (Table 13.8.1). For men, the comparable figure is again higher—26 percent.

The lower levels of multiple partnership, higher-risk sex, and condom use reported by women than men could be real or could be due to shyness among women to report behavior that may not be widely acceptable. Women may also not always be aware of condom use by their sexual partners. Lack of condom negotiation skills among women might also account for this pattern.

Among both women and men who had sex in the previous 12 months, the tendency to have more than one sexual partner or to have higher-risk sex generally decreases as age increases. By definition, higher-risk sex is especially common among women and men who have never married and those who are currently divorced, separated, or widowed. This is because those who are not married but are sexually active are by definition having sex with someone who is not a marital partner. For this reason, almost all (97 percent) of the never-married women and 98 percent of never-married men have had higher-risk sexual intercourse in the last 12 months. Respondents who live in urban areas and Monrovia are more likely than others to have had more than one partner or to have had higher-risk sex in the previous 12 months. Similarly, both indicators tend to increase with education and wealth quintile. Condom use also generally increases with education level and with wealth quintile among women and men who had multiple partners and/or higher-risk sex.

It is interesting to note that the mean number of lifetime sexual partners reported for women was 4.1, but it was more than double that (9.9) for men. This figure tends to increase with education level and wealth quintile among women, but shows no pattern for men.

Table 13.8.1 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Women

Among women age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse in the past 12 months; and among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse; and the mean number of sexual partners during her lifetime for women who ever had sexual intercourse, by background characteristics, Liberia 2007

Background characteristic	Among respondents who had sexual intercourse in the past 12 months:			Among respondents who had 2+ partners in the past 12 months:		Among respondents who had higher-risk intercourse in the past 12 months:		Among respondents who ever had sexual intercourse:	
	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months[1]	Number of women	Percentage who reported using a condom during last sexual intercourse	Number of women	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of women	Mean number of sexual partners in lifetime[2]	Number of women
Age									
15-24	9.5	59.3	2,068	16.2	197	13.8	1,229	3.0	2,213
15-19	11.6	75.5	868	10.6	100	11.8	657	2.4	927
20-24	8.0	47.5	1,200	22.1	97	16.1	572	3.4	1,286
25-29	8.9	29.3	999	20.6	89	17.4	292	4.0	1,070
30-39	4.9	16.4	1,649	6.7	80	12.2	272	4.7	1,736
40-49	4.4	13.4	1,090	0.0	48	8.9	147	5.5	1,216
Marital status									
Never married	13.1	97.0	1,313	18.1	172	13.7	1,277	3.2	1,402
Married or living together	4.6	7.3	4,047	7.4	186	15.5	295	4.2	4,183
Divorced/ separated/ widowed	12.5	82.4	446	19.4	56	12.5	367	5.8	649
Residence									
Urban	11.2	46.2	2,460	16.6	275	17.7	1,139	4.3	2,561
Rural	4.1	23.9	3,346	7.2	139	8.1	801	4.0	3,672
Region									
Monrovia	11.7	47.3	1,936	15.6	226	18.0	918	4.5	1,991
North Western	7.4	24.7	398	6.2	29	15.2	98	2.8	463
South Central	4.8	29.4	874	12.1	42	10.0	257	3.1	913
South Eastern A	5.6	22.1	288	24.8	16	19.2	63	2.9	321
South Eastern B	0.4	31.7	376	0.0	2	4.8	120	2.1	413
North Central	5.1	24.9	1,934	9.7	99	8.8	483	5.0	2,134
Education									
No education	4.4	18.7	2,491	10.5	111	7.4	466	3.9	2,753
Primary	8.2	40.5	1,811	11.2	148	9.8	734	3.9	1,904
Secondary and higher	10.3	49.1	1,502	17.7	155	21.7	739	4.8	1,575
Wealth quintile									
Lowest	2.5	19.9	1,013	0.0	26	3.1	202	3.7	1,153
Second	3.6	21.9	1,058	12.7	38	5.1	231	3.7	1,172
Middle	5.6	28.7	1,110	6.2	63	11.8	320	4.3	1,206
Fourth	10.3	43.6	1,333	19.4	138	18.4	581	4.4	1,386
Highest	11.6	46.8	1,291	13.6	150	17.1	605	4.3	1,316
Total 15-49	7.1	33.3	5,806	13.5	413	13.7	1,940	4.1	6,234

Note: Total includes some cases with information missing on education

[1] Sexual intercourse with a partner who neither was a spouse nor who lived with the respondent

[2] Based on those who reported number of lifetime partners

Table 13.8.2 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Men

Among men age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse in the past 12 months; and among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse; and the mean number of sexual partners during his lifetime for men who ever had sexual intercourse, by background characteristics, Liberia 2007

	Among respondents who had sexual intercourse in the past 12 months:			Among respondents who had 2+ partners in the past 12 months:		Among respondents who had higher-risk intercourse in the past 12 months:		Among respondents who ever had sexual intercourse:	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months[1]	Number of men	Percentage who reported using a condom during last sexual intercourse	Number of men	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of men	Mean number of sexual partners in lifetime[2]	Number of men
Age									
15-24	22.9	87.1	1,431	27.8	328	22.0	1,247	6.2	1,353
15-19	15.9	95.6	512	28.9	82	16.1	490	3.7	522
20-24	26.8	82.4	919	27.4	247	25.8	757	7.7	831
25-29	25.0	56.5	857	29.2	214	29.8	484	9.0	729
30-39	22.7	38.5	1,518	16.5	345	30.1	585	12.0	1,220
40-49	15.6	25.6	1,233	16.0	192	24.9	315	13.7	879
Marital status									
Never married	23.4	97.9	1,474	31.6	345	23.2	1,444	6.2	1,373
Married or living together	20.2	28.4	3,284	16.8	664	29.5	932	11.7	2,557
Divorced/separated/ widowed	25.6	91.1	281	28.7	72	24.9	256	12.5	251
Residence									
Urban	23.2	60.4	2,047	31.2	475	34.8	1,236	9.7	1,727
Rural	20.2	46.6	2,992	15.4	605	17.4	1,395	10.1	2,453
Region									
Monrovia	22.6	60.7	1,575	32.8	356	34.8	956	10.1	1,344
North Western	18.5	41.3	344	14.3	64	17.3	142	9.9	314
South Central	22.4	53.4	766	15.8	172	18.6	409	8.9	651
South Eastern A	28.2	53.4	301	8.4	85	27.3	161	11.4	273
South Eastern B	26.6	54.8	328	17.9	87	18.7	180	8.5	312
North Central	18.4	45.4	1,724	20.7	317	20.8	783	10.3	1,288
Education									
No education	13.4	36.6	923	13.1	124	14.9	338	9.4	727
Primary	19.1	55.2	1,335	17.0	254	14.8	737	8.1	1,204
Secondary and higher	25.2	56.0	2,777	25.9	701	33.1	1,555	11.1	2,247
Wealth quintile									
Lowest	15.4	39.5	905	8.0	139	11.8	357	9.3	786
Second	22.3	47.1	988	17.4	220	17.3	465	10.6	831
Middle	22.8	51.2	972	18.3	222	21.4	498	10.4	797
Fourth	22.7	55.6	979	26.7	223	28.2	545	9.0	790
Highest	23.1	64.2	1,195	33.2	276	37.9	767	10.3	977
Total 15-49	21.4	52.2	5,039	22.3	1,080	25.6	2,631	9.9	4,181

Note: Total includes some cases with information missing on education
[1] Sexual intercourse with a partner who neither was a spouse nor who lived with the respondent
[2] Based on those who reported number of lifetime partners

13.6.2 Transactional Sex

Transactional sex involves exchange of sex for money, favors, or gifts. Transactional sex is associated with high risk of contracting HIV and other STIs due to compromised power relations and the tendency to have multiple partnerships as a result. Male respondents in the LDHS who had had sex in the previous 12 months were asked if they had paid anyone in exchange for sex in the last 12 months. Men who engaged in transactional sex were asked if they used a condom during the last paid sexual encounter and if they did so every time they paid for sex in the last 12 months.

Table 13.9 shows that less than 3 percent of men reported having paid for sexual intercourse in the previous 12 months. It is encouraging to observe that among these, close to half, or 48 percent, reportedly used a condom at the most recent paid sexual encounter. Differences in the prevalence of paid sex are small, and analysis of differences in the level of condom use among those men who paid for sex is hampered by small numbers.

Table 13.9 Payment for sexual intercourse and condom use at last paid sexual intercourse

Percentage of men age 15-49 reporting payment for sexual intercourse in the past 12 months, and among them, the percentage reporting that a condom was used the last time they paid for sexual intercourse, by background characteristics, Liberia 2007

Background characteristic	Payment for sexual intercourse in the past 12 months		Condom use at last paid sexual intercourse	
	Percentage who paid for sexual intercourse	Number of men	Percentage reporting condom use	Number of men who paid for sexual intercourse in the past 12 months
Age				
15-24	3.2	2,195	56.8	70
15-19	1.4	1,156	*	16
20-24	5.1	1,039	59.1	53
25-29	3.0	917	(53.5)	27
30-39	2.6	1,597	(36.0)	42
40-49	1.1	1,300	*	14
Marital status				
Never married	2.8	2,278	55.0	63
Married or living together	2.4	3,413	40.1	81
Divorced/separated/widowed	2.8	319	*	9
Residence				
Urban	3.0	2,426	66.0	73
Rural	2.2	3,583	30.8	80
Region				
Monrovia	3.3	1,862	(68.0)	61
North Western	2.5	405	(49.1)	10
South Central	1.2	894	*	10
South Eastern A	3.3	357	*	12
South Eastern B	3.5	407	(30.9)	14
North Central	2.2	2,084	(33.1)	46
Education				
No education	2.1	1,056	(35.3)	23
Primary	2.0	1,895	26.8	39
Secondary and higher	3.0	3,056	59.5	92
Wealth quintile				
Lowest	2.2	1,062	(33.1)	23
Second	2.9	1,181	(27.3)	34
Middle	2.4	1,170	(42.8)	29
Fourth	2.0	1,160	(54.3)	23
Highest	3.1	1,437	(70.3)	44
Total 15-49	2.5	6,009	47.6	153

Note: Figures in parentheses are based on 25-49 unweighted cases; an asterisk represents a figure based on fewer than 25 unweighted cases that has been suppressed.

13.7 COVERAGE OF HIV COUNSELING AND TESTING

Knowledge of HIV status helps HIV-negative individuals make specific decisions to reduce risk and increase safer sex practices so they can remain disease free. For those who are HIV infected, knowledge of their status allows them to take action to protect their sexual partners, to access treatment, and to plan for the future. The NACP and its partners are scaling-up the provision of HIV testing sites throughout Liberia. By September 2007, there were about 71 sites spread throughout the 15 counties in Liberia providing voluntary counseling and testing services.

To assess the awareness and coverage of HIV testing services, LDHS respondents were asked whether they had ever been tested for HIV. If they said that they had, respondents were asked when they were most recently tested, whether they had received the results of their last test, and where they had been tested. If they had never been tested, they were asked if they knew a place where they could go to be tested. Tables 13.10.1 and 13.10.2 present the results of these questions for women and men, respectively.

Table 13.10.1 Coverage of prior HIV testing: Women

Percentage of women age 15-49 who know where to get an HIV test, percent distribution of women age 15-49 by testing status and by whether they received the results of the last test, the percentage of women ever tested, and the percentage of women age 15-49 who received their test results the last time they were tested for HIV in the past 12 months, according to background characteristics, Liberia 2007

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of women by testing status and by whether they received the results of the last test: Ever tested and received results	Ever tested, did not receive results	Never tested[1]	Total	Percentage ever tested	Percentage who received results from last HIV test taken in the past 12 months	Number of women
Age								
15-24	24.0	3.5	0.9	95.6	100.0	4.4	1.9	2,675
15-19	19.1	2.7	0.6	96.7	100.0	3.3	1.7	1,312
20-24	28.8	4.4	1.1	94.5	100.0	5.5	2.1	1,363
25-29	26.2	4.2	1.1	94.7	100.0	5.3	1.8	1,166
30-39	26.2	3.1	0.7	96.2	100.0	3.8	1.6	1,912
40-49	18.7	2.0	0.6	97.4	100.0	2.6	1.0	1,339
Marital status								
Never married	27.6	4.5	1.0	94.5	100.0	5.5	2.2	1,853
Ever had sex	31.2	5.6	1.1	93.3	100.0	6.7	2.8	1,488
Never had sex	12.8	0.0	0.6	99.4	100.0	0.6	0.0	365
Married/living together	21.0	2.5	0.7	96.8	100.0	3.2	1.3	4,540
Divorced/separated/widowed	33.3	4.5	1.0	94.5	100.0	5.5	2.2	699
Residence								
Urban	35.8	5.3	1.3	93.4	100.0	6.6	2.7	2,998
Rural	15.3	1.7	0.5	97.8	100.0	2.2	0.9	4,094
Region								
Monrovia	35.8	5.0	0.9	94.1	100.0	5.9	2.6	2,329
North Western	13.8	2.4	0.2	97.4	100.0	2.6	1.6	509
South Central	19.4	3.7	1.4	94.9	100.0	5.1	2.0	1,011
South Eastern A	11.8	1.9	0.4	97.6	100.0	2.4	0.7	375
South Eastern B	12.3	0.8	0.3	98.9	100.0	1.1	0.3	451
North Central	20.6	2.1	0.9	97.1	100.0	2.9	1.0	2,417
Education								
No education	13.4	0.9	0.3	98.8	100.0	1.2	0.3	3,005
Primary	20.6	2.5	0.7	96.8	100.0	3.2	1.6	2,280
Secondary and higher	45.8	7.9	1.9	90.2	100.0	9.8	3.9	1,799
Wealth quintile								
Lowest	10.1	0.7	0.5	98.8	100.0	1.2	0.1	1,251
Second	12.9	1.4	0.5	98.1	100.0	1.9	0.6	1,332
Middle	22.2	2.7	0.8	96.5	100.0	3.5	1.9	1,359
Fourth	32.6	4.6	1.0	94.4	100.0	5.6	2.7	1,580
Highest	37.2	5.7	1.2	93.0	100.0	7.0	2.4	1,569
Total 15-49	23.9	3.2	0.8	96.0	100.0	4.0	1.6	7,092

Note: Total includes some cases with information missing on education
[1] Includes "don't know/missing"

Overall, only about one- quarter of women age 15-49 years and one-third of men know where to get an HIV test. Even fewer have ever been tested; only 4 percent of women and 6 percent of men have ever had an HIV test and only 2 percent of women and 2 percent of men have been tested and received their test results in the 12 months before the survey.

Knowledge of the various sites for HIV testing services is highest among women and men who live in Monrovia than elsewhere in Liberia, which may reflect the urban bias in the distribution of HIV testing services in Liberia. It is also higher among educated women and men and among those in the higher wealth quintiles.

Table 13.10.2 Coverage of prior HIV testing: Men

Percentage of men age 15-49 who know where to get an HIV test, percent distribution of men age 15-49 by testing status and by whether they received the results of the last test, the percentage of men ever tested, and the percentage of men age 15-49 who received their test results the last time they were tested for HIV in the past 12 months, according to background characteristics, Liberia 2007

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of men by testing status and by whether they received the results of the last test: Ever tested and received results	Ever tested, did not receive results	Never tested[1]	Total	Percentage ever tested	Percentage who received results from last HIV test taken in the past 12 months	Number of men
Age								
15-24	26.9	2.8	0.6	96.6	100.0	3.4	1.6	2,195
15-19	19.7	0.7	0.2	99.1	100.0	0.9	0.4	1,156
20-24	35.0	5.1	1.1	93.9	100.0	6.1	2.9	1,039
25-29	34.7	5.1	0.7	94.2	100.0	5.8	2.6	917
30-39	37.2	7.3	1.1	91.5	100.0	8.5	3.1	1,597
40-49	35.2	5.2	0.3	94.6	100.0	5.4	2.3	1,300
Marital status								
Never married	30.4	3.6	0.6	95.8	100.0	4.2	1.4	2,278
Ever had sex	39.0	4.8	0.9	94.3	100.0	5.7	1.9	1,608
Never had sex	9.8	0.7	0.0	99.3	100.0	0.7	0.2	670
Married/living together	33.9	5.6	0.7	93.8	100.0	6.2	2.8	3,413
Divorced/separated/widowed	34.9	6.6	1.1	92.3	100.0	7.7	3.2	319
Residence								
Urban	50.2	8.2	1.0	90.7	100.0	9.3	4.0	2,426
Rural	20.7	2.6	0.4	97.0	100.0	3.0	1.1	3,583
Region								
Monrovia	51.1	7.8	0.9	91.3	100.0	8.7	3.9	1,862
North Western	23.6	1.7	0.1	98.3	100.0	1.7	0.4	405
South Central	28.6	6.1	0.8	93.1	100.0	6.9	1.6	894
South Eastern A	27.6	3.4	0.7	95.9	100.0	4.1	1.4	357
South Eastern B	15.8	2.5	0.7	96.7	100.0	3.3	1.1	407
North Central	23.7	3.1	0.5	96.4	100.0	3.6	2.0	2,084
Education								
No education	12.7	0.7	0.2	99.0	100.0	1.0	0.4	1,056
Primary	18.9	1.7	0.2	98.1	100.0	1.9	0.9	1,895
Secondary and higher	48.0	8.3	1.1	90.6	100.0	9.4	3.8	3,056
Wealth quintile								
Lowest	12.7	1.5	0.3	98.2	100.0	1.8	0.6	1,062
Second	19.5	1.3	0.1	98.5	100.0	1.5	0.9	1,181
Middle	27.5	3.4	0.4	96.2	100.0	3.8	1.7	1,170
Fourth	42.9	7.1	1.1	91.8	100.0	8.2	3.5	1,160
Highest	54.1	9.6	1.3	89.1	100.0	10.9	4.3	1,437
Total 15-49	32.6	4.9	0.7	94.5	100.0	5.5	2.3	6,009

Note: Total includes some cases with information missing on education
[1] Includes "don't know/missing"

13.8 MALE CIRCUMCISION

Circumcision is widely practiced in Liberia and often serves as a rite of passage to adulthood. Recently, male circumcision has been shown to be associated with lower transmission of STIs, including HIV (WHO and UNAIDS, 2007). In order to investigate this relationship, men interviewed in the 2007 LDHS were asked if they were circumcised.

Table 13.11 shows that male circumcision is indeed widespread in Liberia, with almost all men being circumcised (98 percent). This is also true for all ages, residence status, and by level of educational achievement.

Table 13.11 Male circumcision

Percentage of men age 15-49 who have been circumcised, by background characteristics, Liberia 2007

Background characteristic	Percentage circumcised	Number of men
Age		
15-24	97.2	2,195
15-19	96.9	1,156
20-24	97.6	1,039
25-29	98.2	917
30-39	97.7	1,597
40-49	98.3	1,300
Residence		
Urban	98.6	2,426
Rural	97.1	3,583
Region		
Monrovia	98.7	1,862
North Western	97.8	405
South Central	99.0	894
South Eastern A	98.0	357
South Eastern B	97.1	407
North Central	96.4	2,084
Education		
No education	97.3	1,056
Primary	97.3	1,895
Secondary and higher	98.2	3,056
Wealth quintile		
Lowest	96.9	1,062
Second	97.0	1,181
Middle	97.3	1,170
Fourth	98.8	1,160
Highest	98.5	1,437
Total 15-49	97.7	6,009

13.9 SELF-REPORTING OF SEXUALLY TRANSMITTED INFECTIONS

In the 2007 LDHS, respondents who had ever had sex were asked if they had had a disease they had gotten through sexual contact in the previous 12 months or if they had had either of two symptoms associated with STIs (a bad-smelling, abnormal discharge from the vagina/penis or a genital sore or ulcer). Table 13.12 shows the self-reported prevalence of STIs and STI symptoms among women and men who have ever had sex.

One in five women and one in ten men who have ever had sex report having had an STI in the 12 months preceding the survey. A higher percentage of women than men reported having had a bad-smelling or abnormal genital discharge (28 percent of women and 12 percent of men). Women are also far more likely than men to report having had a genital sore or ulcer (30 percent for women and 9 percent for men). Altogether, one-third of women and less than one-fifth of men have had either an STI and/or a symptom of an STI in the 12 months preceding the survey.

Those who are more likely to report symptoms of STIs, genital discharge, and genital sores or ulcers include women and men age 20-29 (20-39 for women), those in South Central region, and those with more education. Currently married men and, to a lesser extent, currently married women are less likely than those who have never married or are divorced, separated, or widowed to report having had an STI and/or a symptom of an STI in the previous 12 months.

Table 13.12 Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms

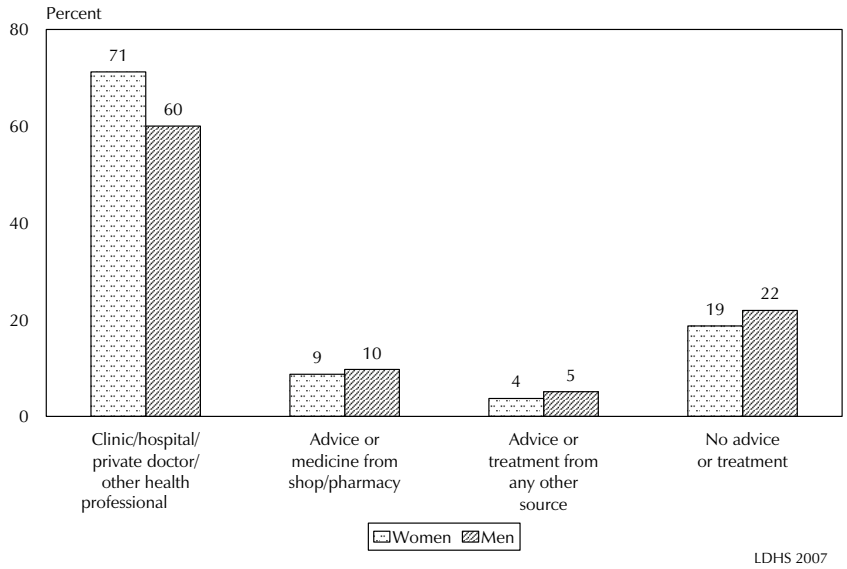
Among women and men age 15-49 who ever had sexual intercourse, the percentage reporting having had an STI and/or symptoms of an STI in the past 12 months, by background characteristics, Liberia 2007

	Women					Men				
Background characteristic	STI	Bad-smelling/ abnormal genital discharge	Genital sore/ ulcer	STI/ genital discharge/ sore or ulcer	Number of women who ever had sexual intercourse	STI	Bad-smelling/ abnormal genital discharge	Genital sore/ ulcer	STI/ genital discharge/ sore or ulcer	Number of men who ever had sexual intercourse
Age										
15-24	21.4	29.1	31.3	35.6	2,312	13.0	14.6	10.4	20.9	1,540
15-19	17.5	24.8	26.9	30.5	961	10.1	13.4	10.0	18.7	560
20-24	24.2	32.2	34.4	39.2	1,351	14.7	15.2	10.5	22.2	980
25-29	23.0	30.5	32.0	36.4	1,164	13.6	13.8	9.3	20.2	905
30-39	21.3	31.1	31.0	36.2	1,912	10.8	12.6	9.5	18.1	1,593
40-49	14.5	21.0	22.5	25.3	1,339	6.4	6.9	4.7	10.9	1,300
Marital status										
Never married	22.1	29.1	31.2	35.2	1,488	12.6	15.9	10.5	21.1	1,608
Married or living together	20.1	28.0	28.6	33.1	4,540	9.9	9.8	7.2	15.4	3,411
Divorced/separated/ widowed	17.5	28.8	32.5	35.8	699	11.8	15.8	13.5	21.6	319
Male circumcision										
Circumcised	na	na	na	na	0	10.9	11.9	8.4	17.4	5,226
Not circumcised	na	na	na	na	0	10.3	16.8	16.3	20.6	112
Residence										
Urban	22.2	30.4	32.3	36.5	2,795	11.3	13.6	9.0	17.6	2,172
Rural	18.9	26.8	27.7	32.0	3,932	10.5	10.9	8.3	17.4	3,166
Region										
Monrovia	23.1	29.5	31.8	35.3	2,113	10.7	12.5	8.6	15.3	1,670
North Western	8.6	14.3	17.9	22.5	553	6.9	8.1	6.4	11.3	361
South Central	16.6	31.2	31.2	40.4	975	13.7	20.0	14.4	28.8	814
South Eastern A	14.0	23.7	23.6	29.7	377	13.7	16.7	9.7	23.7	326
South Eastern B	6.6	11.2	16.4	19.1	453	5.4	5.5	5.6	10.9	342
North Central	25.9	33.6	33.3	36.0	2,256	11.0	9.1	6.7	15.9	1,825
Education										
No education	17.8	26.9	27.2	31.3	2,969	7.3	9.0	5.6	12.4	992
Primary	22.4	28.5	30.5	34.4	2,040	11.6	11.2	9.3	18.0	1,429
Secondary and higher	22.1	30.7	32.8	37.8	1,710	11.7	13.4	9.2	19.0	2,914
Wealth quintile										
Lowest	14.0	23.7	22.8	28.2	1,214	9.1	8.6	5.6	14.9	968
Second	17.0	24.3	26.3	29.5	1,269	11.7	11.4	9.2	18.5	1,047
Middle	22.2	30.0	29.6	34.6	1,296	11.5	12.2	9.1	18.0	1,025
Fourth	24.3	31.9	36.6	39.5	1,499	11.4	14.2	9.8	18.9	1,031
Highest	22.4	30.5	30.8	35.8	1,448	10.5	13.1	8.8	17.1	1,266
Total 15-49	20.3	28.3	29.6	33.8	6,727	10.8	12.0	8.6	17.5	5,338

Note: Total includes some cases with information missing on education
na = Not applicable

Figure 13.1 shows the proportion of women and men who had an STI or a symptom of an STI who sought advice or treatment from various sources. Most women and men seek treatment from a health facility or health professional; however, about one in five do not get any advice or treatment.

Figure 13.1 Women and Men Seeking Advice or Treatment for STIs



13.10 Prevalence of Medical Injections

Nonsterile injections can pose a risk of infection with HIV and other diseases. To measure the potential risk of transmission of HIV associated with medical injections, respondents in the 2007 LDHS were asked if they had received an injection in the past 12 months and, if so, how many.

The responses presented in Table 13.13 show that an equal percentage of women and men (32 percent) received a medical injection in the 12 months preceding the survey. The average number of injections (1.4) received in the 12 months before the survey was also equal for women and men. The potential risk of transmission of HIV associated with such injections is very low because almost all women and men said they received their most recent injection from a new, unopened package (94 percent of women and 95 percent of men).

Both the likelihood of receiving an injection in the previous 12 months and the likelihood that the injection was a safe one generally increase with education and wealth quintile. Injections are particularly common among residents of South Central region.

Table 13.13 Prevalence of medical injections

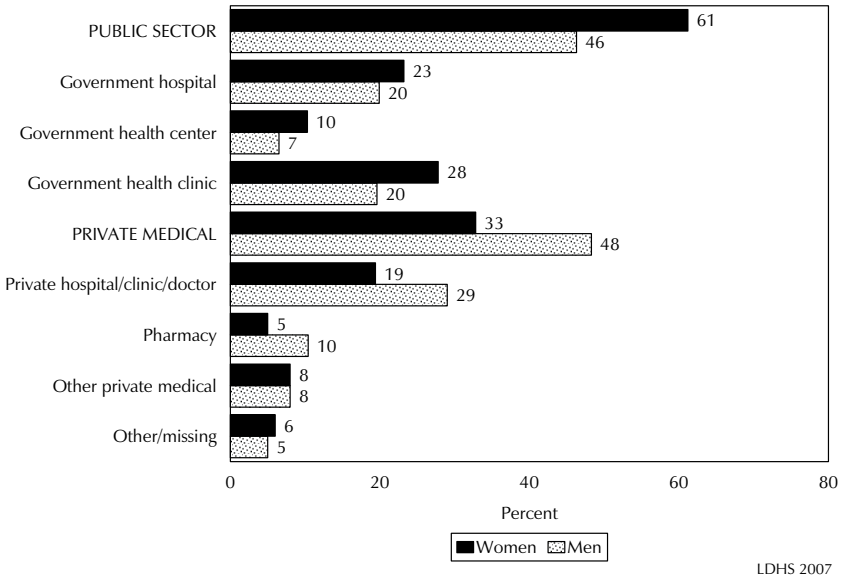
Percentage of women and men age 15-49 who received at least one medical injection in the past 12 months, the average number of medical injections per person in the past 12 months, and among those who received a medical injection, the percentage of last medical injections for which the syringe and needle were taken from a new, unopened package, by background characteristics, Liberia 2007

	Women					Men				
Background characteristic	Percentage who received a medical injection in the past 12 months	Average number of medical injections per person in the past 12 months	Number of women	For last injection, syringe and needle taken from a new, unopened package	Number of women receiving medical injections in the past 12 months	Percentage who received a medical injection in the past 12 months	Average number of medical injections per person in the past 12 months	Number of men	For last injection, syringe and needle taken from a new, unopened package	Number of men receiving medical injections in the past 12 months
Age										
15-24	30.4	1.1	2,675	91.0	814	24.7	0.9	2,195	93.4	542
15-19	22.9	0.8	1,312	87.6	301	19.1	0.7	1,156	93.1	221
20-24	37.6	1.4	1,363	92.9	513	30.9	1.2	1,039	93.6	322
25-29	36.3	1.5	1,166	94.5	423	34.4	1.4	917	95.9	315
30-39	34.7	1.7	1,912	96.2	664	39.0	1.8	1,597	95.7	623
40-49	29.5	1.3	1,339	94.2	395	32.3	1.6	1,300	96.1	421
Residence										
Urban	33.8	1.5	2,998	94.0	1,012	33.0	1.4	2,426	98.3	801
Rural	31.4	1.3	4,094	93.5	1,284	30.7	1.4	3,583	92.9	1,101
Region										
Monrovia	30.5	1.3	2,329	96.1	709	31.8	1.4	1,862	98.7	593
North Western	32.0	1.2	509	96.8	163	22.8	0.9	405	99.5	92
South Central	46.4	2.2	1,011	95.2	469	42.2	1.9	894	95.5	377
South Eastern A	28.5	1.6	375	92.6	107	37.7	1.6	357	99.4	134
South Eastern B	16.0	0.4	451	78.9	72	32.3	1.2	407	82.1	131
North Central	32.1	1.3	2,417	91.5	776	27.5	1.2	2,084	92.6	573
Education										
No education	30.6	1.3	3,005	92.7	919	26.9	1.0	1,056	90.1	284
Primary	29.4	1.2	2,280	93.5	671	27.1	1.1	1,895	94.5	514
Secondary and higher	39.2	1.8	1,799	95.2	705	36.1	1.6	3,056	96.8	1,104
Wealth quintile										
Lowest	27.8	1.0	1,251	91.7	347	26.7	1.3	1,062	93.5	284
Second	30.1	1.4	1,332	94.0	401	31.6	1.3	1,181	91.7	373
Middle	34.9	1.4	1,359	92.4	474	30.0	1.3	1,170	94.3	351
Fourth	38.6	1.7	1,580	93.3	611	35.9	1.6	1,160	97.0	417
Highest	29.5	1.3	1,569	96.8	464	33.2	1.4	1,437	98.0	477
Total 15-49	32.4	1.4	7,092	93.7	2,296	31.6	1.4	6,009	95.2	1,902

Note: Medical injections are those given by a doctor, nurse, pharmacist, dentist, or other health worker.

Respondents who had had an injection in the past 12 months were asked where they obtained their last injection. The information is summarized in Figure 13.2. Three-fifths of the women and almost half of the men age 15-49 received their last medical injection from a public sector facility, and close to one-third of the women (31 percent) and nearly half (48 percent) of the men received their last injection from a private medical facility.

Figure 13.2 Type of Facility Where Last Medical Injection Was Received



13.11 HIV/AIDS Knowledge and Sexual Behavior among Youth

This section addresses HIV/AIDS-related knowledge and sexual behavior among youth age 15-24. Special attention is paid to this group because it accounts for half of all new HIV infections worldwide (Ross et al., 2006). In addition to knowledge of HIV transmission, data are presented on age at first sex, condom use, age differences between sexual partners, sex related to alcohol use, and voluntary counseling and testing for HIV.

13.11.1 HIV/AIDS-Related Knowledge among Young Adults

Young respondents were asked the same set of questions on beliefs about HIV transmission as other respondents. Information on the overall level of knowledge of major methods of avoiding HIV and rejection of major misconceptions are shown in Tables 13.2, 13.3.1, and 13.3.2. In general, the results indicate the level of awareness of prevention methods to combat AIDS.

Table 13.14 shows the level of the composite indicator, "comprehensive knowledge about AIDS" among young people by background characteristics. The results show that one in five young women age 15-24 and a little over one-quarter of young men of the same age report having comprehensive knowledge of AIDS. Comprehensive knowledge is highest among never-married young women and men who have ever had sex (26 and 35 percent among women and men, respectively), who live in urban areas (26 and 36 percent), who are resident in Monrovia (27 and 37 percent), who have secondary and higher level of education (32 and 41 percent), and who are in the highest wealth quintile (29 and 37 percent).

13.11.2 Knowledge of Condom Sources among Young Adults

Condom use among young adults plays an important role in the prevention of transmission of HIV and other STIs, as well as prevention of unwanted pregnancies. Knowledge of a source of condoms helps young adults to obtain and use condoms. Table 13.14 shows that about half of young women and men say that they know of a place to get a condom. Knowledge of a condom source increases with age of the respondent and is higher among urban respondents, those who live in Monrovia, and those with more education and greater wealth.

Table 13.14 Comprehensive knowledge about AIDS and of a source of condoms among youth

Percentage of young women and young men age 15-24 with comprehensive knowledge about AIDS and percentage with knowledge of a source for condoms, by background characteristics, Liberia 2007

Background characteristic	Women			Men		
	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a source for condoms[2]	Number of women	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a source for condoms[2]	Number of men
Age						
15-19	18.1	40.3	1,312	20.9	40.6	1,156
15-17	14.8	33.2	779	18.4	31.9	695
18-19	23.0	50.8	533	24.7	53.5	461
20-24	22.8	56.4	1,363	34.2	65.3	1,039
20-22	24.4	53.6	830	32.6	63.1	617
23-24	20.4	60.8	534	36.5	68.4	422
Marital status						
Never married	22.5	47.6	1,571	27.2	50.9	1,847
Ever had sex	25.5	56.6	1,207	35.4	66.7	1,192
Never had sex	12.8	17.4	364	12.3	22.3	655
Ever married	17.6	49.9	1,104	26.9	59.2	348
Residence						
Urban	26.4	59.6	1,308	35.6	65.8	1,010
Rural	14.9	38.0	1,367	20.0	40.7	1,185
Region						
Monrovia	27.1	61.1	1,016	36.6	69.3	774
North Western	9.8	42.6	158	19.6	39.3	118
South Central	19.5	37.9	355	20.9	42.6	289
South Eastern A	11.0	37.2	139	16.2	43.4	115
South Eastern B	17.6	34.8	169	14.3	24.6	177
North Central	17.1	43.6	839	25.8	48.1	722
Education						
No education	14.2	30.5	614	10.6	27.3	176
Primary	16.4	42.5	1,253	17.5	39.1	1,062
Secondary and higher	31.7	71.6	808	41.0	71.4	956
Wealth quintile						
Lowest	13.8	30.5	395	16.8	28.3	298
Second	12.7	37.4	441	17.5	37.7	358
Middle	15.8	48.8	500	24.5	50.8	446
Fourth	23.9	58.4	631	30.4	62.7	456
Highest	29.4	56.6	709	37.1	65.1	638
Total	20.5	48.5	2,675	27.2	52.3	2,195

Note: Total includes some cases with information missing on education

[1] Comprehensive knowledge means knowing that consistent use of condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention. The components of comprehensive knowledge are presented in Tables 13.2, 13.3.1, and 13.3.2.

[2] Friends, family members, and home are not considered sources for condoms.

13.11.3 Trends in Age at First Sex

Because HIV transmission in Liberia occurs predominantly through heterosexual intercourse between an infected and a noninfected person, age at first intercourse marks the time at which most individuals first expose themselves to the risk of infection. Table 13.15 shows the percentage of young people who have had sex by exact age 15 and 18, by background characteristics. More women than men have had sex by age 15 and 18. Seventeen percent of women and only 9 percent of men have had sex by the time they are age 15. More than four-fifths of the women and over half of the men have had sex by age 18. Variations by background characteristics are greater among women than men. Women in Monrovia and those with at least some secondary education are least likely to initiate sex before age 15 compared with young women in other regions and those with less education.

Table 13.15 Age at first sexual intercourse among youth

Percentage of young women and young men age 15-24 who had sexual intercourse before age 15 and percentage of young women and young men age 18-24 who had sexual intercourse before age 18, by background characteristics, Liberia 2007

	Women				Men			
Background characteristic	Percentage who had sexual intercourse before age 15	Number of respondents age 15-24	Percentage who had sexual intercourse before age 18	Number of respondents age 18-24	Percentage who had sexual intercourse before age 15	Number of respondents age 15-24	Percentage who had sexual intercourse before age 18	Number of respondents age 18-24
Age								
15-19	18.7	1,312	na	na	8.6	1,156	na	na
15-17	20.6	779	na	na	7.9	695	na	na
18-19	16.0	533	87.6	533	9.7	461	63.0	461
20-24	15.8	1,363	79.8	1,363	8.3	1,039	53.6	1,039
20-22	17.5	830	80.5	830	9.7	617	55.1	617
23-24	13.2	534	78.7	534	6.3	422	51.3	422
Marital status								
Never married	13.7	1,571	77.6	881	8.3	1,843	54.0	1,154
Ever married	22.2	1,104	85.8	1,015	9.5	352	64.6	346
Knows source for condoms[1]								
Yes	16.3	1,298	82.8	1,040	11.0	1,147	61.7	925
No	18.1	1,377	81.0	856	5.7	1,048	48.1	575
Residence								
Urban	13.3	1,308	81.5	889	9.4	1,010	60.5	732
Rural	21.0	1,367	82.4	1,007	7.7	1,185	52.7	768
Region								
Monrovia	12.9	1,016	82.6	688	7.8	774	61.9	563
North Western	25.5	158	77.0	117	8.4	118	42.8	78
South Central	20.8	355	84.4	263	14.3	289	58.2	196
South Eastern A	22.5	139	85.6	103	16.6	115	64.3	78
South Eastern B	20.4	169	81.3	114	5.8	177	46.6	120
North Central	17.9	839	80.7	610	6.2	722	52.7	467
Education								
No education	26.4	614	87.9	514	6.6	176	50.2	129
Primary	17.4	1,253	83.5	736	7.4	1,062	55.0	567
Secondary and higher	10.0	808	75.5	645	10.0	956	58.5	804
Wealth quintile								
Lowest	20.2	395	83.5	315	9.9	298	55.6	200
Second	21.8	441	78.7	317	4.8	358	49.9	238
Middle	19.4	500	84.5	363	9.6	446	52.6	291
Fourth	14.6	631	83.0	436	9.1	456	59.1	314
Highest	13.6	709	80.3	465	8.7	638	61.0	457
Total	17.2	2,675	82.0	1,896	8.5	2,195	56.5	1,500

na = Not applicable
[1] Friends, family members, and home are not considered sources for condoms.

13.11.4 Condom Use at First Sex

Consistent condom use is advocated by HIV control programs to reduce the risk of sexual transmission of HIV among sexually active young adults. Young adults who use condoms at first sex are more likely to sustain condom use later in life. Condom use at first sex serves as an indicator of reduced risk of exposure at the beginning of sexual activity.

Table 13.16 shows that condom use at first sex is rare in Liberia. Among young people age 15-24 years who have ever had sexual intercourse, only 6 percent used a condom during their first sexual intercourse. Condom use at first sex is higher among urban residents, among those who live in Monrovia, and among men who live in Monrovia and North Western region. It is also higher among women and men with more education and those in the higher wealth quintiles.

Table 13.16 Condom use at first sexual intercourse among youth

Among young women and young men age 15-24 who have ever had sexual intercourse, percentage who used a condom the first time they had sexual intercourse, by background characteristics, Liberia 2007

Background characteristic	Women		Men	
	Percentage who used a condom at first sexual intercourse	Number of women who have ever had sexual intercourse	Percentage who used a condom at first sexual intercourse	Number of men who have ever had sexual intercourse
Age				
15-19	7.4	961	3.8	560
15-17	8.3	458	3.0	214
18-19	6.5	503	4.2	346
20-24	5.2	1,351	7.4	980
20-22	5.1	817	8.0	567
23-24	5.2	534	6.6	413
Marital status				
Never married	8.7	1,207	6.5	1,188
Ever married	3.2	1,104	4.7	352
Knows source for condoms[1]				
Yes	8.2	1,235	7.3	1,001
No	3.6	1,076	3.9	539
Residence				
Urban	9.6	1,107	7.6	763
Rural	2.8	1,205	4.5	777
Region				
Monrovia	11.1	853	7.5	587
North Western	1.8	138	8.4	74
South Central	3.1	321	5.8	212
South Eastern A	2.0	121	4.7	86
South Eastern B	2.1	145	4.5	114
North Central	3.7	733	4.6	467
Education				
No education	3.0	579	0.5	117
Primary	5.7	1,013	4.5	600
Secondary and higher	9.1	720	8.0	822
Wealth quintile				
Lowest	2.0	357	2.2	205
Second	1.6	378	1.6	227
Middle	4.8	437	7.4	304
Fourth	8.7	550	7.4	328
Highest	9.9	590	8.1	475
Total	6.1	2,312	6.1	1,540

[1] Friends, family members, and home are not considered sources for condoms.

13.11.5 Abstinence and Premarital Sex

Premarital sex and the interval between sexual initiation and marriage are among the factors that predispose people to HIV infection. Table 13.17 shows among never-married young adults the percentage who have never had sex, the percentage who had sex in the 12 months preceding the survey, and, among those, the percentage who used a condom at last sex.

Nearly one-quarter of never-married young women and just over one-third of the men have never had sexual intercourse. Fewer young men than women reported having sex in the 12 months preceding the survey (59 percent for men and 69 percent for women). Among those never-married youth who did have sexual intercourse in the 12 months before the survey, only 14 percent of women used a condom during their last sexual act, compared with 21 percent of the young men.

Table 13.17 Premarital sexual intercourse and condom use during premarital sexual intercourse among youth

Among never-married women and men age 15-24, the percentage who have never had sexual intercourse, the percentage who had sexual intercourse in the past 12 months, and, among those who had premarital sexual intercourse in the past 12 months, the percentage who used a condom at the last sexual intercourse, by background characteristics, Liberia 2007

	Women					Men				
Background characteristic	Percentage who have never had sexual intercourse	Percentage who had sexual intercourse in the past 12 months	Number of never-married women	Percentage who used condom at last sexual intercourse	Number of women	Percentage who have never had sexual intercourse	Percentage who had sexual intercourse in the past 12 months	Number of never-married men	Percentage who used condom at last sexual intercourse	Number of men
Age										
15-19	33.6	60.2	1,045	12.7	629	53.3	42.5	1,119	15.6	476
15-17	46.5	48.7	690	9.7	336	69.8	26.3	688	10.3	181
18-19	8.4	82.5	355	16.2	293	26.8	68.3	431	18.8	294
20-24	2.4	87.3	526	15.6	459	8.1	85.6	723	25.1	620
20-22	3.5	85.7	370	14.6	317	10.1	83.5	495	24.6	413
23-24	0.0	91.0	155	17.7	141	4.0	90.3	229	26.1	207
Knows source for condoms[1]										
Yes	8.5	84.2	747	20.1	629	15.5	79.7	941	25.4	750
No	36.5	55.7	824	5.6	459	56.5	38.3	902	11.4	345
Residence										
Urban	21.1	72.2	955	17.7	690	26.9	66.3	917	28.9	609
Rural	26.3	64.6	616	7.4	398	44.1	52.6	925	11.1	487
Region										
Monrovia	21.1	72.7	772	19.0	561	26.6	67.5	706	28.5	476
North Western	33.4	55.2	59	10.4	32	43.8	53.8	100	7.7	54
South Central	17.1	71.7	200	7.7	143	31.7	58.9	243	17.0	143
South Eastern A	31.5	49.6	58	12.1	29	31.6	66.8	90	15.4	60
South Eastern B	21.5	68.4	107	3.8	73	40.4	56.6	155	14.7	88
North Central	28.1	66.3	375	9.7	249	46.5	50.0	549	15.7	274
Education										
No education	17.9	70.3	197	4.2	138	45.6	51.6	130	11.4	67
Primary	31.7	62.6	757	8.5	474	49.7	45.5	930	12.5	423
Secondary and higher	14.3	77.1	617	22.2	476	17.1	77.3	782	28.0	605
Wealth quintile										
Lowest	27.3	65.5	137	5.1	90	41.6	56.2	222	5.4	124
Second	31.2	58.9	201	2.4	118	46.4	51.1	280	8.6	143
Middle	25.3	66.2	249	13.1	165	40.2	53.4	352	15.5	188
Fourth	19.6	74.5	412	17.3	306	32.8	62.3	389	25.0	242
Highest	20.9	71.4	572	17.1	408	27.3	66.2	600	30.4	397
Total	23.2	69.3	1,571	13.9	1,088	35.5	59.4	1,843	21.0	1,095

[1] Friends, family members, and home are not considered sources for condoms.

Condom use increases with age, especially among men. It is considerably higher among urban than rural youth and is especially high among women and men in Monrovia. Condom use also increases as the level of education and wealth increases.

13.11.6 Higher-Risk Sex and Condom Use among Young Adults

Tables 13.18.1 and 13.18.2 show among young women and men age 15-24 who had sexual intercourse in the past 12 months the proportion who engaged in higher-risk sex in the past 12 months and those who used a condom at last higher-risk sex. Among young women, 59 percent said they had engaged in higher-risk sex in the 12 months before the survey, among whom condom use is low—only 14 percent (Table 13.18.1). Both percentages are higher among young men, with 22 percent reporting that they used a condom out of the 87 percent who had engaged in higher-risk sexual intercourse (Table 13.18.2).

Table 13.18.1 Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the past 12 months: Women

Among young women age 15-24 who had sexual intercourse in the past 12 months, the percentage who had higher-risk sexual intercourse in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, by background characteristics, Liberia 2007

Background characteristic	Women 15-24 who had sexual intercourse in the past 12 months: Percentage who had higher-risk intercourse in the past 12 months[1]	Number of women	Women 15-24 who had higher-risk intercourse in the past 12 months: Percentage who reported using a condom at last higher-risk intercourse[1]	Number of women
Age				
15-19	75.5	868	11.8	656
15-17	84.4	410	8.5	346
18-19	67.6	458	15.5	310
20-24	47.5	1,200	16.1	571
20-22	53.4	712	15.3	380
23-24	39.1	488	17.8	191
Marital status				
Never married	97.8	1,088	13.7	1,064
Ever married	16.6	980	14.2	163
Knows source for condoms[2]				
Yes	63.1	1,138	20.0	719
No	54.6	930	5.0	507
Residence				
Urban	72.8	1,016	18.3	740
Rural	46.2	1,052	6.9	486
Region				
Monrovia	74.5	795	19.5	592
North Western	42.4	119	8.7	51
South Central	61.3	283	7.4	174
South Eastern A	36.3	91	17.1	33
South Eastern B	64.5	128	3.9	83
North Central	45.2	651	9.4	294
Education				
No education	36.2	511	3.7	185
Primary	60.5	907	9.0	549
Secondary and higher	75.9	649	22.9	493
Wealth quintile				
Lowest	35.5	318	2.4	113
Second	46.0	317	4.0	146
Middle	50.2	388	11.9	195
Fourth	68.6	509	18.4	349
Highest	79.0	536	17.3	423
Total 15-24	59.3	2,068	13.8	1,226

[1] Sexual intercourse with a nonmarital, noncohabiting partner
[2] Friends, family members, and home are not considered sources for condoms.

Table 13.18.2 Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the past 12 months: Men

Among young men age 15-24 who had sexual intercourse in the past 12 months, the percentage who had higher-risk sexual intercourse in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, by background characteristics, Liberia 2007

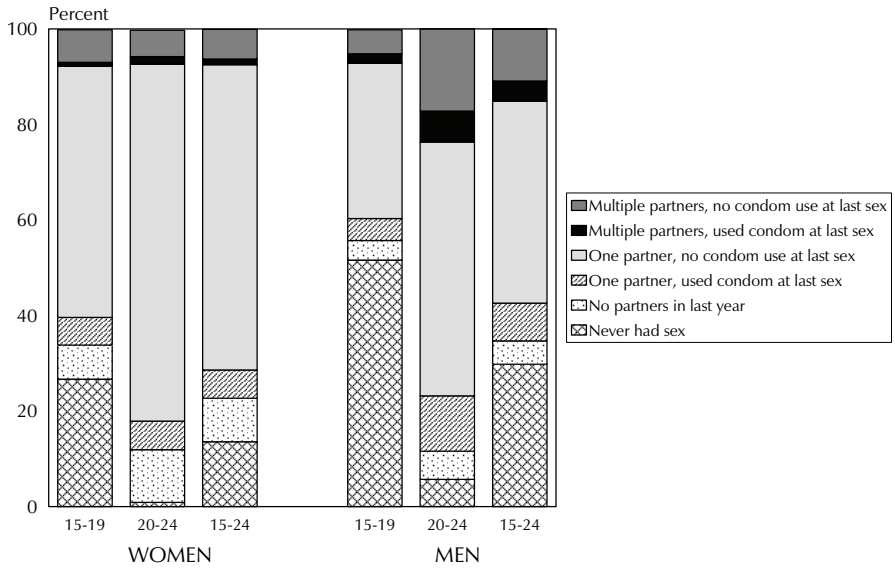
	Men 15-24 who had sexual intercourse in the past 12 months:		Men 15-24 who had higher-risk intercourse in the past 12 months:	
Background characteristic	Percentage who had higher-risk intercourse in the past 12 months[1]	Number of men	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of men
Age				
15-19	95.6	512	16.1	490
15-17	94.3	187	9.8	177
18-19	96.4	325	19.7	313
20-24	82.4	919	25.8	757
20-22	87.2	531	25.6	463
23-24	75.8	388	26.2	294
Marital status				
Never married	98.4	1,095	21.7	1,078
Ever married	50.4	336	23.8	170
Knows source for condoms[2]				
Yes	89.6	949	27.1	850
No	82.3	483	11.2	397
Residence				
Urban	92.8	694	30.7	644
Rural	81.8	738	12.8	603
Region				
Monrovia	92.4	539	30.6	498
North Western	90.1	72	8.7	64
South Central	91.6	187	16.7	171
South Eastern A	85.9	83	21.0	71
South Eastern B	88.9	109	15.5	97
North Central	78.2	442	16.8	346
Education				
No education	75.9	111	13.5	85
Primary	85.8	551	12.9	472
Secondary and higher	89.7	769	29.3	689
Wealth quintile				
Lowest	76.4	195	8.8	149
Second	81.8	219	12.4	179
Middle	84.1	279	16.1	235
Fourth	90.3	304	25.8	275
Highest	94.3	435	31.9	410
Total 15-24	87.1	1,431	22.0	1,247

[1] Sexual intercourse with a nonmarital, noncohabiting partner
[2] Friends, family members, and home are not considered sources for condoms.

Higher-risk sex is more prevalent among younger women and men and among those who never married. This is to be expected, because higher-risk sex is defined as sex with a nonmarital partner and older respondents are more likely to be married. However, higher-risk sex is also more prevalent among young people who are better educated and from the higher wealth quintiles, as well as among those in urban areas and Monrovia. Thankfully, condom use at the last higher-risk sex is also more common among these same groups.

Figure 13.3 presents data on the extent of risky and safe sex practices among young people in Liberia. Fourteen percent of women and 30 percent of men age 15-24 have never had sex, and an additional 9 percent of women and 5 percent of men have had sex but not in the 12 months before the survey. Although 6 percent of women and 8 percent of men 15-24 say they had sex with only one partner in the previous 12 months and that they used a condom the last time, the largest proportion of young respondents fall in the category who say they had only one partner in the previous year but did not use a condom the last time (64 percent of women and 42 percent of men). The proportion of young people who report having multiple sexual partners in the previous 12 months is not large (7 percent of women and 14 percent of men); however, the proportion who say they did not use a condom the last time they had sex far exceeds the proportion who say they did.

Figure 13.3 Abstinence, Being Faithful, and Condom Use among Young Women and Men



Note: Number of partners refers to the 12 months preceding the survey. LDHS 2007

13.11.7 Cross-generational Sexual Partners

To examine age differences between sexual partners, women age 15-19 who had sex in the 12 months preceding the survey with someone other than their husband or live-in partner were asked the age of such partners. In the event they did not know a partner's exact age, they were asked if the partner was older or younger than they were and, if older, whether the partner was 10 or more years older. The results are shown in Table 13.19.

Only 14 percent of the young women reported having engaged in higher-risk sexual intercourse with an older male partner. There are few meaningful differences by background characteristics, especially because small sample sizes hamper the analysis. Nevertheless, it is interesting that there is little urban-rural differential, nor a strong pattern by wealth quintile. Age-mixing seems to be lower among women with more education.

Table 13.19 Age mixing in sexual relationships among women age 15-19

Percentage of women age 15-19 who had higher-risk sexual intercourse in the past 12 months with a man who was 10 or more years older than themselves, by background characteristics, Liberia 2007

Background characteristic	Percentage of women who had higher-risk intercourse with a man 10+ years older[1]	Number of women who had higher-risk intercourse in the past 12 months
Age		
15-17	13.0	346
18-19	15.0	311
Marital status		
Never married	13.3	617
Ever married	(23.7)	39
Knows source for condoms[1]		
Yes	17.8	332
No	9.9	324
Residence		
Urban	13.5	395
Rural	14.6	261
Region		
Monrovia	14.7	319
North Western	(25.2)	26
South Central	8.1	83
South Eastern A	(17.7)	16
South Eastern B	7.5	46
North Central	15.0	165
Education		
No education	21.7	86
Primary	13.9	357
Secondary and higher	10.9	214
Wealth quintile		
Lowest	15.4	49
Second	14.7	82
Middle	14.9	112
Fourth	15.7	174
Highest	11.6	241
Total 15-19	13.9	657

Note: Numbers in parentheses are based on 25-49 unweighted cases.
[1] Sexual intercourse with a nonmarital, noncohabiting partner
[2] Friends, family members, and home are not considered sources for condoms.

13.11.8 Drunkenness during Sex among Young Adults

Engaging in sex under the influence of alcohol can impair judgment, compromise power relations, and increase risky sexual behavior. Respondents who had sex in the past 12 months were asked for each partner if they or their partner drank alcohol the last time they had sex with that partner and whether they or their partner was drunk. As shown in Table 13.20, very few young people—less than 1 percent of women and 3 percent of men—reported being drunk during their last sexual intercourse. Only 3 percent of young women and the same proportion of men said that they had sex in the previous 12 months when either they or their partners were drunk. There is little variation by background characteristics of the respondents.

Table 13.20 Drunkenness during sexual intercourse among youth

Among all young women and young men age 15-24, the percentage who had sexual intercourse in the past 12 months while being drunk and percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk, by background characteristics, Liberia 2007

Background characteristic	Women			Men		
	Percentage who had sexual intercourse in the past 12 months when drunk	Percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk	Number of women	Percentage who had sexual intercourse in the past 12 months when drunk	Percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk	Number of men
Age						
15-19	0.4	2.4	1,312	1.6	1.6	1,156
15-17	0.3	1.7	779	0.7	0.8	695
18-19	0.4	3.4	533	2.9	2.9	461
20-24	0.3	3.5	1,363	4.3	4.5	1,039
20-22	0.4	4.1	830	3.2	3.2	617
23-24	0.3	2.6	534	5.9	6.5	422
Marital status						
Never married	0.3	3.0	1,571	2.3	2.4	1,843
Ever married	0.4	2.9	1,104	5.8	5.8	352
Knows source for condoms[1]						
Yes	0.4	2.8	1,298	3.5	3.6	1,147
No	0.3	3.1	1,377	2.1	2.3	1,048
Residence						
Urban	0.1	2.5	1,308	2.7	3.0	1,010
Rural	0.6	3.4	1,367	2.9	2.9	1,185
Region						
Monrovia	0.1	2.6	1,016	3.1	3.5	774
North Western	0.7	1.6	158	0.5	0.5	118
South Central	0.4	2.3	355	1.9	1.9	289
South Eastern A	0.8	3.6	139	2.7	2.7	115
South Eastern B	1.0	1.3	169	2.8	2.8	177
North Central	0.4	4.1	839	3.4	3.4	722
Education						
No education	0.5	5.1	614	3.6	3.6	176
Primary	0.4	2.3	1,253	2.3	2.5	1,062
Secondary and higher	0.2	2.4	808	3.3	3.4	956
Wealth quintile						
Lowest	0.1	2.7	395	1.2	1.2	298
Second	0.6	4.9	441	4.0	4.0	358
Middle	0.7	2.3	500	3.2	3.2	446
Fourth	0.3	1.9	631	2.4	2.5	456
Highest	0.2	3.2	709	3.1	3.5	638
Total 15-24	0.4	2.9	2,675	2.8	3.0	2,195

[1] Friends, family members, and home are not considered sources for condoms.

13.11.9 Voluntary HIV Counseling and Testing among Young Adults

Knowledge of one's own HIV infection status can provide motivation to practice safer sexual behaviors. People who learn that they are not infected may decide to take precautions so as not to become infected, and those who learn that they are carrying the virus may be more likely to take precautions to avoid transmitting the virus to others.

Table 13.21 shows that few young people in Liberia know about their own HIV sero-status. For example, only 2 percent of young women and men who had sexual intercourse in the 12 months preceding the survey have been tested for HIV. There is also very little variation by background characteristics of the respondent, with the level not higher than 5 percent among any group. However, young women and men with secondary and higher education who have had sexual intercourse in the last 12 months are more likely to know their HIV sero-status.

Table 13.21 Recent HIV tests among youth

Among young women and young men age 15-24 who have had sexual intercourse in the past 12 months, the percentage who have had an HIV test in the past 12 months and received the results of the test, by background characteristics, Liberia 2007

Background characteristic	Women		Men	
	Percentage who have been tested for HIV and received results in the past 12 months	Number of women	Percentage who have been tested for HIV and received results in the past 12 months	Number of men
Age				
15-19	2.4	868	0.9	512
15-17	1.7	410	1.1	187
18-19	3.1	458	0.8	325
20-24	2.1	1,200	3.3	919
20-22	1.4	712	2.3	531
23-24	3.1	488	4.7	388
Marital status				
Never married	2.8	1,088	1.9	1,095
Ever married	1.7	980	4.2	336
Knows source for condoms[1]				
Yes	3.3	1,138	3.2	949
No	0.9	930	0.9	483
Residence				
Urban	3.4	1,016	3.7	694
Rural	1.1	1,052	1.3	738
Region				
Monrovia	3.1	795	3.2	539
North Western	1.3	119	1.0	72
South Central	2.8	283	2.0	187
South Eastern A	1.2	91	0.5	83
South Eastern B	0.3	128	2.4	109
North Central	1.7	651	2.3	442
Education				
No education	0.3	511	0.0	111
Primary	1.4	907	0.5	551
Secondary and higher	4.9	649	4.2	769
Wealth quintile				
Lowest	0.0	318	0.1	195
Second	0.9	317	1.0	219
Middle	2.3	388	2.2	279
Fourth	3.9	509	4.9	304
Highest	2.7	536	2.6	435
Total 15-24	2.2	2,068	2.4	1,431

[1] Friends, family members, and home are not considered sources for condoms.

HIV PREVALENCE AND ASSOCIATED FACTORS 14

14.1 BACKGROUND

The first case of HIV/AIDS in Liberia—a female trader—was diagnosed in 1986, in Zorzor, Lofa County in the north-west of Liberia. This event prompted the Government of Liberia to establish the National AIDS and STI Control Program (NACP) as an umbrella organization within the Ministry of Health and Social Welfare (MOHSW) with the mandate to prevent and control the spread of HIV/AIDS in Liberia. Barely two years after its formation, the Liberian civil crisis unfolded. Since then, not much was achieved up to 2004, because the database was destroyed during the civil hostilities. It is said that the first ANC sentinel surveillance survey was conducted some 15 years ago but there is no trace of any data on the study.

In Liberia, as in most of sub-Saharan Africa, national HIV prevalence estimates have been derived primarily from sentinel surveillance in pregnant women. In 2006, with technical and financial support from the World Health Organization (WHO) and the UN Development Program (UNDP), the MOHSW represented by the NACP conducted an antenatal care (ANC) sentinel surveillance survey among pregnant women. In the first round of the surveillance, ten sites (all urban) located in the five health regions of Liberia participated in the survey. For 6-12 weeks in July-October 2006, all pregnant women attending ANC for the first time during that pregnancy were anonymously tested for HIV and the results entered, analysed and reported by the NACP (NACP, 2007). In the 2007 round of the ANC survey, the number of sites was expanded to 15 sites including government and faith-based health facilities selected to represent the different regions and the rural and urban populations in the country and data collection was held between September and November, 2007.

While the ANC sentinel surveillance data are useful to monitor trends in the epidemic, there are limitations in estimating the prevalence of HIV infection in the general adult population from data derived exclusively from pregnant women attending these selected antenatal clinics. The ANC data do not capture any information on HIV prevalence in men, in non-pregnant women, nor in women who do not attend a clinic for pregnancy care. Pregnant women are more at risk for HIV infection than those who may be avoiding both HIV and pregnancy through the use of condoms or women who are less sexually active and are therefore less likely to become pregnant or expose themselves to HIV. In addition, there are biases in surveillance in pregnant women because HIV infection reduces fertility and knowledge of HIV status may influence fertility choices.

In order to get a more representative measure of HIV prevalence, the 2007 Liberia Demographic and Health Survey (LDHS) was conducted with an HIV testing component. This represents the first time that HIV testing has been conducted among a nationally representative sample of the general population in Liberia and also the first to anonymously link the HIV results with key behavioral, social and demographic factors. The understanding of the distribution of HIV within the population and the analysis of social, biological and behavioral factors associated with HIV infection provide new insights and understanding about the HIV epidemic in Liberia that may lead to more precisely targeted messages and interventions.

This chapter presents information on the LDHS coverage of HIV testing among those women and men age 15-49, the prevalence of HIV, and the factors associated with HIV infection in the population. These HIV prevalence rates provide important information to plan the national response, and to evaluate program impact. First, this chapter presents information on the coverage of testing by gender, rural-urban residence, region, socio-demographic factors, and behavioral indicators. Then the HIV prevalence rates by various socio-demographic, behavioral, and other risk factors are presented.

14.2 COVERAGE OF HIV TESTING

14.2.1 Coverage by Sex, Residence, and Region

Table 14.1 presents coverage rates for HIV testing and the reasons for not being tested by gender, urban-rural residence, and region. Overall, HIV tests were conducted for 87 percent of the 7,448 eligible women and 80 percent of the 6,476 eligible men. For both sexes combined, coverage was 84 percent, with rural residents more likely to be tested than their urban counterparts (87 percent and 81 percent, respectively).

Table 14.1 Coverage of HIV testing by residence and region

Percent distribution of women and men age 15-49 eligible for HIV testing by testing status, according to residence and region (unweighted), Liberia 2007

Background characteristic	Testing status: Tested[1] Interviewed	Tested[1] Not interviewed	Refused to provide blood Interviewed	Refused to provide blood Not interviewed	Absent at the time of blood collection Interviewed	Absent at the time of blood collection Not interviewed	Other/missing[2] Interviewed	Other/missing[2] Not interviewed	Total	Number
WOMEN										
Residence										
Urban	85.2	0.9	8.5	2.0	0.0	1.6	0.8	0.9	100.0	3,376
Rural	88.5	0.5	6.4	1.7	0.0	1.1	0.8	0.9	100.0	4,072
Region										
Monrovia	88.0	0.8	6.8	2.1	0.0	1.4	0.3	0.6	100.0	1,954
North Western	89.6	0.3	7.0	1.5	0.0	0.4	0.4	0.9	100.0	789
South Central	85.8	1.3	7.6	2.5	0.1	1.2	0.6	0.9	100.0	1,139
South Eastern A	84.1	1.5	7.0	2.5	0.0	2.2	0.8	1.9	100.0	874
South Eastern B	81.8	0.2	11.9	1.9	0.0	1.5	1.8	0.9	100.0	1,303
North Central	92.0	0.2	4.1	0.6	0.1	1.1	1.1	0.8	100.0	1,389
Total	87.0	0.7	7.3	1.9	0.0	1.3	0.8	0.9	100.0	7,448
MEN										
Residence										
Urban	75.2	0.6	14.0	3.0	0.1	3.9	1.0	2.2	100.0	2,801
Rural	84.4	0.5	9.3	1.7	0.1	1.9	0.8	1.3	100.0	3,675
Region										
Monrovia	78.0	0.6	13.3	2.9	0.1	4.3	0.2	0.5	100.0	1,558
North Western	83.5	0.1	9.7	1.7	0.4	0.4	1.3	2.8	100.0	689
South Central	81.1	0.5	11.1	2.5	0.0	3.1	1.0	0.8	100.0	1,003
South Eastern A	77.3	1.2	10.9	2.0	0.4	4.3	1.0	3.0	100.0	809
South Eastern B	74.9	0.2	15.4	2.1	0.0	2.4	2.1	3.0	100.0	1,212
North Central	88.8	0.6	6.1	1.7	0.1	1.0	0.3	1.3	100.0	1,205
Total	80.4	0.5	11.3	2.2	0.1	2.7	0.9	1.7	100.0	6,476
TOTAL										
Residence										
Urban	80.7	0.8	11.0	2.4	0.1	2.6	0.9	1.5	100.0	6,177
Rural	86.5	0.5	7.7	1.7	0.1	1.5	0.8	1.1	100.0	7,747
Region										
Monrovia	83.6	0.7	9.7	2.4	0.1	2.7	0.3	0.6	100.0	3,512
North Western	86.7	0.2	8.3	1.6	0.2	0.4	0.8	1.8	100.0	1,478
South Central	83.6	0.9	9.2	2.5	0.0	2.1	0.8	0.8	100.0	2,142
South Eastern A	80.8	1.4	8.9	2.3	0.2	3.2	0.9	2.4	100.0	1,683
South Eastern B	78.5	0.2	13.6	2.0	0.0	1.9	1.9	1.9	100.0	2,515
North Central	90.5	0.4	5.1	1.2	0.1	1.0	0.7	1.0	100.0	2,594
Total	83.9	0.6	9.2	2.0	0.1	2.0	0.9	1.3	100.0	13,924

[1] Includes all dried blood spot (DBS) samples tested at the lab and for which there is a result, i.e. positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes: 1) other results of blood collection (e.g., technical problem in the field), 2) lost specimens, 3) non corresponding bar codes, and 4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.

Refusal is the most important reason for non-response on the HIV testing component among both women and men; 7 percent of women and 11 percent of men were interviewed but refused to provide a blood sample. Refusal rates are higher in urban than rural areas, especially for men. This table also shows that, contrary to instructions given to field staff, a very small number of respondents were tested for HIV despite the fact that they were not interviewed (less than 1 percent).

There are strong differences in HIV testing coverage rates by region. Among both sexes, the North Central region had the highest rate of testing (91 percent), followed by North Western region (87 percent), Monrovia (84 percent), and South Central region (84 percent). South Eastern B (79 percent) and South Eastern A (81 percent) had the lowest testing rates. In every region, HIV testing coverage rates were higher for women than men.

14.2.2 Coverage by Socio-demographic Characteristics

Table 14.2 shows coverage rates for HIV testing by age group and socioeconomic status and the reasons for not being tested. The coverage rate for testing among women is quite stable across age groups (85 percent to 89 percent). Among men, the highest rate of testing was among those age 45-49 (84 percent) and the lowest rate among those age 15-19 (78 percent).

Table 14.2 Coverage of HIV testing by selected background characteristics

Percent distribution of women and men age 15-49 eligible for HIV testing by testing status, according to selected background characteristics (unweighted), Liberia 2007

Background characteristic	Testing status: Tested[1] Interviewed	Tested[1] Not interviewed	Refused to provide blood Interviewed	Refused to provide blood Not interviewed	Absent at the time of blood collection Interviewed	Absent at the time of blood collection Not interviewed	Other/missing[2] Interviewed	Other/missing[2] Not interviewed	Total	Number
WOMEN										
Age										
15-19	86.0	0.6	7.9	1.6	0.0	1.3	1.1	1.5	100.0	1,411
20-24	86.3	0.8	7.2	2.2	0.0	1.2	0.9	1.4	100.0	1,468
25-29	85.2	0.8	8.3	2.0	0.1	1.9	1.1	0.7	100.0	1,228
30-34	88.6	0.5	6.3	2.1	0.0	1.0	0.8	0.8	100.0	1,047
35-39	88.6	0.6	7.9	1.3	0.0	0.8	0.4	0.3	100.0	956
40-44	88.7	0.3	6.6	1.7	0.0	1.3	0.7	0.7	100.0	699
45-49	87.8	1.3	6.3	1.9	0.2	1.7	0.3	0.6	100.0	639
Education										
No education	87.8	0.9	6.3	2.1	0.1	1.1	0.5	1.2	100.0	3,135
Primary	88.3	0.4	7.0	1.5	0.0	1.0	1.0	0.7	100.0	2,517
Secondary and higher	83.9	0.7	9.7	2.0	0.0	2.0	1.1	0.7	100.0	1,796
Wealth quintile										
Lowest	90.6	0.4	4.6	1.9	0.0	0.9	0.7	0.9	100.0	1,403
Second	87.5	0.5	6.8	1.9	0.1	1.2	1.0	1.1	100.0	1,451
Middle	86.4	1.0	7.6	1.6	0.0	1.6	0.9	1.0	100.0	1,471
Fourth	87.4	0.7	8.0	1.5	0.1	1.1	0.6	0.7	100.0	1,629
Highest	83.5	0.8	9.5	2.4	0.0	1.8	0.9	1.1	100.0	1,494
Total	87.0	0.7	7.3	1.9	0.0	1.3	0.8	0.9	100.0	7,448
MEN										
Age										
15-19	77.8	0.5	11.6	2.6	0.2	3.0	1.2	3.1	100.0	1,298
20-24	78.3	0.7	12.9	2.3	0.0	2.7	1.0	2.1	100.0	1,154
25-29	81.3	0.8	10.9	2.3	0.2	3.1	0.6	0.8	100.0	966
30-34	79.9	0.5	11.6	2.2	0.2	2.8	1.1	1.7	100.0	826
35-39	82.1	0.8	9.9	2.6	0.1	2.2	1.3	1.0	100.0	877
40-44	82.4	0.0	11.3	1.6	0.1	2.9	0.4	1.3	100.0	697
45-49	84.2	0.2	10.3	1.5	0.0	2.3	0.5	1.1	100.0	658
Education										
No education	83.2	1.0	7.8	2.0	0.1	2.7	0.6	2.6	100.0	1,033
Primary	82.8	0.6	9.4	2.3	0.1	2.3	1.0	1.6	100.0	2,171
Secondary and higher	77.9	0.4	13.8	2.3	0.2	3.0	1.0	1.5	100.0	3,272
Wealth quintile										
Lowest	84.5	0.8	8.4	2.0	0.2	2.2	0.5	1.4	100.0	1,268
Second	83.1	0.3	10.0	1.6	0.2	1.3	1.8	1.7	100.0	1,278
Middle	81.5	0.2	11.2	1.9	0.2	2.4	0.6	2.0	100.0	1,278
Fourth	80.1	0.7	10.9	2.5	0.1	3.3	0.6	1.8	100.0	1,256
Highest	73.4	0.6	15.8	3.2	0.1	4.2	1.0	1.7	100.0	1,396
Total	80.4	0.5	11.3	2.2	0.1	2.7	0.9	1.7	100.0	6,476

[1] Includes all dried blood spot (DBS) samples tested at the lab and for which there is a result, i.e. positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes: 1) other results of blood collection (e.g., technical problem in the field), 2) lost specimens, 3) non corresponding bar codes, and 4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.

Women and men with at least some secondary education were least likely to be tested and most likely to refuse testing. Similarly, those in the highest quintile of the wealth index were the least likely to be tested and had the highest levels of refusal (10 percent of women and 16 percent of men).

Appendix Tables C.8-C.11 show the coverage of HIV testing by socio-demographic characteristics among women and men who were interviewed. In general, the proportion of respondents who were tested is quite uniform across groups, varying little by marital status, frequency of travel away from home, and a range of sexual behavior indicators. This provides assurance that the HIV prevalence rates are not likely to be biased by disproportionate non-response.

14.3 HIV PREVALENCE

14.3.1 HIV Prevalence by Age and Socioeconomic Characteristics

Results from the 2007 LDHS indicate that 1.5 percent of Liberian adults are infected with HIV. (Table 14.3). HIV prevalence in women age 15-49 is 1.8 percent, while for men 15-49, it is 1.2 percent. The higher infection level among women than men is common in most population-based estimates of HIV infection. The peak prevalence among women is at age 35-39 (2.5 percent), while among men, prevalence is highest at age 25-29 and 45-49 (Figure 14.1). There is no consistent pattern of HIV prevalence by age among either women or men; rather the levels fluctuate by age group.

In Liberia, only a tiny fraction (0.2 percent) of women and men are infected with HIV-2 only. In the rest of the tables in this chapter, HIV infection refers to individuals infected with HIV-1, including those infected with HIV-1 and HIV-2. Those infected with HIV-2 only are not counted as being HIV-positive.

Table 14.3 HIV prevalence by age

Among the de facto women and men age 15-49 who were interviewed and tested, the percentage HIV-1 positive, HIV-2 positive, and HIV-1 or HIV-2 positive, by age, Liberia 2007

	Women				Men				Total			
Age	Percentage HIV-1 positive	Percentage HIV-2 positive	Percentage HIV-1 or HIV-2 positive	Number	Percentage HIV-1 positive	Percentage HIV-2 positive	Percentage HIV-1 or HIV-2 positive	Number	Percentage HIV-1 positive	Percentage HIV-2 positive	Percentage HIV-1 or HIV-2 positive	Number
15-19	1.2	0.1	1.3	1,168	0.4	0.0	0.4	1,023	0.9	0.1	0.9	2,191
20-24	2.0	0.1	2.0	1,221	0.7	0.0	0.7	909	1.4	0.0	1.5	2,130
25-29	2.1	0.1	2.1	1,034	1.7	0.2	1.9	814	1.9	0.1	2.0	1,848
30-34	1.7	0.0	1.7	874	1.7	0.0	1.7	674	1.7	0.0	1.7	1,548
35-39	2.5	0.3	2.7	866	1.4	0.0	1.4	754	2.0	0.2	2.1	1,620
40-44	1.7	0.0	1.7	604	1.2	0.0	1.2	613	1.4	0.0	1.4	1,217
45-49	1.4	0.6	2.0	614	1.7	0.2	1.9	565	1.5	0.4	1.9	1,178
Total 15-49	1.8	0.2	1.9	6,381	1.2	0.1	1.2	5,351	1.5	0.1	1.6	11,733

Figure 14.1 HIV Prevalence by Age and Socioeconomic Characteristics

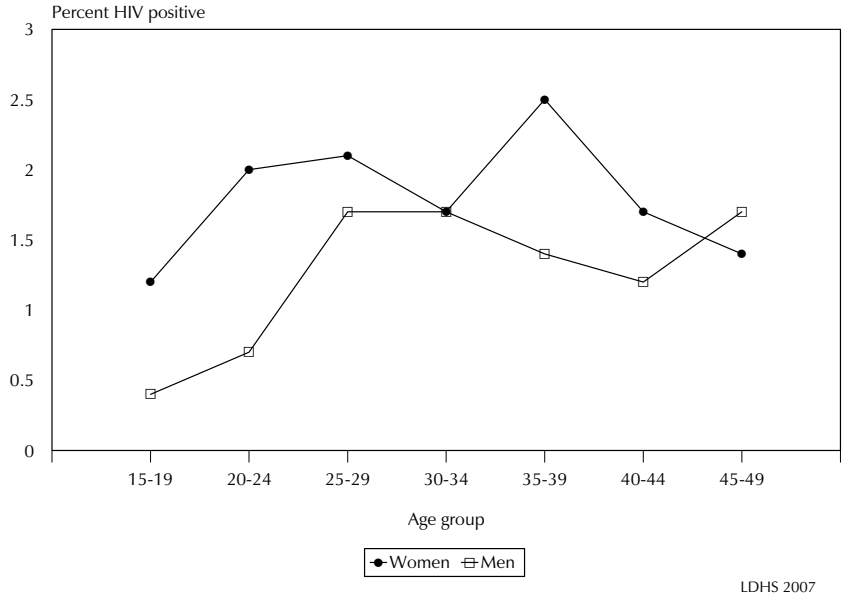


Table 14.4 shows data on HIV prevalence by various socioeconomic characteristics. Differences by language/ethnic group are very small and inconsistent by sex. For example, among women, the Vai, Krahn, and Kru people have the highest levels of infection, while among men, prevalence is highest among those who only speak English. Differences by religion and employment status are also small. There is a gradual increase in HIV infection as educational level and wealth increase, patterns that have been documented in many other countries.

Urban residents have a slightly higher risk of HIV infection (2.5 percent) than rural residents (0.8 percent). The HIV epidemic also shows some regional variation. Residents of Monrovia are more likely to be HIV-infected, followed by women and men in South Eastern B region. Women in North Central and men in North Western and South Central are least likely to be carrying HIV.

Table 14.4 HIV prevalence by socioeconomic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, by socioeconomic characteristics, Liberia 2007

Background characteristic	Women		Men		Total	
	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Residence						
Urban	2.8	2,694	2.1	2,160	2.5	4,854
Rural	1.1	3,688	0.6	3,191	0.8	6,879
Region						
Monrovia	2.9	2,101	2.3	1,658	2.6	3,759
North Western	2.0	458	0.3	363	1.2	820
South Central	2.2	904	0.5	803	1.4	1,707
South Eastern A	1.4	329	1.3	312	1.3	642
South Eastern B	2.4	411	0.8	362	1.7	772
North Central	0.5	2,180	0.7	1,853	0.6	4,033
Education						
No education	1.1	2,725	0.7	972	1.0	3,697
Primary	1.7	2,073	0.8	1,702	1.3	3,775
Secondary and higher	3.1	1,576	1.5	2,675	2.1	4,251
Employment (past 12 months)						
Not employed	2.0	2,157	1.9	1,000	2.0	3,156
Employed	1.7	4,209	1.0	4,350	1.3	8,558

Continued…

Table 14.4—*Continued*

Background characteristic	Women		Men		Total	
	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Language						
Bassa	2.3	742	0.9	640	1.6	1,382
Gbandi	2.8	225	0.5	181	1.8	406
Gio	0.3	641	0.6	563	0.4	1,204
Gola	1.1	238	1.2	177	1.2	415
Grebo	2.8	584	1.2	452	2.1	1,036
Kissi	1.0	253	0.8	239	0.9	493
Kpelle	1.2	1,247	0.6	1,050	1.0	2,297
Krahn	3.1	183	2.2	170	2.7	353
Kru	3.0	392	1.6	333	2.4	725
Lorma	2.3	456	2.4	328	2.3	784
Mandingo	2.7	204	2.3	231	2.5	435
Mano	0.5	488	0.5	456	0.5	944
Mende	1.2	105	1.0	74	1.1	179
Vai	3.4	272	1.7	204	2.6	476
None/only English	2.6	203	4.5	162	3.5	365
Other	0.0	69	0.2	76	0.1	145
Religion						
Christian	1.7	5,394	1.1	4,367	1.4	9,760
Muslim	3.0	663	2.3	642	2.7	1,305
Traditional religion	(0.0)	41	0.0	132	0.0	173
No religion	0.0	220	0.7	181	0.3	401
Wealth quintile						
Lowest	0.8	1,155	0.5	977	0.7	2,132
Second	1.0	1,209	0.6	1,049	0.8	2,258
Middle	1.4	1,219	0.6	1,047	1.1	2,266
Fourth	2.5	1,425	1.6	1,053	2.1	2,479
Highest	3.0	1,373	2.2	1,224	2.6	2,597
Total 15-49	1.8	6,381	1.2	5,351	1.5	11,733

Note: Total includes those with information missing as well as some in the "Other" category who are too few to show separately. Numbers in parentheses are based on 25-49 unweighted cases.
[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.

14.3.2 HIV Prevalence by Sociodemographic Characteristics

Marital status is related to HIV prevalence (Table 14.5). Women and men who are divorced or separated have slightly higher rates of infection than those in other marital categories. A few women and men who report they have never been in a union and have never had sex are HIV-infected, suggesting either reporting errors on sexual behavior or non-sexual transmission of HIV.

People who travel away from home—particularly if they stay away for long periods—are assumed to be at higher risk of contracting HIV because they engage in riskier sexual behavior. Survey results on this issue are mixed. The data show that women who slept away from home five or more times in the 12 months before the survey and those who stayed away for more than one month do have higher HIV prevalence than other women. However, there is no such pattern among men; in fact, prevalence is highest among men who never slept away from home in the previous 12 months.

HIV prevalence among women who are pregnant is just over 1 percent, providing a useful benchmark to compare with rates in pregnant women tested during sentinel surveillance. Differences in HIV prevalence by type of antenatal care for the most recent birth are minimal. Several recent studies have shown evidence of a protective effect of circumcision among men. LDHS data show that men who are circumcised are slightly more likely to be HIV-infected than those who are not circumcised (none of whom was HIV positive). However, due to the small number of men in the survey who were not circumcised, the results should not be over-interpreted.

Table 14.5 HIV prevalence by demographic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, by demographic characteristics, Liberia 2007

Demographic characteristic	Women		Men		Total	
	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Marital status						
Never married	1.7	1,637	1.2	1,995	1.4	3,632
Ever had sex	2.0	1,322	1.7	1,413	1.8	2,735
Never had sex	0.3	315	0.2	582	0.2	897
Married/living together	1.7	4,108	1.0	3,075	1.4	7,183
Divorced or separated	3.3	472	2.1	247	2.9	719
Widowed	1.3	165	(2.0)	35	1.4	199
Type of union						
In polygynous union	1.8	685	0.6	248	1.5	933
Not in polygynous union	1.7	3,204	1.1	2,827	1.4	6,031
Not currently in union	2.0	2,273	1.4	2,273	1.7	4,546
Times slept away from home in past 12 months						
None	1.7	4,273	1.5	3,011	1.6	7,283
1-2	1.2	1,365	0.8	896	1.1	2,261
3-4	2.2	369	1.4	592	1.7	961
5+	4.7	295	0.3	830	1.5	1,124
Time away in past 12 months						
Away for more than one month	2.4	973	1.2	747	1.9	1,720
Away only for less than 1 month	1.6	985	0.6	1,521	1.0	2,505
Not away	1.7	4,278	1.5	3,011	1.6	7,289
Currently pregnant						
Pregnant	1.4	698	na	na	na	na
Not pregnant or not sure	1.8	5,684	na	na	na	na
ANC for last birth in past 3 years						
ANC provided by the public sector	1.5	1,684	na	na	na	na
ANC provided by other than the public sector	1.0	890	na	na	na	na
No ANC/no birth in past 3 years	2.1	3,768	na	na	na	na
Male circumcision						
Circumcised	na	na	1.1	5,232	na	na
Not circumcised	na	na	0.0	88	na	na
Total 15-49	1.8	6,381	1.2	5,351	na	11,733

Note: Total includes those with missing information as well as some in the "Other" category who are too few to show separately. Numbers in parentheses are based on 25-49 unweighted cases.
na = Not applicable
[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.

14.3.3 HIV Prevalence by Sexual Risk Behavior

Table 14.6 examines the prevalence of HIV infection by sexual behavior indicators among respondents who have ever had sexual intercourse. It is important to note that responses about sexual risk behaviors may be subject to reporting bias. Also, sexual behavior in the 12 months preceding the survey may not adequately reflect lifetime sexual risk.

Generally, few conclusions can be drawn from the data because differences are minor and/or patterns are erratic. For example, among women, there is a very slight tendency for HIV prevalence to be higher among those who had higher-risk sexual intercourse (sex with a non-marital, non-cohabiting partner) in the 12 months before the survey than among those who either had sex, but not higher-risk sex or those who did not have sex at all in the previous 12 months. However, among men, the pattern is the opposite. Similarly, among women, HIV prevalence increases with the number of higher-risk sexual partners in the previous 12 months, while for men it decreases, though the differences are very small in both cases. Looking at the relationship between HIV infection and the number of lifetime partners, there is again a pattern of slightly increasing risk with increases in the number of partners among women, an erratic pattern among men.

Table 14.6 HIV prevalence by sexual behavior

Percentage HIV-positive among women and men age 15-49 who ever had sex and were tested for HIV, by sexual behavior characteristics, Liberia 2007

Sexual behavior characteristic	Women		Men		Total	
	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Age at first sexual intercourse						
<16	1.6	2,872	1.6	982	1.6	3,853
16-17	2.0	2,049	1.3	1,540	1.7	3,589
18-19	3.5	551	1.1	1,298	1.8	1,849
20+	1.0	190	1.4	899	1.3	1,089
Higher-risk intercourse in past 12 months[2]						
Had higher-risk intercourse	2.4	1,731	1.1	2,343	1.7	4,074
Had sexual intercourse, not higher risk	1.7	3,510	1.3	2,150	1.6	5,660
No sexual intercourse in past 12 months	1.5	790	3.0	262	1.9	1,052
Number of sexual partners in past 12 months						
0	1.5	626	4.0	199	2.1	825
1	1.8	4,861	1.3	3,517	1.6	8,379
2	3.4	333	0.6	810	1.4	1,143
3+	(2.5)	43	1.1	162	1.4	205
Number of higher-risk partners in past 12 months[3]						
0	1.7	4,300	1.5	2,412	1.6	6,712
1	2.2	1,515	1.1	1,814	1.6	3,330
2	4.3	181	1.1	406	2.1	587
3+	(0.0)	34	1.5	123	1.2	157
Condom use						
Ever used a condom	3.7	1,196	1.6	2,260	2.3	3,457
Never used a condom	1.4	4,809	1.0	2,464	1.3	7,273
Condom use at last sexual intercourse in past 12 months						
Used condom	4.4	306	2.8	577	3.4	883
Did not use condom	1.8	4,911	1.0	3,903	1.4	8,814
No sexual intercourse in past 12 months	1.5	790	3.0	262	1.9	1,052
Condom use at last higher-risk intercourse in past 12 months[2]						
Used condom	4.5	242	2.0	568	2.7	810
Did not use condom	2.1	1,489	0.8	1,775	1.4	3,263
No higher-risk intercourse/no intercourse past 12 months	1.7	4,300	1.5	2,412	1.6	6,712
Number of lifetime partners						
1	1.3	1,016	0.1	250	1.0	1,266
2	1.6	1,489	1.4	337	1.5	1,826
3-4	2.0	1,873	0.9	671	1.7	2,544
5-9	2.6	967	1.0	1,109	1.8	2,076
10+	2.3	262	1.5	1,375	1.6	1,637
Paid for sexual intercourse in past 12 months[4]						
Yes	na	na	1.6	132	na	na
Used condom	na	na	0.0	57	na	na
Did not use condom	na	na	2.8	75	na	na
No (no paid sex/no sex in past 12 months)	na	na	1.3	4,623	na	na
Total 15-49	1.9	6,031	1.3	4,755	1.6	10,786

Note: Total includes those with information missing. Numbers in parentheses are based on 25-49 unweighted cases.
na = Not applicable
[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.
[2] Sexual intercourse with a nonmarital, noncohabiting partner
[3] A partner who was neither a spouse nor lived with the respondent, among the last three partners in the past 12 months
[4] Includes men who report having a prostitute for at least one of their last three sexual partners in the past 12 months

14.4 HIV PREVALENCE AMONG YOUTH

HIV prevention programs often target youth as they are generally more likely than older people to be experimenting with sex. Infection rates among youth provide some insight into the incidence of new cases. As shown in Table 14.7, 1.6 percent of women and 0.5 percent of men age 15-24 are HIV-infected. Data show only minor differences in the levels of HIV prevalence among youth by background characteristics like age, marital status, and residence. Among women, there is a slight tendency for infection levels to increase as educational level and wealth quintile increase; however, the data for men do not reflect these patterns.

Table 14.7 HIV prevalence among young people by background characteristics

Percentage HIV-positive among women and men age 15-24 who were tested for HIV, by background characteristics, Liberia 2007

Background characteristic	Women		Men		Total	
	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Age						
15-19	1.2	1,168	0.4	1,023	0.9	2,191
15-17	0.6	690	0.3	612	0.5	1,303
18-19	2.2	478	0.6	410	1.4	888
20-24	2.0	1,221	0.7	909	1.4	2,130
20-22	2.1	740	0.2	532	1.3	1,272
23-24	1.8	482	1.4	377	1.6	859
Marital status						
Never married	1.5	1,385	0.5	1,612	1.0	2,998
Ever had sex	1.9	1,072	0.7	1,041	1.3	2,113
Never had sex	0.3	313	0.2	572	0.2	885
Married/living together	1.7	897	0.9	288	1.5	1,185
Divorced/separated/widowed	2.1	107	(0.0)	31	1.6	139
Currently pregnant						
Pregnant	1.7	283	na	na	na	na
Not pregnant or not sure	1.6	2,106	na	na	na	na
Residence						
Urban	2.5	1,157	0.9	899	1.8	2,056
Rural	0.8	1,233	0.3	1,033	0.6	2,265
Region						
Monrovia	2.7	889	1.0	691	2.0	1,580
North Western	2.8	149	0.0	107	1.6	256
South Central	1.5	319	0.0	252	0.9	571
South Eastern A	0.5	125	0.7	98	0.6	223
South Eastern B	1.4	153	0.1	153	0.8	307
North Central	0.4	754	0.4	630	0.4	1,384
Education						
No education	0.5	559	0.0	162	0.4	722
Primary	1.6	1,135	0.7	941	1.2	2,077
Secondary and higher	2.6	695	0.5	828	1.5	1,522
Wealth quintile						
Lowest	0.1	363	1.0	268	0.5	631
Second	1.5	400	0.1	313	0.9	714
Middle	0.8	439	0.5	393	0.7	832
Fourth	2.2	573	0.2	406	1.4	980
Highest	2.6	614	0.8	551	1.8	1,165
Total	1.6	2,390	0.5	1,932	1.1	4,322

Note: Numbers in parentheses are based on 25-49 unweighted cases.
na = Not applicable
[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.

Among youth who have ever had sex, differences are also slight according to sexual behavior (Table 14.8). For example, young women (15-24 years) whose first sex was with a man ten or more years older have a very slightly higher prevalence of HIV (2.4 percent) compared with those whose first partner was less than ten years older (1.7 percent). The relationship between HIV prevalence and the number of sexual partners in the previous 12 months is erratic among women and men, although among men, there is a steady but tiny decline in HIV prevalence as the number of sexual partners increases. With regard to the number of higher-risk sexual partners in the previous 12 months, HIV prevalence is higher among those with 2 higher-risk partners than among those with only one or no higher-risk partners. Among men, the pattern is erratic. Women who said that they have ever used a condom have a higher prevalence of HIV (3.9 percent) than those who have not (1.1 percent). With such a low overall level of HIV infection, it is difficult to identify any strong pattern of differentials.

Table 14.8 HIV prevalence among young people by sexual behavior

Percentage HIV-positive among women and men age 15-24 who ever had sex and were tested for HIV, by sexual behavior, Liberia 2007

Sexual behavior characteristic	Women		Men		Total	
	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Relative age of first sexual partner						
10+ years older	2.4	279	na	na	na	na
<10 years older/same age/younger/ don't know	1.7	1,564	na	na	na	na
Higher-risk intercourse in past 12 months						
Had higher-risk intercourse	1.9	1,099	0.6	1,090	1.2	2,189
Had sexual intercourse, not higher risk	1.7	768	0.2	177	1.4	944
No sexual intercourse in past 12 months	1.9	210	2.7	93	2.2	303
Number of sexual partners in past 12 months						
0	2.5	161	2.9	86	2.6	248
1	1.6	1,680	0.7	979	1.3	2,659
2	4.0	164	0.2	228	1.8	392
3+	*	19	0.0	59	0.0	79
Number of higher-risk partners in past 12 months						
0	1.8	977	1.1	270	1.6	1,247
1	1.7	956	0.5	824	1.2	1,780
2	3.3	122	1.3	205	2.0	327
3+	*	20	0.0	62	0.0	82
Condom use						
Ever used a condom	3.9	537	0.5	675	2.0	1,212
Never used a condom	1.1	1,533	0.8	678	1.0	2,211
Condom use at first sex						
Used condom	2.7	133	0.0	83	1.6	215
Did not use condom	1.9	1,836	0.6	1,218	1.3	3,054
Condom use at last sexual intercourse in past 12 months						
Used condom	2.0	178	0.0	220	0.9	398
Did not use condom	1.8	1,684	0.7	1,037	1.4	2,721
No sexual intercourse in past 12 months	1.9	210	2.7	93	2.2	303
Total	1.8	2,076	0.7	1,360	1.4	3,437

Note: Total includes those with information missing. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
na = Not applicable
[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.
[2] Sexual intercourse with a nonmarital, noncohabiting partner
[3] A nonmarital, noncohabiting partner among the last three psartners in the past 12 months

14.5 HIV PREVALENCE BY OTHER CHARACTERISTICS

Some sexually transmitted infections (STIs) have been shown to facilitate transmission of HIV. Consequently, one would expect that women and men with a history of an STI or STI symptoms would have higher rates of HIV infection than those with none. As shown in Table 14.9, women who report having had an STI or a symptom of an STI were slightly more likely to be HIV-positive than those who did not report having an STI (2.6 and 1.5 percent respectively). There is no difference in HIV infection level among men with STIs and those without.

Table 14.9 HIV prevalence by other characteristics

Percentage HIV positive among women and men age 15-49 who ever had sex and were tested for HIV, by whether had an STI in the past 12 months and by prior testing for HIV, Liberia 2007

	Women		Men		Total	
Characteristic	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number	Percentage HIV positive[1]	Number
Sexually transmitted infection in past 12 months						
Had STI or STI symptoms	2.6	2,063	1.4	855	2.3	2,918
No STI, no symptoms	1.5	3,637	1.3	3,869	1.4	7,506
Prior HIV testing						
Ever tested	3.7	247	3.5	284	3.6	531
Received results	4.6	200	2.9	247	3.7	446
Did not receive results	0.0	47	6.9	37	3.1	85
Never tested	1.8	5,776	1.2	4,241	1.5	10,017
Total 15-49	1.9	6,031	1.3	4,755	1.6	10,786

Note: Total includes those with information missing
[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.

Women and men who have ever been tested for HIV are more likely to be HIV-infected than those who have never been tested. Among women who have ever had sex, the level of HIV infection is 3.7 percent among those who have ever been tested for HIV in the past, compared with 1.8 percent among those who have never been tested. Among men, 3.5 percent of those who have ever been tested are HIV-positive, compared with 1.2 percent of those who have never been tested.

Women and men who are HIV infected are somewhat more likely to have ever been tested for HIV and to have been given the results than those who are not infected (Table 14.10). For women, 8 percent of those who are HIV-infected said that they had ever been tested for HIV and that they received the results of their last test; this compares with only 3 percent of HIV-negative women. However, 92 percent of HIV-infected women said they had never been tested. For men, there is a similar pattern; 12 percent of those who are HIV-infected have previously been tested and know the results of their last test, compared with 5 percent of those who are HIV-negative. Nevertheless, the survey results imply that the vast majority of HIV-positive individuals (92 percent of women and 85 percent of men) are not aware of their HIV status, mainly because they were never tested and are thus less likely to take precautions to prevent transmission.

Table 14.10 Prior HIV testing by current HIV status

Percent distribution of women and men age 15-49 by HIV testing status prior to the survey, according to whether HIV positive or negative, Liberia 2007

	Women		Men		Total	
HIV testing prior to the survey	HIV positive[1]	HIV negative	HIV positive[1]	HIV negative	HIV positive[1]	HIV negative
Previously tested, received result of last test	8.0	3.0	11.5	4.5	9.2	3.7
Previously tested, did not receive result of last test	0.0	0.8	4.1	0.7	1.5	0.7
Not previously tested	92.0	96.0	80.5	87.2	87.9	92.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	114	6,267	63	5,288	177	11,556

[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.

14.6 HIV PREVALENCE AMONG COUPLES

Over 2,000 cohabiting couples were both tested for HIV in the 2007 LDHS. Results shown in Table 14.11 indicate that for 97.8 percent of cohabiting couples, both partners are HIV-negative, while in a tiny fraction of couples (0.3 percent), both partners are HIV positive; 1.9 percent of couples are discordant, with one partner infected and the other uninfected. These discordant couples are at high risk for HIV transmission, especially if they do not mutually know their HIV status or do not use condoms consistently. Among 0.7 percent of cohabiting couples, the man is infected and the woman uninfected, while in 1.2 percent of couples, the woman is infected and the man is not.

Differentials in patterns of couple HIV infection and discordance by background characteristics are too small to note.

Table 14.11 HIV prevalence among couples

Percent distribution of couples living in the same household, both of whom were tested for HIV, by the HIV status, according to background characteristics, Liberia 2007

Background characteristic	Both HIV positive[1]	Man HIV positive, woman HIV negative[1]	Woman HIV positive, man HIV negative[1]	Both HIV negative[1]	Total	Number
Woman's age						
15-19	0.0	0.8	2.1	97.1	100.0	152
20-29	0.4	0.7	1.0	97.8	100.0	958
30-39	0.1	0.7	1.0	98.2	100.0	908
40-49	0.3	0.9	2.0	96.8	100.0	376
Man's age						
15-19	*	*	*	*	*	14
20-29	0.2	0.5	1.2	98.1	100.0	566
30-39	0.3	0.7	0.7	98.3	100.0	954
40-49	0.3	0.9	1.8	97.0	100.0	859
Residence						
Urban	0.3	1.6	2.7	95.3	100.0	761
Rural	0.2	0.3	0.5	98.9	100.0	1,632
Region						
Monrovia	0.3	1.6	3.0	95.1	100.0	584
North Western	0.0	0.3	2.0	97.7	100.0	161
South Central	0.3	0.0	1.2	98.4	100.0	350
South Eastern A	0.2	0.4	0.5	98.9	100.0	142
South Eastern B	0.9	0.8	1.5	96.8	100.0	149
North Central	0.2	0.6	0.2	99.0	100.0	1,007

Continued…

Table 14.11—*Continued*

Background characteristic	Both HIV positive[1]	Man HIV positive, woman HIV negative[1]	Woman HIV positive, man HIV negative[1]	Both HIV negative[1]	Total	Number
Type of union						
Monogamous	0.3	0.8	1.3	97.6	100.0	1,994
Polygynous	0.0	0.5	0.8	98.7	100.0	290
Age difference between partners						
Woman older	0.0	0.2	0.8	98.9	100.0	275
Same age/man older by 0-4 years	0.1	0.7	0.9	98.2	100.0	865
Man older by 5-9 years	0.5	1.0	1.6	96.9	100.0	780
Man older by 10-14 years	0.4	0.6	1.0	98.0	100.0	333
Man older by 15+ years	0.0	0.9	2.4	96.7	100.0	141
Woman's education						
No education	0.1	0.6	0.6	98.7	100.0	1,272
Primary	0.4	0.6	1.6	97.4	100.0	701
Secondary and higher	0.5	1.5	2.6	95.4	100.0	418
Man's education						
No education	0.0	0.4	0.6	98.9	100.0	560
Primary	0.4	0.4	0.9	98.3	100.0	591
Secondary and higher	0.3	1.0	1.7	97.0	100.0	1,241
Wealth quintile						
Lowest	0.0	0.3	0.1	99.6	100.0	540
Second	0.0	0.5	0.8	98.7	100.0	549
Middle	0.1	0.5	0.6	98.8	100.0	508
Fourth	0.6	1.7	2.8	95.0	100.0	421
Highest	0.8	1.0	2.6	95.6	100.0	375
Total	0.3	0.7	1.2	97.8	100.0	2,393

Note: Table based on couples for which a valid test result (positive or negative) is available for both partners. Total includes some cases with missing values. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

[1] HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2. Individuals infected with HIV-2 only are not counted as HIV positive when calculating the numerator of the percentages.

14.7 CONCLUSIONS

The HIV prevalence rate derived from the 2006 ANC sentinel surveillance system is 5.7 percent among pregnant women (NACP, 2007). This is well above the rate of 1.5 percent derived from the 2007 LDHS for women and men age 15-49 or the rate of 1.4 percent among currently pregnant women. Several factors may partly explain the differences. First is the fact that the ANC data are derived from only 10 sites that are not representative of Liberia's population, whereas the LDHS data were derived from a nationally representative sample of women and men from 298 sample points scattered throughout the country. However, it unclear why the 10 sites would have so much higher HIV infection levels. Also, the ANC surveillance system is located in urban areas only. Though pregnant women may come from rural areas to attend antenatal care services, the clientele is likely to be predominantly urban women, who are also more likely to be HIV-positive (2.5 versus 0.8 percent in the LDHS). Another difference is the testing methodology. The ANC surveillance system uses rapid HIV tests, which may be somewhat less reliable than the ELISA testing in the laboratory. Nevertheless, there is no clearcut explanation for the differences.

WOMEN'S EMPOWERMENT AND DEMOGRAPHIC AND HEALTH OUTCOMES 15

The 2007 Liberia Demographic and Health Survey (LDHS) Women's and Men's Questionnaires collected data on the general background characteristics (e.g., age, education, wealth quintile, and employment status) of respondents and also data more specific to women's empowerment, such as receipt of cash earnings, the magnitude of a woman's earnings relative to those of her husband, and control over the use of their own earnings and those of the spouse.[1]

The LDHS also collected data from women and men on the woman's participation in household decisionmaking, on the circumstances under which the respondent feels that a woman is justified in refusing to have sexual intercourse with her husband, and her/his attitude toward wife beating. For this report, three separate indices of empowerment were developed based on women's responses. The first index is based on the number of household decisions in which the respondent participates, the second on her opinion on the number of reasons that justify wife beating, and the third on her opinion on the number of circumstances for which a woman is justified in refusing to have sexual intercourse with her husband. The ranking of women on these three indices is then related to selected demographic and health outcomes including contraceptive use; the use of reproductive health care services during pregnancy, childbirth, and the postnatal period; and survivorship of children.

15.1 EMPLOYMENT AND FORM OF EARNINGS

Like education, employment can be a source of empowerment for both women and men. It may be particularly empowering for women if it puts them in control of income. In the LDHS, respondents were asked whether they were employed at the time of the survey and, if not, whether they were employed in the 12 months that preceded the survey.

Table 15.1 shows that 76 percent of currently married women were employed either currently or at some time in the previous 12 months, compared with 95 percent of men. Older married women and men are more likely to be employed than younger respondents.

Among employed married respondents, women are less likely than men to be paid in cash—61 percent of women are either paid cash only or cash and in-kind, compared with 70 percent of men. More than one-third of employed currently married women (35 percent) are not paid, compared with just over one-quarter of employed currently married men. Among employed women and men, the proportion not paid decreases with age.

[1] The questions were phrased in terms of "husband/partner" (for women) and "wife/partner" (for men), referring to marital partners; however in this report, the word "partner" has been dropped to simplify the text and tables.

Table 15.1 Employment and cash earnings

Percentage of currently married women and men age 15-49 who were employed at any time in the past 12 months and the percent distribution of currently married women and men employed in the past 12 months by type of earnings, according to age, Liberia 2007

	Currently married respondents		Currently married respondents employed in the past 12 months, by type of earnings						
Age	Percentage employed	Number	Cash only	Cash and in-kind	In-kind only	Not paid	Missing	Total	Number
				WOMEN					
15-19	58.2	251	22.2	26.6	9.5	40.5	1.2	100.0	146
20-24	63.7	739	24.9	30.9	2.9	40.2	1.1	100.0	471
25-29	73.4	847	28.8	35.2	2.0	32.9	1.2	100.0	621
30-34	80.1	805	29.5	30.2	3.6	36.4	0.2	100.0	644
35-39	79.2	812	29.3	35.2	3.1	32.2	0.2	100.0	643
40-44	82.3	545	29.2	34.3	1.6	33.6	1.3	100.0	448
45-49	85.3	541	23.3	38.8	4.6	32.8	0.5	100.0	462
Total 15-49	75.7	4,540	27.5	33.7	3.3	34.8	0.7	100.0	3,436
				MEN					
15-19	*	30	*	*	*	*	*	100.0	22
20-24	86.6	284	43.4	18.7	3.8	34.1	0.0	100.0	246
25-29	93.7	568	44.9	22.3	3.5	29.4	0.0	100.0	532
30-34	95.4	609	47.9	21.8	4.8	25.5	0.0	100.0	581
35-39	97.9	729	50.6	20.0	4.7	24.7	0.0	100.0	714
40-44	96.7	641	49.8	20.9	2.7	25.2	1.4	100.0	620
45-49	97.0	554	48.2	26.7	3.0	22.2	0.0	100.0	537
Total 15-49	95.3	3,413	47.8	21.7	3.8	26.4	0.3	100.0	3,251

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

15.2 CONTROL OVER WOMEN'S AND MEN'S EARNINGS

Currently married and employed women who earn cash for their work were asked who the main decisionmaker is with regard to the use of their earnings. In addition, women were asked the relative magnitude of their earnings in comparison to their husband's earnings. Those whose husbands were employed for cash were also asked who usually decides how his earnings will be used. Men were also asked who mainly decides how their earnings are used. These pieces of information can provide some insight into women's empowerment in the family and the extent of their control over decisionmaking in the household with regard to income use. It is expected that employment and earnings are more likely to empower women if women themselves control their own earnings and perceive their earnings as significant relative to those of their husband.

Table 15.2.1 shows information about currently married women who had cash earnings in the 12 months before the survey including the extent of their control over their own earnings and their perception of the magnitude of their earnings relative to those of their husband. The table reveals that less than one-quarter (22 percent) of employed married women say that they mainly control their income, 54 percent say that both they and their husband jointly control how her income is spent, and 23 percent say that their husband mainly controls her income. Younger women are slightly more likely than older women to control their own incomes themselves.

Table 15.2.1 Control over women's cash earnings and relative magnitude of women's earnings

Percent distribution of currently married women age 15-49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used and by whether she earned more or less than her husband, according to background characteristics, Liberia 2007

Background characteristic	Person who decides how the wife's cash earnings are used					Woman's cash earnings compared with husband's cash earnings						
	Mainly wife	Wife and husband jointly	Mainly husband	Missing	Total	More	Less	About the same	Husband has no earnings	Don't know/ missing	Total	Number of women
Age												
15-19	26.2	45.0	27.6	1.2	100.0	2.5	53.8	31.6	4.1	7.9	100.0	71
20-24	25.0	49.4	24.9	0.6	100.0	6.3	63.9	21.6	1.5	6.7	100.0	263
25-29	21.4	56.5	21.2	0.9	100.0	8.3	66.7	17.7	3.3	4.0	100.0	398
30-34	23.5	56.8	17.6	1.8	100.0	10.8	58.1	21.6	4.3	5.1	100.0	385
35-39	21.4	53.9	22.9	1.7	100.0	12.0	58.2	22.2	3.0	4.5	100.0	415
40-44	17.1	57.8	24.3	0.8	100.0	10.4	53.6	25.8	3.2	7.0	100.0	285
45-49	21.1	49.9	27.3	1.7	100.0	9.7	55.0	23.2	5.5	6.6	100.0	287
Number of living children												
0	23.3	49.2	27.3	0.2	100.0	4.1	65.7	18.2	5.8	6.3	100.0	126
1-2	25.5	51.4	21.6	1.5	100.0	12.1	59.2	20.0	3.1	5.6	100.0	710
3-4	18.2	57.6	22.5	1.7	100.0	9.7	59.2	22.2	3.3	5.7	100.0	703
5+	21.1	54.0	23.8	1.1	100.0	7.4	58.2	25.5	3.9	5.0	100.0	564
Residence												
Urban	27.8	61.8	9.8	0.5	100.0	16.9	53.3	18.5	5.5	5.8	100.0	718
Rural	18.6	50.0	29.6	1.8	100.0	5.7	62.4	24.0	2.5	5.4	100.0	1,385
Region												
Monrovia	28.4	64.0	7.3	0.4	100.0	16.3	54.5	17.5	5.6	6.1	100.0	580
North Western	11.2	50.7	37.5	0.6	100.0	10.5	25.0	35.1	8.9	20.5	100.0	205
South Central	12.4	45.7	40.3	1.6	100.0	5.3	78.2	12.1	1.5	3.0	100.0	450
South Eastern A	14.8	56.6	27.0	1.6	100.0	11.2	65.8	16.5	2.8	3.8	100.0	108
South Eastern B	13.7	51.5	18.9	15.8	100.0	5.1	44.3	26.9	4.9	18.8	100.0	39
North Central	26.8	51.9	19.9	1.4	100.0	6.5	60.9	29.0	1.7	1.9	100.0	721
Education												
No education	20.0	50.4	28.1	1.5	100.0	5.6	57.5	26.5	3.7	6.6	100.0	1,207
Primary	26.0	53.4	18.9	1.8	100.0	10.7	66.7	16.0	2.6	4.0	100.0	485
Secondary and higher	22.0	65.4	12.2	0.4	100.0	19.6	56.0	16.3	4.1	4.0	100.0	411
Wealth quintile												
Lowest	14.8	49.2	34.9	1.0	100.0	4.5	64.9	26.0	1.2	3.3	100.0	468
Second	22.9	45.0	30.9	1.2	100.0	3.8	61.8	26.3	3.6	4.5	100.0	460
Middle	18.3	58.8	19.7	3.2	100.0	11.4	55.4	20.2	3.8	9.3	100.0	387
Fourth	31.0	54.2	14.0	0.8	100.0	13.8	57.5	15.1	6.8	6.8	100.0	400
Highest	22.7	65.7	10.8	0.7	100.0	16.2	55.3	21.5	2.7	4.2	100.0	388
Total	21.8	54.0	22.8	1.4	100.0	9.5	59.3	22.1	3.5	5.5	100.0	2,103

A higher proportion of urban women than rural women have main control over their own incomes (28 and 19 percent respectively), and rural women are more likely than urban women to say that their husbands mainly decide how their earnings are spent.

Higher proportions of currently married employed women in Monrovia (28 percent), followed by North Central Region (27 percent), say they control their own incomes compared with women in other regions. Women with more education are more likely to say that they make decisions jointly with their husbands about the use of their earnings; women with no education are more likely to say that their husbands mainly decide how their earnings are used.

Women in the lower wealth quintiles are more likely than those in the upper quintiles to say that their earnings are mainly controlled by their husbands, whereas women in the upper quintiles are more likely to say that they decide how to spend their earnings either alone or jointly with their husbands.

Almost 60 percent of married, employed women in Liberia say they earn less than their husbands, 22 percent say they earn about the same amount, and 13 percent either say they earn more than their husbands or that their husbands have no earnings. Thus, one in three employed married women earns at least as much as her husband. Urban women who are employed are more likely than rural women to earn more than their husbands, as are better educated women and those in higher wealth quintiles.

Table 15.2.2 shows data from married men who are themselves employed, as well as from employed married women whose husbands are employed, with regard to who decides how the men's cash earnings are spent. The data show that 8 percent of women and 7 percent of men say that the wife mainly decides how the husband's earnings are used. Three in five married women (60 percent) and 75 percent of married men say that men's cash income is jointly controlled by the husband and wife. A much higher proportion of women (32 percent) than men (18 percent) say that the husband mainly decides how his cash income is used. Such discrepancies between women and men about decisions regarding the husband's earnings suggest divergent views of the decision-making process or a lack of communication between spouses.

Table 15.2.2 Control over men's cash earnings

Percent distributions of currently married men age 15-49 who receive cash earnings and currently married women age 15-49 whose husbands receive cash earnings, by person who decides how husband's cash earnings are used, according to background characteristics, Liberia 2007

	Men						Women					
Background characteristic	Mainly wife	Husband and wife jointly	Mainly husband	Missing	Total	Number	Mainly wife	Husband and wife jointly	Mainly husband	Missing	Total	Number
Age												
15-19	*	*	*	*	100.0	3	5.3	56.3	34.1	4.4	100.0	243
20-24	5.4	68.1	25.8	0.7	100.0	153	7.3	59.0	32.0	1.6	100.0	719
25-29	7.3	72.3	18.6	1.8	100.0	357	8.0	59.2	31.9	1.0	100.0	823
30-34	5.9	74.5	19.1	0.5	100.0	404	8.2	58.4	31.9	1.5	100.0	769
35-39	6.5	74.4	18.8	0.3	100.0	504	9.3	58.7	29.4	2.6	100.0	791
40-44	7.6	74.8	17.1	0.5	100.0	438	5.5	65.8	27.1	1.6	100.0	527
45-49	5.9	80.3	13.8	0.0	100.0	402	7.8	60.1	29.1	3.0	100.0	511
Number of living children												
0	10.6	63.0	22.7	3.8	100.0	132	6.5	56.4	36.5	0.6	100.0	295
1-2	4.5	75.4	19.6	0.6	100.0	736	9.3	58.5	30.1	2.2	100.0	1,563
3-4	7.0	74.4	18.1	0.5	100.0	704	6.6	60.7	30.8	1.9	100.0	1,400
5+	7.5	76.7	15.7	0.1	100.0	689	7.1	60.9	29.9	2.1	100.0	1,124
Residence												
Urban	5.0	76.0	18.4	0.5	100.0	960	8.2	65.7	25.1	1.0	100.0	1,488
Rural	7.6	73.8	18.0	0.6	100.0	1,301	7.4	56.6	33.6	2.4	100.0	2,894
Region												
Monrovia	4.3	77.7	17.5	0.5	100.0	746	5.4	70.6	23.1	0.9	100.0	1,115
North Western	6.3	66.6	26.9	0.3	100.0	110	3.7	47.5	46.8	2.0	100.0	306
South Central	9.1	62.3	28.1	0.4	100.0	440	9.1	47.9	41.9	1.1	100.0	680
South Eastern A	7.5	71.6	20.1	0.8	100.0	138	7.6	69.4	21.4	1.6	100.0	270
South Eastern B	3.9	85.9	8.8	1.3	100.0	106	7.6	63.9	26.8	1.6	100.0	271
North Central	7.5	79.4	12.4	0.7	100.0	722	9.3	57.2	30.4	3.1	100.0	1,740
Education												
No education	8.6	70.4	20.5	0.6	100.0	475	7.4	55.6	34.5	2.4	100.0	2,274
Primary	6.1	75.0	18.7	0.1	100.0	487	7.4	60.7	30.3	1.5	100.0	1,251
Secondary and higher	5.9	76.2	17.1	0.8	100.0	1,299	8.5	69.1	21.2	1.2	100.0	851
Wealth quintile												
Lowest	10.1	68.9	20.9	0.2	100.0	372	7.9	57.2	31.6	3.1	100.0	915
Second	6.5	70.1	21.9	1.5	100.0	433	6.1	54.0	38.5	1.4	100.0	951
Middle	5.6	81.0	13.0	0.4	100.0	441	6.9	58.9	31.7	2.5	100.0	920
Fourth	7.0	74.9	17.7	0.5	100.0	478	11.3	58.9	28.7	1.1	100.0	827
Highest	4.4	77.3	17.8	0.5	100.0	538	6.3	71.3	20.9	1.4	100.0	768
Total	6.5	74.7	18.1	0.6	100.0	2,262	7.7	59.7	30.7	2.0	100.0	4,382

Note: Total includes women with information missing on education. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

In every sub-group, married men are considerably more likely than married women to say that decisions about how to use the man's earnings are taken jointly by the husband and wife. Nevertheless, both women and men with more education and those in the higher wealth quintiles are more likely to say that decisions regarding use of the man's earnings are taken jointly. Regardless of whether the respondent is a woman or a man, it appears that men in North Western and South Central regions are more likely to take decisions themselves on how to use their own earnings.

Table 15.3 shows, for currently married women who earned cash in the past 12 months, the person who decides how their cash earnings are used, and for all currently married women whose husbands earned cash in the past 12 months, the person who decides how their husband's cash earnings are used, according to the relative magnitude of the earnings of women and their husbands.

Table 15.3 Women's control over their own earnings and those of their husband

Percent distribution of currently married women age 15-49 with cash earnings in the past 12 months by person who decides how the woman's cash earnings are used and percent distribution of currently married women age 15-49 whose husbands have cash earnings by person who decides how the husband's cash earnings are used, according to woman's earnings relative to husband's earnings, Liberia 2007

	Person who decides how wife's cash earnings are used						Person who decides how husband's cash earnings are used					
Woman's earnings relative to husband's earnings	Mainly wife	Wife and husband jointly	Mainly husband	Missing	Total	Number of women	Mainly wife	Wife and husband jointly	Mainly husband	Missing	Total	Number of women
More than husband	33.9	51.9	14.2	0.0	100.0	201	20.2	52.4	26.0	1.4	100.0	201
Less than husband	24.3	47.1	28.1	0.5	100.0	1,247	9.1	51.4	39.1	0.4	100.0	1,247
Same as husband	6.5	80.8	12.7	0.0	100.0	465	2.7	83.6	13.1	0.6	100.0	464
Husband has no cash earnings/did not work	39.7	32.6	27.7	0.0	100.0	74	na	na	na	na	na	na
Woman has no cash earnings	na	na	na	na	na	na	5.3	68.5	22.9	3.4	100.0	1,285
Woman did not work in past 12 months	na	na	na	na	na	na	8.8	51.2	37.8	2.2	100.0	1,070
Total[1]	21.8	54.0	22.8	1.4	100.0	2,103	7.7	59.7	30.7	2.0	100.0	4,382

na = Not applicable

[1] Excludes cases where a woman or her husband/partner has no earnings and includes cases where a woman does not know whether she earned more or less than her husband/partner

Women whose husbands did not work or had no cash income are more likely to decide how their own incomes are used (40 percent) compared with women whose incomes are the same as the husband (7 percent). On the other hand, women who earn more than their husbands are more likely to decide how the husband's income is used. Women who say they earn about the same amount as their husbands are more likely to make joint decisions with their husbands about how to use their own and their husbands' incomes.

15.3 Women's Participation in Household Decisionmaking

The ability to make decisions about one's own life is of obvious importance to women's empowerment. To assess women's decisionmaking autonomy in the LDHS, information was sought on women's participation in four different types of household decisions: on whether to borrow money and how much, on making major household purchases, on making day-to-day food purchasing and cooking arrangements, and on visiting her family or relatives. Having a final say in decisionmaking processes is the highest degree of autonomy. Women are considered to participate in a decision if they usually make that decision alone or jointly with their husband. Table 15.4.1 shows the percent distribution of currently married women by the person who usually makes decisions in these four areas.

Table 15.4.1 Women's participation in decisionmaking

Percent distribution of currently married women age 15-49 by person who usually makes decisions regarding four issues, Liberia 2007

	Person who usually makes decision							
Issue	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Other	Missing	Total	Number of women
Borrowing money	9.5	48.9	34.5	0.2	6.5	0.5	100.0	4,540
Making major household purchases	34.8	40.0	24.2	0.1	0.3	0.6	100.0	4,540
Making purchases for daily household needs and cooking	64.4	26.3	7.9	0.5	0.4	0.5	100.0	4,540
Visits to her family or relatives	23.3	55.6	20.4	0.0	0.1	0.5	100.0	4,540

The results show that Liberian women are usually involved in all four decisions, although the extent of their involvement depends on what is being decided. Two-thirds of women say they alone make decisions about day-to-day food purchasing and cooking arrangements; however, decisions about visits to the woman's family or relatives and on borrowing money are most likely to be made jointly by the woman and her husband. Decisions on making major household purchases are also likely to be made jointly (40 percent); however, one-third of women say they usually make such decisions alone and one-quarter say their husbands usually decide alone. Of the four types of decisions, the one most likely to be made by the husband alone is regarding the borrowing of money.

In the 2007 LDHS, men were asked whether the wife, the husband, or both equally should have the greater say in five types of decisions—making major household purchases, making daily household purchases, deciding when to visit the wife's family or relatives, deciding what to do with the money the wife earns, and deciding how many children to have. Table 15.4.2 shows the percent distribution of currently married men age 15-49 by who they think should have the greater say in making decisions about these five kinds of issues.

The table shows that for most decisions, a majority of currently married men age 15-49 think that the husband and wife should jointly decide. This is especially true for decisions about the number of children to have (68 percent). More than three in five married men say that the wife should have the greater say in making decisions about small household purchases. On the other hand, more than one-third of married men say that the husband should have the greater say in making decisions about major household purchases and visits to the wife's family or relatives.

Table 15.4.2 Men's attitudes toward wife's participation in decisionmaking

Percent distribution of currently married men age 15-49 by person who they think should have the greater say in making decisions regarding five issues, Liberia 2007

	Person who should have the greater say in making decision						
Issue	Wife	Wife and husband equally	Husband	Don't know/ depends	Missing	Total	Number of men
Making major household purchases	12.0	49.0	38.2	0.6	0.1	100.0	3,413
Making purchases for daily household needs	61.8	21.4	16.1	0.5	0.2	100.0	3,413
Visits to wife's family or relatives	9.1	54.2	35.6	0.6	0.5	100.0	3,413
What to do with the money wife earns	16.0	58.5	24.4	0.9	0.3	100.0	3,413
How many children to have	3.7	67.5	27.0	1.6	0.2	100.0	3,413

Table 15.5.1 shows the percentage of married women who participate in the four decisions specified for women respondents, according to background characteristics. A woman is considered to participate in a decision if she says she usually makes the decision alone or jointly with her husband.

Fifty-eight percent of women say they make decisions about borrowing money either by themselves or jointly with their husbands, while three-quarters of women say they participate in decisions about major household purchases. Ninety-one percent of married women say they

participate in decisions about day-to-day food purchasing and cooking arrangements and 79 percent say they participate in decisions about visits to their own family or relatives. Only 47 percent of women participate in all four decisions, however. Less than 5 percent participate in none of the four decisions.

Older women are more likely than younger women to participate in all four kinds of decisions. Women employed for cash are slightly more likely to participate in all four decisions (49 percent) compared with women who are not employed (42 percent) or are employed but not for cash (48 percent). Women with five or more children are more likely to participate in all four decisions (49 percent), compared with 37 percent of women with no children. Urban women are more likely than rural women to participate in each of the four decisions. Women in South Eastern B are most likely and those in North Western region the least likely to participate in all four types of decisions.

Table 15.5.1 Women's participation in decisionmaking by background characteristics

Percentage of currently married women age 15-49 who usually make specific decisions either by themselves or jointly with their husband, by background characteristics, Liberia 2007

Background characteristic	Borrowing money	Making major household purchases	Making purchases for daily household needs and cooking	Visits to her family or relatives	Percentage who participate in all four decisions	Percentage who participate in none of the four decisions	Number of women
Age							
15-19	53.5	68.1	83.2	68.8	37.4	8.4	251
20-24	55.3	70.4	90.0	76.4	42.8	5.9	739
25-29	54.4	73.2	91.1	79.8	42.8	3.4	847
30-34	58.2	75.4	92.0	82.8	48.5	2.8	805
35-39	62.0	77.4	90.1	78.1	50.6	4.7	812
40-44	61.0	76.0	92.2	79.5	48.9	3.9	545
45-49	63.2	80.9	92.2	80.2	52.3	4.5	541
Employment (past 12 months)							
Not employed	50.5	70.3	87.1	72.3	41.6	7.2	1,086
Employed for cash	58.1	80.3	94.0	81.3	48.7	2.9	2,103
Employed not for cash	65.0	69.6	88.4	80.9	47.9	4.6	1,308
Number of living children							
0	47.9	70.1	87.1	73.7	37.0	9.2	305
1-2	58.3	74.0	89.7	77.7	45.3	5.0	1,610
3-4	58.1	76.2	91.3	80.5	48.5	3.5	1,456
5+	61.6	75.6	92.4	79.8	49.2	3.5	1,169
Residence							
Urban	60.0	81.5	92.4	82.1	48.7	2.9	1,541
Rural	57.5	71.4	89.9	77.2	45.8	5.2	2,999
Region							
Monrovia	59.2	84.6	93.8	85.1	49.1	2.1	1,157
North Western	39.6	67.0	92.1	56.7	30.3	3.2	353
South Central	50.5	78.6	93.7	81.7	46.3	4.5	688
South Eastern A	49.6	78.5	94.3	78.6	36.4	1.3	276
South Eastern B	67.2	78.8	93.9	82.1	59.7	3.3	297
North Central	64.5	67.4	86.2	77.6	48.2	6.8	1,769
Education							
No education	56.7	72.1	90.7	76.9	46.2	5.1	2,374
Primary	58.1	75.1	89.1	78.9	45.5	4.6	1,287
Secondary and higher	63.1	81.9	93.5	84.3	50.3	2.2	874
Wealth quintile							
Lowest	60.8	77.1	91.5	79.1	48.4	4.4	942
Second	52.5	67.7	89.4	76.7	41.1	5.6	994
Middle	59.1	69.0	88.9	76.1	45.1	5.8	950
Fourth	56.3	78.7	91.6	77.7	44.9	2.7	872
Highest	64.4	84.1	92.6	86.1	56.2	3.0	781
Total	58.4	74.9	90.7	78.9	46.8	4.4	4,540

Note: Total includes women with information missing on employment and education

Better educated women are more likely to participate in making each of the specified decisions than women with no education. Overall, however, there is no significant difference by women's educational level in the proportion of women who participate in all four of the specified decisions. In contrast, women in the highest wealth quintile are more likely to participate in making all four decisions; however, there is no consistent pattern by wealth quintile in participation in individual types of decisions.

Table 15.5.2 shows the percentage of currently married men age 15-49 who think the wife should have the greater say or equal say with her husband on five specific kinds of decisions by background characteristics. The table shows that 37 percent of men think that the wife should participate in (either alone or equally with her husband) all five decisions. Only 6 percent of married men think that the wife should participate in none of the five decisions, either alone or jointly with her husband.

Table 15.5.2 Men's attitudes toward wife's participation in decisionmaking by background characteristics

Percentage of currently married men age 15-49 who think a wife should have the greater say alone or equal say with her husband on five decisions, by background characteristics, Liberia 2007

Background characteristic	Making major household purchases	Making purchases for daily household needs	Visits to her family or relatives	What to do with the money the wife earns	How many children to have	All five decisions	None of the five decisions	Number of men
Age								
15-19	*	*	*	*	*	*	*	30
20-24	56.8	81.1	57.6	66.6	61.2	33.5	7.3	284
25-29	61.4	84.6	59.1	72.6	69.4	34.5	5.2	568
30-34	59.4	81.5	61.1	72.4	71.9	34.4	5.6	609
35-39	57.3	80.5	61.6	74.4	70.3	34.7	6.6	729
40-44	66.1	84.6	67.5	79.2	75.8	41.3	4.5	641
45-49	65.0	87.7	70.8	78.4	73.6	44.2	3.1	554
Employment (past 12 months)								
Not employed	59.5	80.2	66.6	74.4	66.1	34.7	1.9	159
Employed for cash	63.4	85.0	64.5	77.7	71.8	38.8	4.5	2,262
Employed not for cash	56.0	79.5	59.9	67.3	70.3	33.7	8.3	981
Number of living children								
0	62.0	87.4	58.7	66.9	65.9	32.2	6.1	229
1-2	58.6	80.4	62.5	74.0	70.9	36.3	6.7	1,082
3-4	58.3	82.4	61.4	75.2	72.5	37.0	6.2	1,065
5+	66.2	86.0	67.0	75.9	71.4	39.3	3.3	1,036
Residence								
Urban	64.2	85.4	67.5	79.6	74.7	43.1	3.3	1,125
Rural	59.5	82.1	61.2	72.0	69.5	34.2	6.6	2,287
Region								
Monrovia	65.3	84.7	68.4	80.2	74.5	46.0	4.2	847
North Western	70.7	82.5	68.4	72.5	72.8	47.6	4.9	259
South Central	57.9	74.9	57.0	69.5	65.0	25.4	8.4	523
South Eastern A	49.7	75.4	50.6	65.0	58.5	18.1	7.8	225
South Eastern B	77.5	88.8	72.2	79.6	75.6	62.6	5.4	211
North Central	57.1	86.0	62.2	73.9	72.7	33.3	4.9	1,347
Education								
No education	51.8	80.0	61.2	70.8	71.9	31.0	8.5	754
Primary	59.7	83.5	61.4	71.2	67.9	33.7	5.5	832
Secondary and higher	65.4	84.3	64.9	77.4	72.5	41.2	4.2	1,825
Wealth quintile								
Lowest	55.6	79.2	61.2	73.8	69.8	30.5	7.8	739
Second	58.2	80.8	60.9	69.3	69.9	33.9	7.5	776
Middle	62.1	86.2	63.6	74.4	70.4	38.0	4.4	698
Fourth	65.5	87.2	65.6	77.3	69.6	39.7	2.5	586
Highest	65.9	83.7	66.2	79.1	77.1	45.9	4.4	613
Total	61.0	83.2	63.3	74.5	71.2	37.2	5.5	3,413

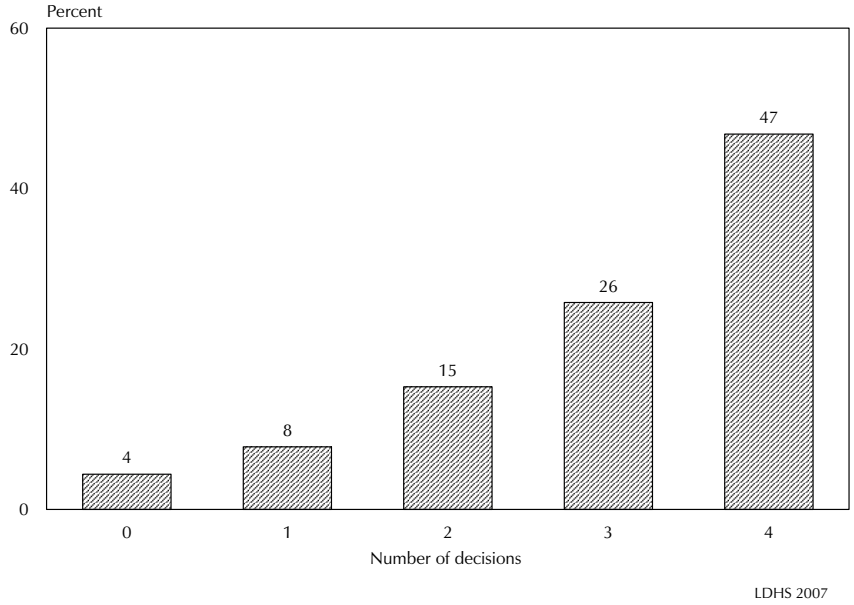
Note: Total includes men with information missing on employment and education. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

With regard to the specific types of decisions, more than eight in ten men think that the wife should participate in decisions about making purchases for daily household needs (83 percent), and more than seven in ten think the wife should participate in decisions about what to do with the money she earns and how many children to have. Just over six in ten married men think the wife should participate in decisions about visits to her family or relatives and about major household purchases.

Urban men, men in South Eastern B region, and men age 45-49 are more likely than most other men to think that a wife should have the greater say or an equal say with her husband for all five decisions. The more educated or wealthy a man is, the more likely he is to think that the wife should have the greater say or an equal say with her husband in all decisions.

Figure 15.1 gives the percentage of currently married women according to the number of decisions in which they participate, either alone or in conjunction with their husbands. It shows that only 4 percent of women do not participate in any of the four types of decisions specified, but 96 percent have a say in at least one decision, 88 percent participate in at least two decisions, 73 percent participate in at least three decisions, and 47 percent participate in all four decisions.

Figure 15.1 **Number of Decisions in Which Women Participate**



15.4 ATTITUDES TOWARD WIFE BEATING

Another measure of women's empowerment derives from the notion that gender equity is essential to empowerment. Responses that indicate a view that the beating of wives by husbands is justified reflect a low status of women. They signify acceptance of norms that give men the right to use force against women, which is a violation of women's human rights. Violence against women has serious consequences for their mental and physical well-being, including their reproductive and sexual health (Heise et al., 1999).

The LDHS gathered information on women's and men's attitudes toward wife beating, a proxy for women's status. Respondents who believe that a husband is justified in hitting or beating his wife for any of the specified reasons may believe women to be low in status both absolutely and relative to men. Such a perception could act as a barrier for women in accessing health care for themselves and their children, and could affect women's attitudes toward contraceptive use and impact their general wellbeing. Respondents were asked whether a husband is justified in beating his

wife under a series of circumstances: if the wife burns the food, argues with him, goes out without telling him, neglects the children, and refuses to have sex with him. Table 15.6.1 summarizes women's attitudes toward wife beating in these five specific circumstances. Table 15.6.2 does the same for men.

Almost six in ten women (59 percent) believe that a husband is justified in beating his wife for at least one of the five specified reasons. Few women (14 percent) believe that wife beating is justified if the wife burns the food, but more than four in ten women believe that wife beating is justified if the wife argues with her husband (43 percent), goes out without telling him (42 percent), or neglects the children (45 percent). Twenty-two percent say it is justified if the wife refuses to have sexual intercourse with her husband.

Table 15.6.1 Attitude toward wife beating: Women

Percentage of all women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Liberia 2007

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Age							
15-19	14.2	32.0	33.8	34.8	15.1	47.8	1,312
20-24	15.2	44.0	42.9	45.7	20.3	61.3	1,363
25-29	13.2	46.0	43.4	47.4	23.7	62.4	1,166
30-34	14.3	47.4	44.6	48.5	23.9	61.9	956
35-39	14.3	45.6	45.6	49.1	23.7	65.2	956
40-44	12.3	42.0	41.1	44.0	20.8	59.3	665
45-49	13.2	45.2	44.5	45.8	28.6	60.6	674
Employment (past 12 months)							
Not employed	14.7	37.3	36.0	38.1	19.4	52.2	2,424
Employed for cash	16.3	42.0	42.8	45.2	19.8	58.0	2,860
Employed not for cash	9.3	51.3	48.9	53.0	27.6	71.1	1,739
Marital status							
Never married	13.6	29.6	31.6	35.0	11.6	44.7	1,853
Married or living together	14.0	48.5	45.9	48.7	25.9	66.1	4,540
Divorced/separated/widowed	14.6	39.7	43.0	43.7	20.9	54.2	699
Number of living children							
0	13.1	31.4	33.2	32.7	13.6	46.4	1,514
1-2	14.6	43.7	42.6	46.6	21.9	61.2	2,496
3-4	14.7	48.8	46.7	50.1	25.7	66.1	1,746
5+	12.7	45.7	44.1	47.5	25.2	61.6	1,336
Residence							
Urban	12.7	36.3	37.3	40.6	17.4	52.3	2,998
Rural	14.9	47.4	45.2	47.6	24.8	64.5	4,094
Region							
Monrovia	11.9	34.0	37.2	40.8	14.8	50.4	2,329
North Western	14.8	66.7	60.5	62.4	32.6	70.9	509
South Central	11.2	34.3	28.0	37.0	12.4	51.5	1,011
South Eastern A	8.3	38.9	36.4	36.3	24.0	57.6	375
South Eastern B	6.6	31.8	33.9	29.8	4.4	41.8	451
North Central	19.2	52.2	50.7	51.9	32.8	72.3	2,417
Education							
No education	15.2	47.8	44.7	49.6	25.2	64.3	3,005
Primary	14.0	40.8	41.5	42.7	21.2	58.7	2,280
Secondary and higher	11.9	36.5	37.6	38.9	16.4	51.7	1,799
Wealth quintile							
Lowest	11.6	43.9	41.2	44.9	23.4	63.6	1,251
Second	13.3	52.5	47.6	50.9	25.3	68.6	1,332
Middle	16.4	46.6	45.9	48.7	25.2	62.2	1,359
Fourth	16.0	38.8	40.7	42.7	20.2	55.6	1,580
Highest	12.3	34.0	35.3	37.5	15.6	49.3	1,569
Total	14.0	42.7	41.9	44.6	21.7	59.3	7,092

Note: Total includes women with information missing on employment and education

Women who are employed but not paid in cash, those who are married or living together, and those with three to four children are more likely than most other women to agree to at least one of the reasons for wife beating. Similarly, rural women, women in the North Central and North Western regions, those with no education, and those in the lower wealth quintiles are more likely to agree with at least one reason to justify wife beating.

Interestingly, the proportion of men who believe that a husband is justified in beating his wife for any of the specified reasons is half as much as the proportion of women. As shown in Table 15.6.2, three in every ten men believe that a husband is justified in beating his wife for at least one of the specified reasons (compared with 59 percent of women). One in five men believe that wife beating is justified if she argues with him, and 16-17 percent believe that a husband is justified in beating his wife if she goes out without telling him or neglects the children. Only 6 percent agree that wife beating is justified if the wife refuses to have sex with him and 5 percent feel that a husband is justified in beating his wife if she burns the food.

Table 15.6.2 Attitudes toward wife beating: Men

Percentage of all men age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Liberia 2007

Background characteristic	Husband is justified in hitting or beating his wife if she: Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him	Percentage who agree with at least one specified reason	Number
Age							
15-19	8.6	26.0	20.7	21.1	6.9	36.5	1,156
20-24	5.4	25.1	18.3	18.7	6.2	36.4	1,039
25-29	5.2	18.7	17.7	18.4	5.3	29.4	917
30-34	4.6	18.2	15.3	17.3	5.2	29.5	766
35-39	3.0	18.1	12.8	13.9	6.6	26.4	830
40-44	3.4	11.4	12.4	13.3	4.3	22.9	687
45-49	3.0	16.3	12.3	11.4	4.9	23.4	613
Employment (past 12 months)							
Not employed	4.9	20.6	13.5	14.5	6.6	29.8	1,132
Employed for cash	4.1	20.2	15.9	14.8	4.9	28.9	3,210
Employed not for cash	7.0	19.2	19.0	22.9	6.9	33.3	1,648
Marital status							
Never married	6.8	23.2	18.2	18.6	6.6	33.9	2,274
Married or living together	3.6	17.4	14.9	15.4	5.2	27.2	3,413
Divorced/separated/widowed	7.1	25.3	17.0	19.6	6.4	36.1	319
Number of living children							
0	7.0	24.1	19.3	19.5	6.9	35.5	2,275
1-2	5.0	19.0	16.3	16.4	5.6	28.7	1,493
3-4	3.1	17.3	13.2	13.9	5.0	25.7	1,153
5+	3.2	15.7	13.1	15.3	4.4	26.0	1,088
Residence							
Urban	4.1	16.8	12.6	11.8	4.6	24.9	2,426
Rural	5.7	22.1	18.7	20.4	6.6	33.8	3,583
Region							
Monrovia	3.8	14.9	11.6	9.0	4.4	21.8	1,862
North Western	6.4	14.3	15.2	17.5	5.8	31.4	405
South Central	5.2	28.1	22.4	27.1	2.8	39.5	894
South Eastern A	11.1	30.5	27.2	29.8	7.2	40.6	357
South Eastern B	11.3	22.7	16.6	19.7	5.6	36.2	407
North Central	3.7	19.8	16.0	16.8	8.0	30.6	2,084
Education							
No education	4.0	18.2	17.8	17.2	5.0	29.1	1,056
Primary	7.0	26.4	20.3	22.9	7.6	37.2	1,895
Secondary and higher	4.3	16.6	13.2	13.1	4.9	26.3	3,056
Wealth quintile							
Lowest	5.4	22.3	19.5	20.2	4.8	32.3	1,062
Second	6.5	22.7	18.5	21.3	7.1	34.7	1,181
Middle	5.7	21.9	18.1	20.4	7.5	33.8	1,170
Fourth	4.6	17.3	14.5	14.2	4.9	27.8	1,160
Highest	3.5	16.6	11.9	10.3	4.6	24.1	1,437
Total	5.1	20.0	16.2	16.9	5.8	30.2	6,009

Note: Total includes men with information missing on employment, education, and marital status

The percentage of men who believe wife beating is justified for any of the specified reasons decreases gradually with age, whereas for women, this percentage shows little consistent change with age. Men who reside in rural areas and in South Eastern A and South Central regions are the most likely to agree with at least one of these reasons than other men. Acceptance of wife beating is lower among men in the higher wealth quintiles than in the lower quintiles; however, variation by education is not consistent.

15.5 Attitudes Toward Refusing Sex with Husband

Beliefs about whether and when a woman can refuse to have sex with her husband reflect issues of gender equity regarding sexual rights and bodily integrity. Besides yielding an important measure of empowerment, information about women's and men's attitudes toward women's sexual rights is useful for improving and monitoring reproductive health programs that depend on women's willingness and ability to control their own sexual lives.

The extent of control women have over when and with whom they have sex has important implications for outcomes such as transmission of HIV and other sexually transmitted infections. To measure beliefs about sexual empowerment, female and male respondents in the LDHS were asked whether they think it is justifiable for a wife to deny her husband sex in the following circumstances: when she knows her husband has a sexually transmitted infection, when she knows her husband has sex with other women, and when she is tired or not in the mood.

Table 15.7.1 shows that a majority of women agree with each specified reason for a wife's refusing to have sex with her husband in specific circumstances. Women are more likely to agree that a woman can refuse to have sex with her husband if she is tired or not in the mood (72 percent). Two-thirds of women believe that a wife is justified to refuse sexual intercourse if she knows her husband has a sexually transmitted infection, and 58 percent believe that she is justified if she knows that the husband has intercourse with other women. Only l6 percent agree with none of the specified reasons and 45 percent agree with all of the reasons.

Women's agreement that a wife is justified in refusing her husband sex for specific reasons varies inconsistently with age. Women who are employed for cash and those who live in urban areas or in South Central region are more likely to agree with all of the specified reasons for a wife's refusing to have sex with her husband. Similarly, a higher proportion of women with secondary or higher education and those in the highest wealth quintile agreed with all of the specified reasons.

Table 15.7.2 shows the percentage of men who believe that a wife is justified in refusing to have sex with her husband in the same three specific circumstances by background characteristics. Surprisingly, men tend to be more accepting of women's sexual autonomy than women; the data show that 64 percent of men believe that a woman is justified in refusing sexual intercourse with her husband for all of the specified reasons, compared with just 45 percent of women. More than eight in ten men say it is justified for a wife to refuse sex with her husband if she knows he has a sexually transmitted infection (87 percent) or if she is tired or not in the mood (83 percent). Men are somewhat less likely to agree that it is justifiable for a wife to refuse sex if she knows that her husband has intercourse with other women (72 percent). Older men, those who are employed for cash, those in the higher wealth quintiles, and those with at least one child are among those who are more likely to agree with all of the specified reasons for refusing sex.

Table 15.7.1 Attitudes toward refusing sexual intercourse with husband: Women

Percentage of all women age 15-49 who believe that a wife is justified in refusing to have sexual intercourse with her husband in specific circumstances, by background characteristics, Liberia 2007

Background characteristic	Wife is justified in refusing intercourse with her husband if she: Knows husband has a sexually transmitted infection	Knows husband has intercourse with other women	Is tired or not in the mood	Percentage who agree with all of the specified reasons	Percentage who agree with none of the specified reasons	Number of women
Age						
15-19	58.1	52.7	61.8	42.4	27.2	1,312
20-24	69.9	64.9	77.6	51.7	11.3	1,363
25-29	69.5	61.7	75.9	49.2	12.2	1,166
30-34	67.0	55.9	73.5	41.8	13.1	956
35-39	66.1	59.8	76.2	47.2	13.4	956
40-44	66.6	55.5	72.1	43.0	13.9	665
45-49	62.7	48.6	70.1	37.3	18.5	674
Employment (past 12 months)						
Not employed	64.7	55.6	69.7	45.6	18.6	2,424
Employed for cash	72.9	62.7	77.3	52.8	12.1	2,860
Employed not for cash	55.8	52.7	68.5	33.3	17.8	1,739
Marital status						
Never married	63.2	57.8	67.9	48.5	22.4	1,853
Married or living together	66.3	57.6	73.7	43.6	13.4	4,540
Divorced/separated/widowed	69.1	59.0	76.1	49.0	14.2	699
Number of living children						
0	60.2	56.0	65.7	45.9	24.5	1,514
1-2	69.1	60.3	76.0	47.4	12.1	2,496
3-4	67.9	58.5	74.4	45.3	12.4	1,746
5+	63.1	54.2	70.8	41.4	17.4	1,336
Residence						
Urban	70.6	63.1	78.0	52.7	12.2	2,998
Rural	62.3	53.8	68.3	40.1	18.5	4,094
Region						
Monrovia	73.1	63.5	80.8	55.5	10.8	2,329
North Western	46.9	29.3	62.8	16.6	24.5	509
South Central	73.3	70.6	79.1	59.1	12.4	1,011
South Eastern A	69.0	59.6	78.8	45.1	12.8	375
South Eastern B	69.6	57.7	68.7	47.9	14.9	451
North Central	58.2	52.6	63.3	35.7	20.9	2,417
Education						
No education	64.4	54.1	68.9	40.8	16.6	3,005
Primary	61.7	56.6	71.1	43.4	18.6	2,280
Secondary and higher	73.2	65.4	79.8	55.8	11.1	1,799
Wealth quintile						
Lowest	62.7	56.9	68.7	43.6	19.1	1,251
Second	62.5	52.6	69.4	38.1	16.9	1,332
Middle	62.0	54.0	69.7	39.7	16.8	1,359
Fourth	67.7	59.9	75.5	49.1	14.6	1,580
Highest	72.3	64.1	77.1	54.4	12.8	1,569
Total	65.8	57.8	72.4	45.4	15.8	7,092

Note: Total includes women with information missing on employment and education

Table 15.7.2 Attitudes toward refusing sexual intercourse with husband: Men

Percentage of all men age 15-49 who believe that a wife is justified in refusing to have sexual intercourse with her husband in specific circumstances, by background characteristics, Liberia 2007

Background characteristic	Wife is justified in refusing intercourse with her husband if she: Knows husband has a sexually transmitted infection	Knows husband has intercourse with other women	Is tired or not in the mood	Percentage who agree with all of the specified reasons	Percentage who agree with none of the specified reasons	Number of men
Age						
15-19	77.1	64.7	73.7	56.2	16.5	1,156
20-24	86.4	70.7	82.8	62.3	6.8	1,039
25-29	89.3	74.9	85.3	64.7	4.0	917
30-34	87.8	73.3	86.1	64.4	4.3	766
35-39	93.4	75.6	88.3	67.9	2.4	830
40-44	90.2	74.3	85.1	67.5	5.7	687
45-49	92.5	78.8	88.1	70.4	2.9	613
Employment (past 12 months)						
Not employed	83.8	70.7	81.4	63.3	10.1	1,132
Employed for cash	93.6	76.3	90.4	70.0	2.1	3,210
Employed not for cash	77.5	66.4	71.4	52.9	13.3	1,648
Marital status						
Never married	81.0	67.8	77.8	59.1	12.1	2,274
Married or living together	91.0	75.9	86.9	67.5	3.5	3,413
Divorced/separated/widowed	91.0	67.5	86.3	61.3	3.5	319
Number of living children						
0	81.0	67.4	77.6	58.4	12.3	2,275
1-2	91.4	76.1	87.9	68.4	2.6	1,493
3-4	90.4	75.7	86.5	67.5	4.3	1,153
5+	91.4	74.5	86.2	65.8	3.5	1,088
Residence						
Urban	90.8	73.5	87.4	66.9	4.2	2,426
Rural	84.8	71.7	80.7	62.0	8.5	3,583
Region						
Monrovia	92.4	73.5	87.6	67.1	3.7	1,862
North Western	86.7	77.4	77.1	62.7	6.3	405
South Central	90.3	70.6	88.0	64.1	4.1	894
South Eastern A	84.8	62.9	86.5	54.1	5.4	357
South Eastern B	80.3	60.4	80.0	57.8	15.8	407
North Central	83.2	75.3	79.1	64.3	9.3	2,084
Education						
No education	85.2	69.8	81.0	61.3	7.6	1,056
Primary	82.7	69.9	77.7	60.4	11.4	1,895
Secondary and higher	90.8	74.9	87.8	67.1	3.6	3,056
Wealth quintile						
Lowest	84.6	68.9	83.1	60.7	8.8	1,062
Second	83.8	71.7	78.3	60.8	9.6	1,181
Middle	84.1	72.5	79.1	62.3	8.5	1,170
Fourth	91.7	77.4	87.0	70.3	4.3	1,160
Highest	91.0	71.6	88.4	65.3	3.6	1,437
Total 15-49	87.2	72.4	83.4	64.0	6.8	6,009

Note: Total includes men with missing information on employment, education, and marital status.

In the LDHS, men were asked if they think that a husband is justified in taking specific actions when his wife refuses to have sex with him. Table 15.7.3 shows that very few men think that husbands are justified in taking any of the actions. For example, only 15 percent believe that it is justifiable for a husband to have sex with another woman if his wife refuses to have sex with him, and 13 percent believe it is justifiable for a husband to get angry and reprimand his wife if she refuses to have sex with him. Even lower are the percentages who believe it is alright for a husband to refuse financial support (7 percent) or to use force to have sex (3 percent) if the wife refuses sex. Altogether, three-quarters of men reject all four specified actions. Differences by background characteristics are minimal.

Table 15.7.3 Men's attitudes toward a husband's rights when his wife refuses to have sexual intercourse

Percentage of men age 15-49 who consider that a husband has the right to certain behaviors when his wife refuses to have sex with him when he wants her to, by background characteristics, Liberia 2007

Background characteristic	When a woman refuses to have sex with her husband, he has the right to:				Percentage who agree with all of the specified reasons	Percentage who agree with none of the specified reasons	Number of men
	Get angry and reprimand her	Refuse her financial support	Use force to have sex	Have sex with another woman			
Age							
15-19	14.4	10.9	3.4	17.5	1.8	72.7	1,156
20-24	13.7	8.1	2.7	16.7	0.3	72.8	1,039
25-29	14.9	5.3	2.5	12.2	0.8	75.2	917
30-34	12.5	7.6	2.6	18.7	0.2	71.5	766
35-39	11.9	6.8	3.4	14.1	0.7	77.1	830
40-44	11.6	4.0	1.0	11.6	0.1	78.3	687
45-49	10.8	6.9	3.1	9.1	0.5	81.2	613
Employment (past 12 months)							
Not employed	12.2	6.2	3.4	15.2	0.7	76.6	1,132
Employed for cash	10.8	5.4	2.3	13.7	0.3	77.5	3,210
Employed not for cash	17.9	12.0	3.2	16.4	1.6	69.5	1,648
Marital status							
Never married	14.0	8.5	3.1	16.0	1.0	73.4	2,274
Married or living together	12.1	6.6	2.6	13.3	0.5	76.8	3,413
Divorced/separated/widowed	17.1	7.9	2.3	21.1	1.0	67.5	319
Number of living children							
0	14.3	8.6	3.4	16.1	1.2	73.2	2,275
1-2	12.0	6.4	2.4	14.9	0.4	75.7	1,493
3-4	12.7	6.1	2.2	12.1	0.2	77.7	1,153
5+	12.4	7.4	2.4	14.3	0.5	75.2	1,088
Residence							
Urban	11.5	5.2	2.2	11.3	0.4	79.9	2,426
Rural	14.1	8.9	3.1	17.0	0.9	71.8	3,583
Region							
Monrovia	11.0	4.3	2.0	9.7	0.5	82.5	1,862
North Western	10.6	6.5	2.6	10.3	0.7	79.8	405
South Central	12.4	6.0	0.9	17.3	0.1	73.3	894
South Eastern A	12.1	9.3	1.0	16.6	0.0	73.1	357
South Eastern B	12.8	8.1	1.8	14.6	0.9	74.7	407
North Central	15.9	10.4	4.7	18.7	1.2	68.6	2,084
Education							
No education	12.7	8.1	2.5	12.9	0.7	75.8	1,056
Primary	13.7	9.5	2.7	17.7	1.2	72.0	1,895
Secondary and higher	12.8	5.8	2.8	13.5	0.4	76.7	3,056
Wealth quintile							
Lowest	12.8	7.5	1.0	12.8	0.5	75.6	1,062
Second	14.4	8.9	3.2	18.8	0.8	70.2	1,181
Middle	12.5	9.4	4.4	16.9	1.1	72.8	1,170
Fourth	12.1	5.9	2.6	12.8	0.3	76.9	1,160
Highest	13.3	5.6	2.3	12.5	0.8	78.9	1,437
Total 15-49	13.1	7.4	2.7	14.7	0.7	75.1	6,009

Note: Total includes men with information missing on employment, education, and marital status

15.6 WOMEN'S EMPOWERMENT INDICATORS

The three sets of empowerment indicators, namely women's participation in making household decisions, their attitude toward wife beating, and their attitude toward a wife's right to refuse sexual intercourse with her husband, can be summarized into three separate indices. All three indices are based on women's responses.

The first index shows the number of decisions (see Table 15.5.1 for the list of decisions) in which women participate alone or jointly with their husband/partner. This index ranges in value from 0 to 4 and is positively related to women's empowerment. It reflects the degree of decisionmaking control that women are able to exercise in areas that affect their own lives and environments.

The second index, which ranges in value from 0 to 5, is the total number of reasons (see Table 15.6.1 for the list of reasons) for which the respondent feels that a husband is justified in beating his wife. A lower score on this indicator is interpreted as reflecting a greater sense of entitlement and self-esteem and a higher status of women.

The final index, which ranges in value from 0 to 3, is the number of circumstances (see Table 15.7.1 for the list of the circumstances) in which the respondent feels that a woman is justified in refusing sexual intercourse with her husband or partner. This indicator reflects perceptions of sexual roles and women's rights over their bodies and relates positively to women's sense of self and empowerment.

Table 15.8 shows how these three indicators relate to each other. It gives the percentage of married women age 15-49 who participate in all decisionmaking, the percentage of women who disagree with all the specified reasons for justifying wife beating, and the percentage of women who agree with all the specified reasons for a wife's refusing to have intercourse with her husband, by the value on each of the indicators of women's empowerment. In general, the expectation is that women who participate in making household decisions are also more likely to have gender-egalitarian beliefs.

Table 15.8 Indicators of women's empowerment

Percentage of women age 15-49 who participate in all decisionmaking, percentage who disagree with all reasons for justifying wife beating, and percentage who agree with all reasons for refusing sexual intercourse with husband, by value on each of the indicators of women's empowerment, Liberia 2007

Empowerment indicator	Currently married women: Percentage who participate in all decision-making	Currently married women: Number of women	Percentage who disagree with all the reasons justifying wife beating	Percentage who agree with all the reasons for refusing sexual intercourse with husband	Number of women
Number of decisions in which women participate[1]					
0	na	200	32.4	35.3	200
1-2	na	1,045	29.1	30.0	1,045
3-4	na	3,295	35.5	48.5	3,295
Number of reasons for which wife beating is justified[2]					
0	46.1	1,540	na	50.9	2,885
1-2	34.9	1,286	na	43.7	1,811
3-4	53.8	1,386	na	42.0	1,902
5	67.0	327	na	33.3	494
Number of reasons given for refusing to have sexual intercourse with husband[3]					
0	48.9	609	43.9	na	1,123
1-2	39.9	1,950	33.6	na	2,746
3	53.0	1,981	45.5	na	3,223

na = Not applicable
[1] Restricted to currently married women. See Table 15.5.1 for the list of decisions.
[2] See Table 15.6.1 for the list of reasons.
[3] See Table 15.7.1 for the list of reasons.

The three empowerment indicators are not consistently related to each other. In particular, women's participation in decisionmaking and their attitude toward wife beating do not bear the expected negative relationship. In fact, it is women who agree with all five reasons for wife beating who are most likely to participate in all four of the specified decisions. Nonetheless, women who participate in at least three of the four specified decisions are more likely to disagree with all reasons for wife beating than women who participate in fewer decisions. The last of the three indices bears a U-shaped relationship with both the percentage of women who participate in all decisions and the percentage who disagree with all reasons justifying wife beating; nonetheless, women who participate in at least three of the four decisions and women who disagree with all reasons justifying wife beating are also most likely to agree with all reasons justifying refusing the husband sex. Further, women who agree with all three reasons for refusing the husband sex are more likely to participate in all four decisions and disagree with all five reasons justifying wife beating than women who agree with 0-2 reasons.

15.7 CURRENT USE OF CONTRACEPTION BY WOMEN'S EMPOWERMENT STATUS

A woman's ability to control her fertility and the contraceptive method she chooses are likely to be affected by her status, self-image, and sense of empowerment. A woman who feels that she is unable to control other aspects of her life may be less likely to feel she can make decisions regarding fertility. She may also feel the need to choose methods that are easier to conceal from her husband/partner or that do not depend on his cooperation.

Table 15.9 shows the relationship of each of the three indicators of women's empowerment with current use of contraceptive methods by currently married women age 15-49 in Liberia. The data do not show any consistent pattern in either use of any contraceptive method or any modern method in relationship to the number of decisions in which women participate. Contrary to expectations, there is some evidence of higher use of contraception among women who believe that wife beating is justifiable in more circumstances. There is a slight positive association between the number of reasons

Table 15.9 Current use of contraception by women's empowerment

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to selected indicators of women's empowerment, Liberia 2007

			Modern methods						
Empowerment indicator	Any method	Any modern method	Female sterili-zation	Temporary modern female methods[1]	Male condom	Any traditional method	Not currently using	Total	Number of women
Number of decisions in which women participate[2]									
0	10.2	9.6	0.0	9.5	0.1	0.6	89.8	100.0	200
1-2	9.0	7.9	0.1	6.1	1.7	1.0	91.0	100.0	1,045
3-4	12.3	11.0	0.7	8.7	1.6	1.3	87.7	100.0	3,295
Number of reasons for which wife beating is justified[3]									
0	12.5	10.4	0.5	7.9	2.0	2.1	87.5	100.0	1,540
1-2	9.3	8.5	0.7	6.0	1.8	0.8	90.7	100.0	1,286
3-4	11.8	11.4	0.6	9.9	0.9	0.4	88.2	100.0	1,386
5	13.5	11.9	0.2	10.2	1.5	1.6	86.5	100.0	327
Number of reasons given for refusing to have sexual intercourse with husband[4]									
0	10.2	9.5	0.6	7.7	1.2	0.7	89.8	100.0	609
1-2	10.1	9.0	0.5	7.3	1.3	1.0	89.9	100.0	1,950
3	13.2	11.7	0.6	9.1	2.0	1.5	86.8	100.0	1,981
Total	11.4	10.3	0.6	8.1	1.6	1.2	88.6	100.0	4,540

Note: If more than one method is used, only the most effective method is considered in this tabulation.
[1] Pill, IUD, injectables, implants, female condom, diaphragm, foam/jelly, and lactational amenorrhea method
[2] See Table 15.5.1 for the list of decisions..
[3] See Table 15.6.1 for the list of reasons.
[4] See Table 15.7.1 for the list of reasons.

given for refusing to have sexual intercourse and the percentage of women currently using contraception. In general, these patterns suggest that women's roles in decisionmaking and gender-egalitarian attitudes do not have much bearing on women's contraceptive use.

15.8 REPRODUCTIVE HEALTH CARE AND WOMEN'S EMPOWERMENT STATUS

Table 15.10 examines whether women's use of antenatal, delivery, and postnatal care services from health workers varies by their level of empowerment as measured by the three indicators of empowerment. In societies where health care is widespread, women's empowerment may not affect their access to reproductive health services; in other societies, however, increased empowerment of women is likely to increase their ability to seek out and use health services to better meet their own reproductive health goals, including the goal of safe motherhood.

Table 15.10 indicates that all three reproductive health indicators are higher among mothers who participate in three to four decisions compared with mothers who participate in no decisions. Similarly, women who have more gender-egalitarian views regarding sexual behavior in marriage are also more likely to use antenatal, delivery, and postnatal care services. However, use of reproductive health services appears inconsistently related to women's attitude towards wife beating, the third empowerment indicator.

Table 15.10 Reproductive health care by women's empowerment

Percentage of women age 15-49 with a live birth in the five years preceding the survey who received antenatal care, delivery assistance, and postnatal care from health personnel for the most recent birth, by indicators of women's empowerment, Liberia 2007

Empowerment indicator	Received antenatal care from health personnel	Received delivery assistance from health personnel	Received postnatal care from health personnel within the first two days after delivery[1]	Number of women with a child born in the past five years
Number of decisions in which women participate[2]				
0	73.4	32.3	28.1	129
1-2	69.9	43.0	34.8	759
3-4	80.0	50.4	40.2	2,094
Number of reasons for which wife beating is justified[3]				
0	85.9	54.9	46.6	1,417
1-2	68.0	44.1	33.8	1,109
3-4	80.4	50.7	39.9	1,133
5	86.3	63.3	52.1	269
Number of reasons given for refusing to have sexual intercourse with husband[4]				
0	71.7	48.4	36.3	529
1-2	73.3	48.2	37.5	1,628
3	87.1	54.8	46.5	1,771
Total	79.3	51.2	41.4	3,928

Note: "Health personnel" includes doctor, nurse, midwife, or auxiliary nurse or auxiliary midwife.
[1] Includes deliveries in a health facility and not in a health facility
[2] Restricted to currently married women. See Table 15.5.1 for the list of decisions.
[3] See Table 15.6.1 for the list of reasons.
[4] See Table 15.7.1 for the list of reasons.

These data show that two of the three specified aspects of women's empowerment, namely women's participation in household decisionmaking and their attitude toward a wife's control over her sexual relations with her husband, are positively associated with women's use of reproductive health care services.

15.9 DIFFERENTIALS IN INFANT AND CHILD MORTALITY BY WOMEN'S STATUS

The ability of women to access information, make decisions, and act effectively in their own interest or the interest of those who depend on them are essential aspects of the empowerment of women. If women, the primary caretakers of children, are empowered, the health and survival of their infants will be enhanced. In fact, mother's empowerment fits into Mosley and Chen's framework on child survival as an individual-level variable that affects child survival through the proximate determinants (Mosley and Chen, 1984).

Table 15.11 presents infant and child mortality rates by the three indicators of women's empowerment: participation in household decisionmaking, attitude toward wife beating, and attitude toward a wife refusing to have sex with her husband.

The 2007 LDHS data show that infant and child mortality rates are lower among women who are more empowered in terms of their participation in household decisions and having gender-egalitarian attitudes regarding women's control of sex in marriage compared with women who are less empowered according to these indicators. For example, under-five mortality is 165 per 1,000 live births among women who have no say in any household decisions compared with 137 per 1,000 live births among women who have a say in three to four household decisions. Similarly, infant mortality is about 10 percent lower among women who agree with all three specified justifications for a wife refusing her husband sex than among women who agree with none.

However, not all of the empowerment indicators bear the expected negative relationship of infant and child mortality with women's empowerment. Women who agree with all specified reasons for wife beating have lower rates of infant and child mortality than women who disagree with one or all. Thus, as was true for some of the other health outcome indicators, infant and child mortality is lower with some, but not all, aspects of women's increased empowerment.

Table 15.11 Early childhood mortality rates by women's empowerment

Infant, child, and under-five mortality rates for the 10-year period preceding the survey, by indicators of women's empowerment, Liberia 2007

Empowerment indicator	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Number of decisions in which women participate[1]			
0	96	76	165
1-2	94	56	145
3-4	90	52	137
Number of reasons for which wife beating is justified[2]			
0	101	55	151
1-2	100	56	150
3-4	79	56	131
5	72	34	103
Number of reasons given for refusing to have sexual intercourse with husband[3]			
0	99	58	151
1-2	92	54	141
3	89	53	138

[1] Restricted to currently married women. See Table 15.5.1 for the list of decisions.
[2] See Table 15.6.1 for the list of reasons.
[3] See Table 15.7.1 for the list of reasons.

GENDER-BASED VIOLENCE 16

In the words of former United Nations Secretary General, Kofi Annan, "Violence against women is perhaps the most shameful human right violation. And it is perhaps the most pervasive. It knows no boundaries, or geography, culture, or wealth. As long as it continues, we cannot claim to be making real progress towards equality, development, and peace" (UNIFEM, 2003). Violence against women is defined here as any act of violence resulting in physical, sexual, or psychological harm or suffering to women and girls, including threats of such acts, coercion, or arbitrary deprivation of liberty. Many Liberian women and girls, regardless of age, marital status, and ethnic affiliation, suffer various forms of violence and exploitation (Government of Liberia, 2007b).

In recent years, there has been increasing concern about gender-based violence against women in general, and domestic violence in particular, in both developed and developing countries. Not only has domestic violence against women been acknowledged worldwide as a violation of the basic human rights of women, but an increasing amount of research highlights the health burdens, intergenerational effects, and demographic consequences of such violence (Buvinic et al., 1999; Heise et al., 1998; Kishor and Johnson, 2006). Gender-based violence occurs across all socioeconomic and cultural backgrounds and in many societies, including Liberia, women are socialized to accept, tolerate, and even rationalize domestic violence and to remain silent about such experiences (Zimmerman, 1994). Violence of any kind has a serious impact on the economy of a country; because women bear the brunt of domestic violence, they also bear the health and psychological burdens as well. Victims of domestic violence are abused inside what should be the most secure environment—their own homes.

In order to stop this violence—and the considerable physical harm, death, psychological abuse, separation, divorce, and other social ills that it causes—the Liberian government has developed several measures. Among them is a five-year Gender-Based Violence National Plan of Action (Government of Liberia, 2007b), and the coordination of gender-based violence prevention and response through a Gender-Based Violence Task Force under the leadership of the Ministry of Gender and Development and supported by national and international partners. Moreover, the rape law has been amended to increase the age of consent from 16 to 18 years and the penalty for a second-degree felony from 7 to 10 years in prison. Additionally, the penalty for gang rape and the rape of a minor under age 18 years is life imprisonment because it is considered as a first-degree felony.

16.1 DATA COLLECTION

Although gender-based violence is usually defined to include any physical, sexual, or psychological violence occurring not only in the family, but also within the general community (such as sexual harassment at the workplace and trafficking in women for prostitution), this survey focuses on violence occurring within the household.

As mentioned earlier, there is a culture of silence surrounding gender-based violence that makes collection of data on this sensitive topic particularly challenging. Even women who want to speak about their experiences of domestic violence may find it difficult because of feelings of shame or fear. The need for establishing rapport with the respondent and ensuring confidentiality and privacy during the interview are important for the entire survey but are critical in ensuring the validity of the data on domestic violence. Complete privacy is also essential for ensuring the security of the respondent and the interviewer. Asking about or reporting violence, especially in households where the perpetrator may be present at the time of interview, may carry the risk of further violence.

Given these concerns about the collection of data on violence, organizers of the 2007 Liberia Demographic and Health Survey (LDHS) took the following steps to ensure the validity of the data and the security of respondents and interviewers:

- The module was specially designed to allow the interviewer to continue the interview only if privacy was ensured. If privacy could not be obtained, the interviewer was instructed to skip the module, thank the respondent, and end the interview. Notably, in Liberia less than 2 percent of women selected for interview with the module could not be interviewed due to security considerations.

- Only one eligible woman in each selected household was administered the questions on domestic violence. In households with more than one eligible woman, the woman administered the module was randomly selected using a specially designed selection procedure. Interviewing only one woman in each household with the module minimized the risk of any security breach due to other persons in the household knowing that information on domestic violence was given

- Informed consent of the respondent was obtained for the survey at the start of the individual interview. In addition, at the start of the domestic violence section, each respondent was read a statement informing her that she was now going to be asked questions that could be personal in nature because they explored different aspects of the relationship between couples. The statement assured her that her answers were completely confidential and would not be told to anyone else and that no one else in the household would be asked these questions.

Research on violence suggests that the most common form of domestic violence for adults is spousal violence. Thus, spousal violence was measured using a modified and shortened conflict tactics scale used by Strauss (1990). This scale has been found to be effective in measuring domestic violence and can be easily adapted for use in different cultural situations. In the 2007 LDHS, spousal violence was measured using the following set of questions:

Does/Did your (last) husband/partner ever do any of the following things to you:

a) Push you, shake you, or throw something at you?

b) Slap you?

c) Twist your arm or pull your hair?

d) Punch you with his fist or with something that could hurt you?

e) Kick you, drag you, or beat you up?

f) Try to choke you or burn you on purpose?

g) Threaten or attack you with a knife, gun, or other weapon?

h) Physically force you to do men business (have sexual intercourse) with him even when you did not want to?

i) Force you to do any sexual acts you did not want to?

The questions were asked with reference to the current husband for women currently married and the last husband for women not currently married. Women could answer with a "yes" or a "no" to each item, and in cases when the answer was a "yes," women were asked about the frequency of the act in the 12 months preceding the survey. A "yes" to one or more of items (a) to (g) constitutes evidence of physical violence and a "yes" to items (h) or (i) constitutes evidence of sexual violence.

A similar approach was used to measure the prevalence of emotional violence. Respondents were asked the question:

Does/Did your last husband ever:

a) Say or do something to humiliate you in front of others?

b) Threaten to hurt or harm you or someone close to you?

c) Insult you or make you feel bad about yourself?

Women could answer "yes" or "no" to each item, and for items they answered "yes" to, they were asked about the frequency of occurrence in the 12 months preceding the survey.

This approach of asking separately about specific acts has the advantage of not being affected by different understandings of what constitutes violence. A woman has to say whether she has, for example, ever been "slapped," not whether she has ever experienced any "violence." All women would probably agree on what constitutes a slap, but what constitutes a violent act or is understood as violence may vary across women as it does across cultures. In fact, summary terms such as "abuse" or "violence" were meant to be avoided in the implementation of the module. This approach also has the advantage of giving the respondent multiple opportunities to disclose any experience of violence, and, if the different violent acts included in the list are chosen carefully, also allows the assessment of the severity of violence.

In addition to spousal violence, women were asked if they had experienced violence at the hands of anyone other than their current or last husband using the question, "From the time you were 15 years old has anyone [other than your (current/last) husband] hit, slapped, kicked, or done anything else to hurt you physically?" Women who responded "yes" to this question were asked who had done this and the frequency of such violence during the 12 months preceding the survey.

Although this approach to questioning is widely considered to be optimal, the possibility of some underreporting of violence cannot be entirely ruled out in any survey. Caution should always be exercised in interpreting not only the data on the overall prevalence of violence, but also differentials in prevalence between subgroups of the population. Although a large part of any substantial difference in prevalence of violence between subgroups undoubtedly reflects actual differences in prevalence, differential underreporting by women in the different subgroups can also contribute to exaggerating or narrowing differences in prevalence to an unknown extent.

In the 2007 LDHS, men were not asked about their experience of violence due to security reasons. However, women were asked if they had ever hit, slapped, kicked, or done anything else to physically hurt their husband or partner at any time when he was not already beating or physically hurting them. They were further asked if their husbands/partners drink alcohol or take illegal drugs, as these are often associated with violence.

16.2 PHYSICAL VIOLENCE SINCE AGE 15

Table 16.1 shows the distribution of women who have experienced violence since age 15—ever and in the previous 12 months—by background characteristics. The data show that 45 percent of women say they ever experienced physical violence since they were 15 years old. Twenty-nine percent of women experienced physical violence in the 12 months before the survey. Only 5 percent of women experienced physical violence often in the 12 months before the survey, but 24 percent experienced violence sometimes.

Table 16.1 Experience of physical violence

Percentage of women age 15-49 who have experienced physical violence since age 15 and percentage who experienced physical violence during the 12 months preceding the survey, by background characteristics, Liberia 2007

Background characteristic	Percentage who have experienced physical violence since age 15				Number of women
		In past 12 months			
	Ever[1]	Often	Sometimes	Any	
Current age					
15-19	39.2	3.6	19.6	23.2	846
20-24	46.8	3.1	26.8	29.9	953
25-29	50.5	6.4	29.3	35.7	803
30-39	45.7	5.6	25.6	31.1	1,357
40-49	37.2	3.4	20.7	24.0	938
Employed past 12 months					
Employed for cash	47.8	4.8	27.5	32.3	2,023
Employed not for cash	37.4	4.3	19.2	23.6	1,187
Not employed	43.7	4.2	24.0	28.2	1,646
Marital status					
Never married	34.1	1.9	12.2	14.2	1,219
Married or living together	45.6	4.7	28.0	32.8	3,174
Divorced/separated/widowed	57.3	8.9	31.3	40.2	505
Number of living children					
0	39.1	2.8	19.7	22.5	1,003
1-2	47.9	5.0	26.9	32.0	1,708
3-4	46.6	5.7	25.5	31.2	1,248
5+	38.6	3.4	23.7	27.1	938
Residence					
Urban	47.0	4.2	24.3	28.5	2,084
Rural	41.7	4.6	24.6	29.2	2,813
Region					
Monrovia	45.4	3.2	22.6	25.8	1,625
North Western	35.8	11.6	16.3	27.9	352
South Central	45.9	5.2	22.5	27.7	695
South Eastern A	48.7	9.1	28.4	37.5	254
South Eastern B	27.7	1.2	16.9	18.2	310
North Central	45.8	3.8	29.5	33.3	1,660
Education					
No education	43.2	5.3	25.4	30.7	2,100
Primary	44.6	3.9	25.0	28.9	1,570
Secondary and higher	44.3	3.7	22.0	25.7	1,223
Wealth quintile					
Lowest	39.1	4.2	25.4	29.6	849
Second	43.6	5.1	25.6	30.7	915
Middle	45.7	5.8	22.8	28.6	943
Fourth	50.2	3.6	28.5	32.1	1,092
Highest	40.3	3.8	20.1	23.9	1,099
Total	44.0	4.5	24.4	28.9	4,897

Note: Total includes women with information missing on employment or education
[1] Includes in the past 12 months

Women age 20-29 are more likely to have ever experienced physical violence compared with women in other age cohorts. Women who are employed for cash; those who are divorced, separated, or widowed; and those who reside in urban areas are more likely to experience physical violence than other women. Women with one to two children are more likely to have ever experienced physical violence than women with more children or women with no children. The proportion of women who have ever experienced violence since age 15 is highest in South Eastern A region and lowest in South Eastern region. Levels of violence show little variation by level of education or wealth.

Table 16.2 Persons committing physical violence

Among women age 15-49 who have experienced physical violence since age 15, percentage who reported that specific persons committed the violence, by current marital status, Liberia 2007

Person	Marital status: Ever married	Marital status: Never married	Total
Current husband/partner	60.7	na	49.0
Former husband/partner	18.5	na	14.9
Current boyfriend	4.5	6.9	5.0
Former boyfriend	6.8	12.8	8.0
Father/stepfather	16.3	40.9	21.0
Mother/stepmother	24.4	50.2	29.4
Sister/brother	7.1	12.8	8.2
Daughter/son	0.3	0.6	0.3
Other relative	7.3	14.1	8.6
Mother-in-law	0.3	na	0.2
Father-in-law	0.2	na	0.1
Other in-law	0.0	na	0.2
Teacher	3.2	9.0	4.3
Employer/someone at work	0.2	0.2	0.2
Police/soldier	1.8	1.1	1.6
Other	2.2	6.2	3.0
Number of women	1,738	415	2,153

na = Not applicable

Table 16.2 shows that the main perpetrators of violence against women are current or former husbands/partners, followed by mother/stepmothers and fathers/stepfathers. Among ever-married women who have ever been abused, almost 80 percent report that a current or former husband or partner was the perpetrator. Among never-married women, the most common abusers are mothers/stepmothers and fathers/stepfathers.

16.3 SEXUAL VIOLENCE

The 2007 LDHS investigated women's experience of sexual violence, including a question on whether the respondent's first sexual intercourse was forced against her will. Because the notion of force can be interpreted in varying ways, the question was worded as follows: "The first time you did men business, would you say you did it because you wanted to or because you were physically forced to do it against your will?"

Table 16.3 shows that 10 percent of women said their first sexual experience was forced against their will. This proportion is slightly higher among those who first had sex before age 15 and at age 20-24. There is no significant difference by whether their first sexual experience took place at the time they first married or before marriage.

Table 16.3 Use of force at sexual initiation

Percentage of women age 15-49 who have ever had sexual intercourse who say that their first experience of sexual intercourse was forced against their will, by age at first sexual intercourse and whether the first sexual intercourse was at the time of marriage or before first marriage, Liberia 2007

Background characteristic	Percentage whose first sexual intercourse was forced against their will	Number of women who have ever had sex
Age at first sexual intercourse		
<15	13.6	900
15-19	8.5	3,327
20-24	14.7	161
25-29	*	10
First sexual intercourse was:		
At the time of first marriage/ first cohabitation	10.6	1,341
Before first marriage/ first cohabitation[1]	9.3	3,056
Inconsistent	12.3	264
Total	9.9	4,662

Note: Total includes women whose age at first sex is missing or inconsistent. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Includes never-married women

In addition to the question on whether the first sexual intercourse was forced, the 2007 LDHS included two sets of questions on sexual violence. The first set of questions asked ever-married respondents only about sexual violence committed by their current husband or partner, if they were currently married, and the most recent husband/partner, if they were currently divorced, separated, or widowed. The second set asked all respondents whether they had ever, as a child or as an adult, experienced sexual violence. Sexual violence here includes being physically forced to have sexual intercourse or perform any other sexual acts against one's will. Tables 16.4 and 16.5 present the results. More details about sexual violence by a husband or partner are explored later in the chapter.

Table 16.4 shows that 18 percent of women age 15-49 have ever experienced some form of sexual violence. Those who are more likely to experience sexual violence include women between the ages of 25 and 39, those who are employed but not for cash, those who are divorced/separated or widowed, and those who have three to four children. There is no difference between urban and rural women; however, women in South Eastern A region are more likely to have experienced violence (24 percent) than women in other regions, especially South Eastern B (8 percent). There is no consistent pattern between experience of violence and either education or wealth quintile of women.

Table 16.4 Experience of sexual violence

Percentage of women age 15-49 who have ever experienced sexual violence, by background characteristics, Liberia 2007

Background characteristic	Percentage who have ever experienced sexual violence[1]	Number of women
Current age		
15-19	13.1	846
20-24	13.0	953
25-29	22.3	803
30-39	22.0	1,357
40-49	15.8	938
Employed past 12 months		
Employed for cash	17.5	2,023
Employed not for cash	20.9	1,187
Not employed	14.5	1,646
Marital status		
Never married	9.9	1,219
Married or living together	19.5	3,174
Divorced/separated/widowed	24.0	505
Number of living children		
0	10.9	1,003
1-2	19.0	1,708
3-4	21.2	1,248
5+	17.3	938
Residence		
Urban	17.1	2,084
Rural	17.9	2,813
Region		
Monrovia	16.9	1,625
North Western	18.1	352
South Central	14.5	695
South Eastern A	24.2	254
South Eastern B	8.0	310
North Central	20.2	1,660
Education		
No education	16.3	2,100
Primary	18.6	1,570
Secondary and higher	18.4	1,223
Wealth quintile		
Lowest	16.0	849
Second	15.9	915
Middle	18.4	943
Fourth	20.5	1,092
Highest	16.5	1,099
Total	17.6	4,897

Note: Total includes those with information missing on employment or education

[1] Including those whose sexual initiation was forced against their will

Table 16.5 shows information on the types of persons who committed the sexual violence against women. From the table, it appears that sexual violence perpetrated by intimate partners is far more common than sexual violence perpetrated by those who are not intimate partners. For example, among women who have ever experienced sexual violence, almost one-third (32 percent) say their current husband or partner violated them, while 10 percent say they have been sexually abused by a current or former boyfriend. A relatively high proportion of women who report sexual violence say that they were abused by police or soldiers (8 percent), which is perhaps not surprising given the many years of civil war in Liberia in the last two decades. Other perpetrators of sexual violence reported by women are former husbands and partners (5 percent), friends and acquaintances (5 percent), strangers (4 percent), and family friends (4 percent).

Ever-married women who have experienced sexual violence are most likely to report a current husband or partner as the perpetrator, while never-married women are most likely to have experienced sexual violence from their current or former boyfriends. Few ever-married and never-married women were violated by strangers (4 and 6 percent, respectively).

Table 16.5 Persons committing sexual violence

Among women age 15-49 who have experienced sexual violence, percentage who reported that specific persons committed the sexual violence, by current marital status, Liberia 2007

Person	Marital status: Ever married	Marital status: Never married	Total
Current husband/partner	37.1	na	31.9
Former husband/partner	6.2	na	5.3
Current/former boyfriend	6.7	31.3	10.2
Father	1.6	0.0	1.4
Stepfather	0.3	0.0	0.2
Other relative	1.1	0.0	1.0
In-law	0.3	1.0	0.4
Own friend/acquaintance	4.0	8.2	4.6
Family friend	2.4	10.4	3.5
Teacher	0.2	0.0	0.2
Employer/someone at work	0.5	0.4	0.5
Police/soldier	8.1	8.4	8.1
Priest/religious leader	0.3	0.0	0.2
Stranger	3.5	5.8	3.8
Other	1.5	2.4	1.6
Missing	26.3	32.2	27.1
Number of women	739	121	860

Note: Total includes those for whom age at first experience of sexual violence was not known or was missing
na = Not applicable

16.4 MARITAL CONTROL

Gender-based violence is not restricted to physical violence. Verbal abuse, restrictions in freedom of movement, and withholding of funds can also constitute violent behavior. Table 16.6 shows the percentage of ever-married women whose husbands have ever demonstrated various types of behaviors aimed at controlling them.

The data show that a majority of ever-married women either say that their husbands are jealous or angry if they talk to other men (71 percent) or that their husbands frequently accuse them of being unfaithful (58 percent). Just under half of women say that their husbands insist on knowing where they are at all times (48 percent), and 43 percent say that their husbands do not trust them with money. About one-quarter of women say that their husbands do not allow them to meet with their female friends. The only behavior that is relatively uncommon is a husband's attempts to limit the wife's contact with her family (reported by only 13 percent of ever-married women). More than half (52 percent) of women say their husbands display three or more of the specific behaviors, and only 14 percent say their husbands display none of the specified behaviors.

The proportion of ever-married women who say their husbands display three or more of the specific behaviors is lower among the youngest and oldest age groups (15-19 and 40-49) compared with those age 20-39. There is an inverse relationship between the number of living children that a woman has and her husband's behavior. For example, Table 16.6 shows that 55 percent of women with no living children say their husbands demonstrate three or more of the specific behaviors compared with 47 percent of women with five or more children. Women who are divorced, separated, or widowed are far more likely than currently married women to say that their former husbands displayed three or more of the controlling behaviours (65 and 50 percent, respectively).

Table 16.6 Degree of marital control exercised by husbands

Percentage of ever-married women age 15-49 whose current or most recent husband/partner demonstrates specific controlling behaviors, according to background characteristics, Liberia 2007

Background characteristic	Percentage of women whose husband: Is jealous or angry if she talks to other men	Frequently accuses her of being unfaithful	Does not permit her to meet her female friends	Tries to limit her contact with her family	Insists on knowing where she is at all times	Does not trust her with any money	Displays 3 or more of the specific behaviors	Displays none of the specific behaviors	Number of women
Current age									
15-19	69.0	51.6	26.5	7.7	43.5	33.7	45.3	18.7	200
20-24	72.0	61.8	26.3	13.2	50.3	43.3	53.9	13.4	566
25-29	76.0	65.2	29.4	15.6	54.9	40.5	58.0	10.2	678
30-39	72.1	60.7	28.3	11.9	49.4	44.2	55.3	12.8	1,301
40-49	64.5	48.4	20.9	12.1	39.4	43.2	42.4	16.4	933
Employed past 12 months									
Employed for cash	70.0	58.1	26.5	12.6	50.7	46.7	52.9	13.0	1,768
Employed not for cash	71.6	58.8	24.2	10.0	39.5	34.8	49.2	15.4	984
Not employed	70.4	56.8	27.5	15.6	50.6	42.8	52.4	13.3	902
Number of living children									
0	75.0	60.0	31.8	10.7	51.4	49.8	55.3	10.0	251
1-2	71.6	61.2	27.9	15.0	51.0	41.1	54.1	13.2	1,276
3-4	70.9	57.9	24.7	10.4	48.1	43.0	52.4	13.2	1,217
5+	68.1	53.5	24.4	12.7	41.7	41.9	46.8	15.8	934
Marital status and duration									
Currently married woman	70.0	56.6	24.3	11.9	45.0	40.9	49.7	14.1	3,174
Married only once	72.7	58.1	25.2	11.9	47.2	37.6	51.0	13.4	2,108
0-4 years	76.0	59.4	28.4	13.1	51.1	36.7	53.8	11.2	464
5-9 years	72.0	60.9	24.4	13.8	48.9	39.8	54.6	13.8	521
10+ years	71.6	56.3	24.2	10.5	44.8	37.0	48.2	14.1	1,123
Married more than once	64.6	53.7	22.6	11.9	40.7	47.5	47.1	15.6	1,065
Divorced/separated/ widowed	75.2	67.4	38.2	17.0	64.6	52.6	64.6	10.6	505
Residence									
Urban	75.9	62.3	32.1	14.6	53.9	39.9	56.2	13.6	1,306
Rural	67.9	55.8	23.0	11.5	44.3	44.0	49.3	13.7	2,372
Region									
Monrovia	77.3	63.9	32.4	13.2	53.0	37.7	55.3	14.8	985
North Western	66.2	57.4	33.1	14.9	51.1	50.7	55.1	10.3	315
South Central	59.0	52.5	27.0	11.5	51.2	70.3	55.7	10.0	549
South Eastern A	72.9	57.3	32.7	12.8	53.5	36.8	56.7	12.0	208
South Eastern B	54.7	45.1	18.8	4.3	38.8	41.7	40.4	21.0	230
North Central	74.0	58.6	20.3	13.4	42.4	34.2	48.1	14.0	1,392
Education									
No education	66.2	53.9	23.6	12.2	44.3	43.2	48.4	15.8	1,914
Primary	75.3	64.0	28.8	13.6	49.5	44.3	54.9	9.9	1,063
Secondary and higher	75.9	60.6	29.7	12.3	54.2	37.9	56.2	13.3	699
Wealth quintile									
Lowest	64.8	54.8	21.8	10.4	44.4	47.2	50.0	13.0	741
Second	70.3	56.0	22.3	12.7	47.9	42.0	52.0	12.6	784
Middle	68.7	57.3	23.7	10.5	43.3	41.2	46.7	15.4	745
Fourth	73.9	61.7	31.6	14.9	52.3	44.6	56.2	12.9	776
Highest	76.5	61.0	32.6	14.7	50.9	36.8	53.9	14.6	633
Total	70.7	58.1	26.2	12.6	47.7	42.5	51.8	13.6	3,678

Note: Women not currently married were asked questions about the behavior of their most recent husband/partner using the past tense. Total includes women with information missing on employment status or education

The proportion of women who say their husbands display at least three of the controlling behaviors is slightly higher among urban women than rural women (56 percent and 49 percent). It also tends to rise slightly with education of the woman (48 percent among those with no education and 56 percent among those who attended secondary school). It appears that men in South Eastern B region are the least likely to try to control their wives.

16.5 MARITAL VIOLENCE

Marital violence refers to violence perpetrated by partners in a marital union. Because spousal or intimate partner violence is the most common form of violence experienced by women age 15-49, the 2007 LDHS collected detailed information on the different types of violence experienced—physical, sexual, and emotional. Currently married women were asked about violence perpetrated by their current husband, and formerly married women were asked about violence perpetrated by their most recent husband. Respondents were asked about seven specific acts of physical violence, two of sexual violence, and three of emotional violence. Table 16.7 shows the proportion of ever-married women who have experienced specific forms of physical, sexual, or emotional violence at the hands of their current or former husbands.

Table 16.7 Forms of spousal violence

Percentage of ever-married women age 15-49 who have experienced various forms of violence ever or in the 12 months preceding the survey, committed by their current or most recent husband/partner, Liberia 2007

Type of violence	Percentage who ever experienced spousal violence	Percentage who experienced spousal violence in the past 12 months[1]		
		Often	Sometimes	Often or sometimes
Physical violence				
Any	**35.0**	**5.1**	**27.9**	**33.0**
Pushed her, shook her, or threw something at her	17.0	2.5	13.9	16.5
Slapped her	32.2	3.9	26.3	30.1
Twisted her arm or pulled her hair	12.1	1.9	9.7	11.6
Punched her with his fist or with something that could hurt her	9.3	2.0	6.7	8.7
Kicked her, dragged her, or beat her up	15.7	2.7	12.1	14.8
Tried to choke her or burn her on purpose	5.2	1.0	3.9	5.0
Threatened her or attacked her with a knife, gun, or any other weapon	3.0	0.0	0.0	0.0
Sexual violence				
Any	**10.8**	**1.8**	**7.8**	**9.6**
Physically forced her to have sexual intercourse with him even when she did not want to	9.3	1.6	7.4	8.9
Forced her to perform any sexual acts she did not want to	4.6	0.9	3.2	4.1
Sexual initiation by current or former husband was forced	1.0	na	na	na
Emotional violence				
Any	**35.8**	**7.0**	**27.5**	**34.5**
Said or did something to humiliate her in front of others	23.6	4.6	17.7	22.3
Threatened to hurt or harm her or someone close to her	10.1	2.3	7.4	9.7
Insulted her or made her feel bad about herself	30.5	5.2	24.1	29.3
Any form of physical and/or sexual violence	38.6	5.9	30.4	36.3
Any form of physical and sexual violence	7.1	2.1	5.0	7.1
Any form of emotional, physical, and/or sexual violence	49.3	9.5	37.6	47.1
Any form of emotional, physical, and sexual violence	5.3	2.2	3.0	5.2
Number of ever-married women	3,678	3,555	3,555	3,555

na = Not applicable
[1] Excludes widows

The data show that 35 percent of women have ever experienced physical violence by a current or most recent husband or partner, and 11 percent have ever experienced sexual violence, and 36 percent have ever experienced emotional violence. Overall, just under half (49 percent) of ever-married women have experienced any kind of violence (physical, sexual, or emotional) by a husband or other intimate partner.

Among the physical acts of violence, slapping was the most commonly reported act, experienced by 32 percent of women (Figure 16.1). Seventeen percent of women have been pushed, shaken, or had something thrown at them by their husbands or partners, and 16 percent were kicked, dragged, or beaten up by their husbands or partners. Nine percent of ever-married women were forced to have sex by their husbands/partners when they did not want to, and 31 percent of women were insulted or demeaned. Interestingly, almost all the women who say they have ever experienced various forms of violence also say they have experienced these violence acts in the previous 12 months.

Figure 16.1 Percentage of Ever-married Women Age 15-49 Who Have Experienced Various Forms of Physical and Sexual Violence by Their Husband/Partner

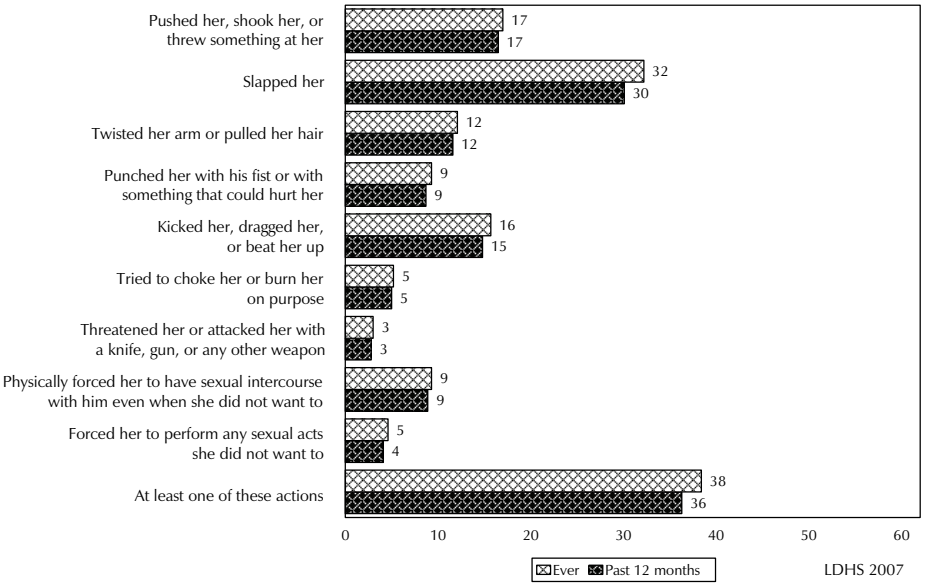


Table 16.8 shows the percentage of ever-married women who have ever suffered any emotional, physical, or sexual violence at the hands of their current or most recent husbands/partners, according to selected background characteristics. As previously mentioned, there is only marginal variation in the proportion of women who experience emotional and physical violence—36 and 35 percent, respectively—and spousal sexual violence is lower (11 percent).

Women in their twenties are generally more likely to have experienced emotional or physical spousal violence than those in other age groups. The exception is spousal sexual violence, which is most common among ever-married women age 15-19. Women employed but not for cash are more likely to have been sexually violated by their husbands (17 percent) than women employed for cash (7 percent) or not working (10 percent). Women with five or more children are least likely to have experienced all forms of spousal violence. By marital status, women who are divorced, separated, or widowed are more likely to have experienced each form of spousal violence than women who are currently married. Those married for longer durations are less likely to report having experienced spousal violence, which could be due to a higher frequency of marital dissolution and re-marriage in violent unions.

Table 16.8 Spousal violence by background characteristics

Percentage of ever-married women age 15-49 by whether they have ever experienced emotional, physical, or sexual violence committed by their current or most recent husband/partner, according to background characteristics, Liberia 2007

Background characteristic	Type of violence							Number of women
	Emotional	Physical	Sexual	Physical and/or sexual	Physical and sexual	Emotional, physical, and/or sexual	Emotional, physical, and sexual	
Current age								
15-19	32.2	35.8	15.4	38.4	12.8	46.1	7.2	200
20-24	40.7	45.7	10.1	47.7	8.1	55.8	5.9	566
25-29	38.9	43.1	12.8	45.2	10.8	54.0	8.1	678
30-39	37.3	33.5	11.1	38.7	5.9	51.5	4.6	1,301
40-49	29.2	24.7	8.1	28.3	4.5	39.6	3.3	933
Employed past 12 months								
Employed for cash	38.5	37.3	7.3	39.1	5.6	51.6	4.0	1,768
Employed not for cash	29.2	24.3	17.2	32.7	8.8	42.4	7.1	984
Not employed	38.3	40.9	9.8	43.0	7.7	51.4	5.9	902
Number of living children								
0	32.5	39.2	8.9	40.5	7.6	49.2	4.6	251
1-2	39.4	41.5	11.8	44.0	9.3	52.9	6.7	1,276
3-4	37.5	33.0	12.1	37.7	7.4	51.1	5.8	1,217
5+	29.6	27.7	8.1	32.1	3.7	42.1	2.9	934
Marital status and duration								
Currently married	34.7	33.2	10.5	37.2	6.5	48.4	4.9	3,174
Married only once	33.7	34.1	11.0	38.0	7.0	48.2	5.4	2,108
0-4 years	39.8	40.2	10.8	42.7	8.4	52.3	7.1	464
5-9 years	37.7	38.2	14.4	44.5	8.1	55.4	6.7	521
10+ years	29.3	29.6	9.5	33.1	6.0	43.3	4.2	1,123
Married more than once	36.6	31.6	9.4	35.6	5.4	48.7	3.9	1,065
Divorced/separated/ widowed	42.9	46.3	12.6	47.6	11.2	55.0	7.4	505
Residence								
Urban	39.2	39.4	9.3	42.2	6.5	53.8	4.4	1,306
Rural	34.0	32.6	11.6	36.7	7.5	46.8	5.8	2,372
Region								
Monrovia	39.7	37.2	8.2	39.9	5.5	52.8	3.3	985
North Western	46.9	30.5	10.1	32.5	8.2	54.5	8.0	315
South Central	42.1	36.4	6.3	38.0	4.7	48.6	4.6	549
South Eastern A	36.2	43.5	19.8	48.9	14.4	54.5	10.8	208
South Eastern B	17.8	21.5	3.6	22.0	3.1	25.5	2.4	230
North Central	31.0	34.9	14.4	40.6	8.7	49.1	6.0	1,392
Education								
No education	33.7	32.6	9.0	35.0	6.6	46.1	4.8	1,914
Primary	37.6	37.0	14.4	42.3	9.0	53.5	6.8	1,063
Secondary and higher	38.6	38.4	10.0	42.7	5.7	51.6	4.4	699
Wealth quintile								
Lowest	30.3	33.8	10.0	37.9	5.9	45.4	4.4	741
Second	35.5	32.4	10.8	35.8	7.4	46.8	5.9	784
Middle	37.1	32.3	11.1	36.0	7.4	48.1	6.2	745
Fourth	41.0	41.1	11.8	44.2	8.7	57.2	5.3	776
Highest	34.8	35.5	9.9	39.4	6.0	48.7	4.3	633
Respondent's father beat her mother								
Yes	42.7	46.7	12.9	50.8	8.9	60.9	6.9	1,243
No	30.8	27.2	9.2	30.8	5.6	41.3	4.4	2,110
Does not know	42.9	38.5	9.0	41.0	6.6	55.7	4.4	295
Total	35.8	35.0	10.8	38.6	7.1	49.3	5.3	3,678

Note: Women not currently married were asked questions about the behavior of their most recent husband/partner using the past tense. Total includes women missing information on employment, education, and whether her father beat her mother

By residence, more urban women experience emotional and physical violence, but more rural women (12 percent) experience sexual violence compared with urban women (9 percent). Most forms of spousal violence are lowest in South Eastern B region and they tend to be high in South Eastern A and North Western regions. Emotional and physical violence tend to increase slightly with education, but sexual violence shows a nonlinear pattern. By wealth quintile, only emotional violence shows a slight tendency to increase with increasing quintiles, while spousal physical violence and sexual violence show less definite patterns by wealth. Moreover, women whose fathers beat their mothers are more likely to experience violence from a husband or partner than women whose fathers were not abusive to their mothers.

Because the perpetrators of spousal violence are usually husbands or partners, it is important to understand the characteristics of husbands. It is also useful to examine whether spousal violence varies with indicators of women's status. Table 16.9 shows the percentage of ever-married women who have ever experienced different forms of spousal violence by the current or most recent husband, by spouse's characteristics and women's status variables.

There are only small differences in the extent of spousal violence by the level of husband's education except that emotional violence and sexual violence are less commonly reported by women whose husbands have more than secondary education. Husband's alcohol consumption is strongly related to the wife's reporting of violence. For example, the proportion of ever-married women who report having experienced physical violence from their husbands varies from 29 percent among those whose husbands do not drink at all to 64 percent among those whose husbands get drunk very often.

Women who are older than their husbands are more likely to experience spousal violence than those who are the same age or younger than their husbands. Women in marriages in which neither spouse is educated are the least likely to report experiencing violence from their husbands.

There is a strong relationship between spousal violence and the number of marital control behaviors displayed by the husband. Women whose husbands display five to six controlling behaviors are almost four times more likely to report experiencing emotional violence by their husbands than women whose husbands display no controlling behaviors (66 and 17 percent, respectively). There are similar differences for physical and sexual violence.

Surprisingly, women who participate in none of the household decisions asked about in the survey were less likely to experience spousal violence than women who participate in one or two decisions. Women who agree with more reasons justifying the refusal to have sexual intercourse with their husbands are the least likely to experience sexual violence from their husbands (16 percent among those who agree with no reasons compared with 7 percent among those who agree with all three reasons). Views about wife beating also appear to be related to actual experience of physical abuse. Women who believe that wife beating is justified in all five of the specified circumstances are somewhat more likely to report having experienced physical violence from their husbands than women who do not think wife beating is justified for any reason. To some extent, this pattern could be due to women's rationalization of the abuse they have experienced.

Table 16.9 Spousal violence by husband's characteristics and empowerment indicators

Percentage of ever-married women age 15-49 who have ever suffered emotional, physical, or sexual violence committed by their current or most recent husband/partner, by husband's characteristics, marital characteristics, and empowerment indicators, Liberia 2007

	Type of violence							
Characteristic	Emotional	Physical	Sexual	Physical and/or sexual	Physical and sexual	Emotional, physical, and/or sexual	Emotional, physical, and sexual	Number of women
Husband's/partner's education								
No education	36.2	33.7	9.9	36.1	7.4	47.6	5.2	992
Primary	33.6	33.8	12.5	39.8	6.5	49.1	5.6	702
Secondary	38.7	35.7	10.6	38.9	7.4	51.0	5.7	1,586
More than secondary	24.0	34.5	7.3	38.5	3.4	44.6	1.9	289
Husband's/partner's alcohol consumption								
Does not drink	31.0	28.9	8.9	31.9	5.8	43.0	4.2	2,293
Drinks/never gets drunk	*	*	*	*	*	*	*	10
Gets drunk sometimes	40.9	42.2	13.0	47.0	8.2	57.7	5.8	1,063
Gets drunk very often	59.6	63.6	18.6	67.1	15.1	73.2	12.6	263
Spousal age difference[1]								
Wife older	44.3	42.6	14.4	46.8	10.2	59.3	9.7	263
Wife is same age	34.1	28.4	7.0	31.4	4.0	46.7	4.0	101
Wife is 1-4 years younger	36.1	32.3	10.6	36.6	6.3	48.2	4.9	847
Wife is 5-9 years younger	33.8	33.0	9.6	37.2	5.5	48.3	4.0	914
Wife is 10+ years younger	33.3	31.8	10.0	35.4	6.4	46.2	4.9	932
Spousal education difference								
Husband better educated	36.4	34.5	10.8	38.3	7.0	49.8	5.4	2,057
Wife better educated	36.6	39.3	10.7	44.0	5.9	53.2	4.7	502
Both equally educated	40.2	36.5	13.6	43.5	6.6	54.0	6.1	144
Neither educated	33.2	32.0	9.2	34.0	7.2	44.5	4.8	844
Number of marital-control behaviors displayed by husband/partner								
0	17.1	20.3	6.3	23.1	3.4	29.5	0.7	502
1-2	23.5	25.2	7.8	28.3	4.7	36.2	2.7	1,273
3-4	42.3	39.1	12.4	44.5	7.1	58.0	5.7	1,359
5-6	65.5	61.3	17.6	62.6	16.4	76.3	14.6	544
Number of decisions in which woman participates								
0	29.1	28.6	10.0	30.3	8.4	37.5	5.5	133
1-2	48.3	37.1	12.1	41.3	7.9	58.5	7.3	669
3-4	31.2	32.4	10.0	36.4	6.0	46.1	4.2	2,372
Number of reasons given for refusing to have sexual intercourse with husband								
0	34.2	40.6	15.5	46.5	9.7	54.1	8.3	470
1-2	39.3	31.8	13.5	36.7	8.6	51.6	6.1	1,559
3	33.0	36.4	6.8	38.2	5.0	45.7	3.7	1,649
Number of reasons for which wife beating is justified								
0	31.6	33.4	8.1	35.7	5.9	44.4	3.2	1,298
1-2	34.9	34.4	14.1	40.6	7.8	49.4	6.3	1,011
3-4	40.8	35.9	10.5	38.8	7.6	53.3	6.1	1,104
5	39.1	41.4	12.4	45.0	8.9	56.2	7.5	266
Total	35.8	35.0	10.8	38.6	7.1	49.3	5.3	3,678

Note: Women not currently married were asked questions about the behavior of their most recent husband/partner using the past tense. Total includes women with information missing on husband's education, husband's alcohol consumption, spousal age difference, and spousal education difference. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

[1] Currently married women

16.6 FREQUENCY OF SPOUSAL VIOLENCE

Frequency of spousal violence is an indication of the extent to which domestic violence is a current or recurring problem for Liberian women. Table 16.10 shows the percent distribution of currently married, divorced, or separated women who report physical or sexual violence by their current or most recent husband, by the frequency of any form of such violence in the 12 months before the survey, according to selected background characteristics.

Table 16.10 Frequency of spousal violence

Percent distribution of ever-married women age 15-49 (excluding widows) who have ever suffered emotional violence committed by their current or most recent husband/partner by frequency of violence in the 12 months preceding the survey and percent distribution of those who have ever suffered physical or sexual violence committed by their husband/partner, by frequency of violence in the 12 months preceding the survey, according to background characteristics, Liberia 2007

Background characteristic	Frequency of emotional violence in past 12 months					Frequency of physical or sexual violence in past 12 months				
	Often	Sometimes	Not at all	Total	Number of women	Often	Sometimes	Not at all	Total	Number of women
Current age										
15-19	15.5	84.4	0.1	100.0	65	14.5	84.0	1.5	100.0	76
20-24	16.8	76.5	6.6	100.0	226	10.5	84.8	4.7	100.0	262
25-29	18.4	76.1	5.5	100.0	256	18.4	77.4	4.2	100.0	299
30-39	22.9	72.5	4.6	100.0	474	16.4	77.6	6.0	100.0	476
40-49	17.1	78.6	4.4	100.0	255	15.2	75.9	8.8	100.0	231
Employed past 12 months										
Employed for cash	16.7	77.7	5.6	100.0	657	14.4	77.3	8.3	100.0	648
Employed not for cash	26.1	69.9	4.0	100.0	283	19.3	78.8	1.9	100.0	306
Not employed	19.3	76.4	4.3	100.0	331	14.3	81.5	4.2	100.0	375
Number of living children										
0	13.0	80.1	6.8	100.0	80	10.1	87.9	2.0	100.0	99
1-2	19.0	75.7	5.3	100.0	488	17.1	76.7	6.2	100.0	541
3-4	22.1	73.3	4.6	100.0	443	18.1	75.7	6.2	100.0	421
5+	17.5	78.5	4.0	100.0	266	9.9	85.4	4.7	100.0	283
Marital status and duration										
Currently married	19.7	76.2	4.1	100.0	1,084	14.1	80.7	5.2	100.0	1,150
Married only once	19.6	75.4	4.9	100.0	699	14.3	79.3	6.4	100.0	781
0-4 years	17.0	78.9	4.1	100.0	182	12.6	85.0	2.4	100.0	195
5-9 years	23.2	71.3	5.4	100.0	196	17.6	75.8	6.6	100.0	226
10+ years	19.0	76.0	5.1	100.0	321	13.1	78.5	8.4	100.0	360
Married more than once	19.9	77.6	2.5	100.0	385	13.7	83.6	2.7	100.0	369
Divorced/separated/widowed	17.4	73.0	9.6	100.0	192	23.1	69.0	7.9	100.0	193
Residence										
Urban	15.8	79.2	5.0	100.0	502	15.7	77.4	6.9	100.0	525
Rural	21.7	73.5	4.8	100.0	774	15.2	80.1	4.7	100.0	818
Region										
Monrovia	12.1	82.1	5.8	100.0	384	13.6	77.7	8.6	100.0	372
North Western	35.4	64.1	0.6	100.0	143	44.0	55.3	0.8	100.0	94
South Central	18.5	71.9	9.6	100.0	216	18.6	73.4	7.9	100.0	188
South Eastern A	30.4	66.5	3.1	100.0	74	26.6	71.9	1.5	100.0	98
South Eastern B	9.8	86.9	3.3	100.0	40	7.9	86.3	5.8	100.0	49
North Central	20.1	76.4	3.5	100.0	419	9.2	86.6	4.3	100.0	543
Education										
No education	20.5	75.5	4.0	100.0	629	15.3	79.5	5.2	100.0	636
Primary	20.7	72.6	6.7	100.0	385	13.3	81.0	5.7	100.0	427
Secondary and higher	14.9	80.6	4.5	100.0	260	19.0	74.6	6.4	100.0	278
Wealth quintile										
Lowest	19.8	77.5	2.7	100.0	212	13.8	81.5	4.7	100.0	263
Second	25.0	68.4	6.7	100.0	271	15.2	80.1	4.7	100.0	268
Middle	19.4	76.6	4.0	100.0	274	18.2	75.4	6.4	100.0	261
Fourth	16.1	78.2	5.7	100.0	306	12.5	82.2	5.3	100.0	312
Highest	16.5	78.6	4.9	100.0	214	18.1	74.9	7.0	100.0	238
Total	19.4	75.7	4.9	100.0	1,276	15.4	79.0	5.6	100.0	1,343

Note: Table excludes widows who were not asked about spousal violence in the past 12 months. Total includes women with information missing on employment and education.

Of women who have ever experienced emotional violence by their current or most recent spouse, the vast majority (95 percent) experienced such violence in the 12 months before the survey—19 percent reported experiencing it often and 76 percent sometimes. Similarly, among women who have ever experienced spousal physical or sexual violence, 94 percent experienced it in the 12 months before the survey—15 percent experienced physical violence often and 79 percent sometimes. Differences by background characteristics are not large.

16.7 PHYSICAL CONSEQUENCES OF SPOUSAL VIOLENCE

In the 2007 LDHS, women who ever experienced spousal physical or sexual violence were asked about the physical consequences of the violence. Specifically, they were asked if, as a consequence of what their spouses did to them, they ever had any of three different sets of injuries: 1) cuts, bruises, or aches; 2) burns, eye injuries, sprains, or dislocations; and 3) deep wounds, broken bones, broken teeth, or any other serious injury. Table 16.11 shows the percentage of ever-married women who report any spousal physical or sexual violence by the different types of physical consequences resulting from the violence, according to the type of violence.

One-third of women who have experienced physical violence from their husbands and almost one-third of those who experienced sexual violence from their husbands have sustained at least one form of injury. Among those who have experienced physical and sexual violence, 43 percent suffered an injury as a result. Cuts, bruises, and aches are the most common types of injuries, followed by eye injuries, sprains, dislocations, and burns.

Table 16.11 Injuries to women resulting from spousal violence

Percentage of ever-married women age 15-49 who have experienced specific types of spousal violence by types of injuries resulting from what their current or most recent husband/partner did to them, according to the type of violence and whether they have experienced the violence ever and in the 12 months preceding the survey, Liberia 2007

Type of violence	Cuts, bruises, or aches	Eye injuries, sprains, dislocations, or burns	Deep wounds, broken bones, broken teeth, or any other serious injury	Any of these injuries	Number of ever-married women
Physical violence					
Ever[1]	27.8	16.6	9.0	32.5	1,288
In the past 12 months[2]	29.5	17.6	9.5	34.6	1,174
Sexual violence					
Ever[1]	24.2	14.0	12.8	30.2	370
In the past 12 months[2]	23.3	13.3	11.8	28.9	343
Physical or sexual violence					
Ever[1]	25.6	15.1	8.3	30.1	1,411
In the past 12 months[2]	27.1	16.0	8.6	31.8	1,289
Physical and sexual violence					
Ever[1]	34.7	21.0	18.5	42.8	247
In the past 12 months[2]	33.3	20.0	17.8	41.8	228

[1] Includes in the past 12 months.
[2] Excludes widows

16.8 VIOLENCE INITIATED BY WOMEN AGAINST HUSBANDS

Violence by husbands against wives is not the only form of spousal violence; women may sometimes be the perpetrators of violence. In most cultures, however, the level of spousal violence initiated by wives is only a fraction of the level of spousal violence initiated by husbands. To measure spousal violence by women in the 2007 LDHS, married, separated, and divorced women were asked, "Have you ever hit, slapped, kicked, or done anything else to physically hurt your (last) husband/partner at times when he was not already beating or physically hurting you?" This line of questioning may result in some underreporting if women find it difficult to admit that they themselves initiated violence.

Results shown in Table 16.12 indicate that 10 percent of ever-married women (excluding widows) report that they ever initiated physical violence against their current or most recent husband, and 6 percent say they have committed such violence in the 12 months before the survey. Differentials in women's initiating spousal physical violence are generally small. One exception is that women who report ever experiencing physical violence at the hands of their husbands are more likely to report initiating violence against their husbands compared with women who never experienced physical violence by their husbands (20 percent and 4 percent, respectively). Also, women in South Eastern B region consistently report the lowest level of violence.

Table 16.12 Violence by women against their spouse

Percentage of ever-married women age 15-49 who have committed physical violence against their current or most recent husband/partner when he was not already beating or physically hurting them ever and in the past 12 months, according to women's own experience of spousal violence and their own and husband's/partner's characteristics, Liberia 2007

Background characteristic	Percentage who have committed physical violence against their current or most recent husband/partner				Number of women
		In the past 12 months[1]			
	Ever	Often	Sometimes	Any	
Woman's experience of spousal physical violence					
In the past 12 months	20.3	1.7	11.9	13.7	1,174
Not past 12 months/widow/missing	23.2	0.0	4.0	4.0	79
Never	3.8	0.2	2.1	2.2	2,425
Current age					
15-19	11.8	0.0	7.8	7.8	200
20-24	11.2	0.8	6.4	7.2	566
25-29	10.3	0.6	6.6	7.2	678
30-39	8.9	0.8	4.1	4.8	1,301
40-49	8.2	0.5	4.8	5.3	933
Employed past 12 months					
Employed for cash	9.5	0.8	4.8	5.6	1,768
Employed not for cash	8.0	0.5	4.9	5.3	984
Not employed	10.5	0.6	6.7	7.4	902
Number of living children					
0	11.2	0.5	5.8	6.3	251
1-2	11.0	0.8	6.4	7.2	1,276
3-4	8.7	0.5	5.0	5.5	1,217
5+	8.0	0.6	4.0	4.6	934
Marital status and duration					
0-4 years	11.6	0.2	9.1	9.3	464
5-9 years	7.8	0.7	4.6	5.3	521
10+ years	8.7	0.6	4.9	5.5	1,123
Married more than once	8.7	0.9	5.2	6.1	1,065
Divorced/separated/widowed	12.7	0.6	3.3	4.0	505
Residence					
Urban	8.7	0.9	4.0	4.9	1,306
Rural	9.9	0.5	6.0	6.5	2,372
Region					
Monrovia	6.6	0.8	3.1	3.9	985
North Western	6.6	0.3	3.5	3.8	315
South Central	14.1	1.0	8.8	9.7	549
South Eastern A	11.8	1.0	6.4	7.4	208
South Eastern B	2.6	0.1	1.3	1.5	230
North Central	11.1	0.5	6.3	6.9	1,392
Education					
No education	9.0	0.5	5.0	5.5	1,914
Primary	10.2	1.2	5.4	6.6	1,063
Secondary and higher	9.6	0.3	5.8	6.1	699
Husband/partner's education					
No education	8.4	0.3	5.1	5.4	992
Primary	8.1	0.4	5.2	5.6	702
Secondary	10.4	0.9	5.7	6.6	1,586
More than secondary	10.5	0.3	2.9	3.1	289

Continued…

Table 16.12—*Continued*

Background characteristic	Percentage who have committed physical violence against their current or most recent husband/partner				Number of women
	Ever	In the past 12 months[1]			
		Often	Sometimes	Any	
Husband/partner's alcohol consumption					
Does not drink	8.1	0.3	4.8	5.1	2,293
Drinks/never gets drunk	*	*	*	*	10
Gets drunk sometimes	10.9	0.8	6.0	6.8	1,063
Gets drunk very often	17.6	3.6	6.8	10.4	263
Spousal age difference[2]					
Wife older	9.2	0.6	7.8	8.4	263
Wife is same age	6.2	0.0	3.9	3.9	101
Wife 1-4 years younger	9.2	1.1	5.5	6.6	847
Wife 5-9 years younger	8.4	0.5	5.4	5.8	914
Wife 10+ years younger	9.5	0.6	5.5	6.1	932
Spousal education difference					
Husband better educated	9.7	0.8	5.3	6.1	2,057
Wife better educated	9.1	0.0	4.7	4.7	502
Both equally educated	9.5	1.3	5.5	6.8	144
Neither educated	8.8	0.4	5.0	5.4	844
Wealth quintile					
Lowest	7.9	0.4	4.1	4.5	741
Second	8.1	0.4	5.8	6.2	784
Middle	12.4	0.5	6.3	6.8	745
Fourth	10.3	1.2	5.2	6.4	776
Highest	8.6	0.7	4.9	5.6	633
Total	9.5	0.7	5.3	5.9	3,678

Note: Total includes women with information missing on husband's education, husband's alcohol consumption, spousal age difference, and spousal education difference. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Excludes widows
[2] Currently married women

16.9 FEMALE GENITAL CUTTING

Female genital cutting (FGC)—also called female circumcision and female genital mutilation—involves cutting some part of the clitoris or labia, usually as part of a traditional ceremony or rite of passage into adolescence. In Liberia, FGC is usually implemented through bush societies or the Sande society, which refer to bush schools for young girls. Girls are taken to the bush where they are taught local customs, sex education, feminine hygiene, and housekeeping skills. They also undergo FGC, which in Liberia consists of removing some or all of the clitoris. Because of the secretive nature of the bush society and the sensitivity of direct questions about FGC, women interviewed in the 2007 LDHS were asked if they had ever heard of a bush society like the Sande society and, if so, whether they were a member of the Sande society or a woman's bush society. They were further asked whether they thought that this should continue or should stop.

As shown in Table 16.13, 89 percent of women said they had heard of such bush societies. Among those who had heard of bush societies, two-thirds said they were members. Assuming that all members were circumcised, this translates into 58 percent of Liberian women (66 percent of 89 percent) having been subjected to genital cutting. The table also shows that among those who are members of the Sande society, just under half (45 percent) think that the society should stop.

Table 16.13 Female genital cutting

Percentage of women age 15-49 who have heard of the Sande bush society, and among those, the percentage who are members of the society, and among those, the percentage who think the society should stop, by background characteristics, Liberia 2007

Background characteristic	All women		Women who have heard of Sande society		Women who are members of Sande society	
	Percentage who have heard of Sande society	Number of women	Percentage who are members	Number of women	Percentage who think Sande society should stop	Number of women
Age						
15-19	81.5	1,312	44.0	1,069	42.4	471
20-24	87.6	1,363	58.4	1,194	44.7	697
25-29	89.9	1,166	68.2	1,048	42.1	714
30-34	90.7	956	69.8	867	44.6	606
35-39	91.4	956	73.0	874	44.1	637
40-44	91.7	665	77.6	610	45.4	474
45-49	92.5	674	85.4	623	54.3	532
Residence						
Urban	87.9	2,998	44.9	2,634	27.6	1,184
Rural	89.2	4,094	80.7	3,651	52.3	2,947
Region						
Monrovia	89.5	2,329	41.3	2,084	24.1	860
North Western	93.3	509	84.2	475	54.7	400
South Central	92.3	1,011	74.2	933	44.2	692
South Eastern A	65.5	375	33.7	246	35.0	83
South Eastern B	59.0	451	1.5	266	*	4
North Central	94.4	2,417	91.7	2,281	52.9	2,093
Mother's education						
None	90.5	3,005	83.9	2,720	50.6	2,283
Primary	86.6	2,280	60.3	1,975	46.7	1,191
Secondary and higher	87.9	1,799	41.3	1,582	23.4	653
Wealth quintile						
Lowest	87.5	1,251	83.8	1,095	58.1	918
Second	89.0	1,332	79.6	1,186	56.8	944
Middle	90.2	1,359	74.8	1,225	45.8	916
Fourth	89.1	1,580	57.7	1,408	31.7	812
Highest	87.4	1,569	39.5	1,371	22.3	541
Religion						
Christian	87.9	6,005	62.6	5,278	43.0	3,304
Muslim	93.3	734	80.3	685	44.1	550
Traditional religion	98.1	44	94.8	43	87.7	41
No religion	89.6	239	88.3	215	74.9	189
Total	88.6	7,092	65.7	6,285	45.2	4,131

Note: Membership in the Sande society is a proxy for female genital cutting. Total includes some women with information missing on religion. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Awareness of the bush societies is universally high, with the only exceptions being somewhat lower levels of knowledge among the youngest women (age 15-19) and women in South Eastern B and South Eastern A regions. Membership in such societies shows considerable differentials by background characteristics. Membership shows a steady increase with age of women and is almost twice as high among rural than urban women (81 and 45 percent, respectively). Women in North Central and North Western regions are by far the most likely to be members of a bush society, whereas membership is very low among women in South Eastern A region and Monrovia and is almost non-existent in South Eastern B region. There is a steady decline in the proportion of women who are members of a bush society as education and wealth quintile increase. Membership is highest among women who belong to traditional religions or profess having no religion; it is lowest among Christian women.

Women who said they were members of a bush society were asked if they thought that this should continue or stop, implying that FGC should also continue or stop. It is interesting that, in general, the proportions of women who think it should stop tend to be higher among the groups with higher membership in bush societies. For example, more than half of rural women who are members of a bush society think that they should stop compared with only 28 percent of urban women.

The 1999-2000 LDHS included questions on FGC, however, they differed from those in the 2007 LDHS. In 1999-2000, women were asked if they had ever heard of female circumcision, whether they knew anyone who had been circumcised, and whether they would permit their daughter to be circumcised. No question was asked as to whether the respondent herself was circumcised. Despite the difference in the questions, the two surveys show remarkable concurrence on the level of awareness. In 1999-2000, 87 percent of women age 13-49 had heard of female circumcision, compared to 89 percent of women age 15-49 in 2007 who had heard of bush societies.

ADULT AND MATERNAL MORTALITY 17

This chapter presents information on overall adult mortality and maternal mortality in Liberia. Mortality levels and trends provide a useful measure of the health status of the population and thus are indicators for national development. Studies have shown that improvement in economic performance and a decline in mortality follow similar trends. Little is known about adult mortality in Liberia because the country's death registration system is incomplete and there has not been a population census in more than 20 years. Given that Liberia has recently experienced a civil war, information on adult mortality can be very useful in estimating the effects of the conflict.

17.1 DATA

To estimate adult mortality, the 2007 Liberia Demographic and Health Survey (LDHS) included a sibling history in the Women's Questionnaire. A series of questions was asked about all of the respondent's brothers and sisters and their survival status. The data allow direct estimation of overall adult mortality (by age and sex) and maternal mortality.

Survival of siblings (i.e., biological brothers and sisters) is a useful method for collecting information on adult mortality. Each female respondent was asked to record a list of all children born to her biological mother, including herself. This list included all siblings who were still alive and those who had died. For brothers and sisters who were alive, only the age at the last birthday was asked. For brothers who had died, only the number of years since death and age at death were asked. For sisters who had died at age 12 years or older, three questions were asked to determine whether the death was maternity related: "Was [NAME OF SISTER] pregnant when she died?" and, if negative, "Did she die during childbirth?" and, if negative, "Did she die within two months after the end of a pregnancy or childbirth?"

Adult and maternal mortality estimation by either direct or indirect methods requires accurate reporting of the number of siblings the respondent ever had, the number who died, and the number of sisters who died of maternity-related causes (for maternal mortality). Although there is no definitive procedure for establishing the completeness of retrospective data on sibling survivorship, Table 17.1 presents several indicators that can be used to measure the quality of sibling survivorship data.

The data do not show any obvious defects that would indicate poor data quality or significant underreporting. A total of 31,157 siblings was recorded in the maternal mortality section of the 2007 LDHS questionnaires. The sex ratio of the siblings (the ratio of brothers to sisters) is 0.99, which is lower than the expected value of 102-105 and implies underreporting of brothers compared to sisters. The survival status for 104 (less than 1 percent) of the siblings was not reported. For the surviving siblings, current age was not reported for only 254 (less than 1 percent). Among deceased siblings, both the age at death and years since death were missing for 1 percent. Rather than exclude the siblings with missing data from further analysis, information on the birth order of siblings in conjunction with other information was used to impute the missing data.[1] The sibling survivorship data, including cases with imputed values, have been used in the direct estimation of adult and maternal mortality.

[1] The imputation procedure is based on the assumption that the reported birth order of siblings in the history is correct. The first step is to calculate birth dates. For each living sibling with a reported age and each dead sibling with complete information on both age at death and years since death, the birth date was calculated. For a sibling missing these data, a birth date was imputed within the range defined by the birth dates of the bracketing siblings. In the case of living siblings, an age at the time of the survey was then calculated from the imputed birth date. In the case of dead siblings, if either the age at death or years since death was reported, that information was combined with the birth date to produce the missing information. If both pieces of information were missing, the distribution of the ages at death for siblings for whom the years since death was unreported, but age at death was reported, was used as a basis for imputing the age at death.

Table 17.1 Data on siblings

Number of sisters and brothers reported by interviewed women and completeness of the reported data on age, age at death (AD), and years since death (YSD), Liberia 2007

Sibling status and completeness of reporting	Sisters		Brothers		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
All siblings	15,684	100.0	15,474	100.0	31,157	100.0
Living	13,840	88.2	13,323	86.1	27,162	87.2
Dead	1,790	11.4	2,101	13.6	3,891	12.5
Missing information	54	0.3	50	0.3	104	0.3
Living siblings	13,840	100.0	13,323	100.0	27,162	100.0
Age reported	13,710	99.1	13,198	99.1	26,908	99.1
Age missing	129	0.9	125	0.9	254	0.9
Dead siblings	1,790	100.0	2,101	100.0	3,891	100.0
AD and YSD reported	1,710	95.5	2,012	95.8	3,723	95.7
Missing only AD	45	2.5	59	2.8	104	2.7
Missing only YSD	10	0.6	6	0.3	17	0.4
Missing both	24	1.4	23	1.1	48	1.2

17.2 ESTIMATES OF ADULT MORTALITY

One way to assess the quality of data used to estimate maternal mortality is to evaluate the plausibility and stability of overall adult mortality. It is reasoned that if rates of overall adult mortality are implausible, rates based on a subset of deaths—maternal mortality in particular—are likely to have serious problems. Also, levels and trends in overall adult mortality have important implications in their own right for health and social programs in Liberia, especially with regard to the potential impact of the civil war and the AIDS epidemic.

The direct estimation of adult mortality uses the reported ages at death and years since death of respondents' brothers and sisters. Because of the differentials in exposure to the risk of dying, age- and sex-specific death rates are presented in this report. Because the number of deaths on which the LDHS rates are based is not very large (359 female deaths and 359 male deaths), the estimated age-specific rates are subject to considerable sampling variation.

Table 17.2 presents age-specific mortality rates for women and men age 15-49 for the seven-year period preceding the survey. The period of seven years is taken as a compromise between the desire for the most recent data possible and the desire to minimize the level of sampling errors.

Table 17.2 Adult mortality rates

Age-specific mortality rates for women and men age 15-49 based on the survivorship of sisters and brothers of survey respondents for the seven-year period preceding the survey, Liberia 2007

Age	Deaths	Exposure	Mortality rates[1]
WOMEN			
15-19	70	13,101	5.34
20-24	54	14,814	3.66
25-29	61	13,984	4.38
30-34	64	12,127	5.29
35-39	45	9,999	4.48
40-44	42	6,329	6.60
45-49	22	3,731	6.02
15-49	359	74,086	4.92[a]
MEN			
15-19	48	12,650	3.81
20-24	74	14,307	5.16
25-29	55	13,399	4.11
30-34	39	11,469	3.43
35-39	54	9,246	5.82
40-44	53	6,158	8.62
45-49	36	3,565	10.13
15-49	359	70,793	5.39[a]

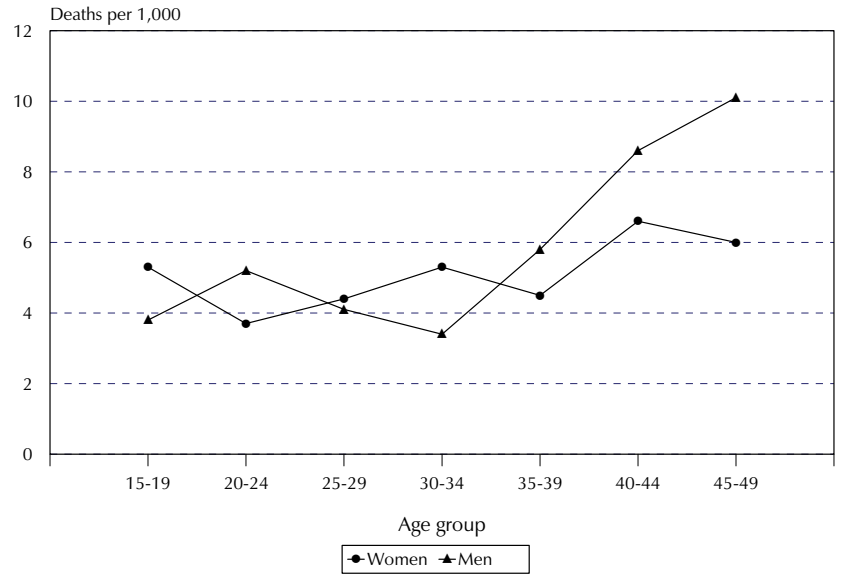
[1] Expressed per 1,000 population

[a] Age-standardized

The mortality rates are erratic—possibly due to large sampling errors—showing a saw-toothed up-and-down pattern for many ages. Among women, mortality rates barely rise with age; however, among men, the rates at older ages show the expected increase with age.

Female mortality rates exceed male rates at ages 15-19 and 30-34; they are almost identical at ages 25-29. Above age 35, male mortality exceeds female mortality by wider margins as age advances (Figure 17.1).

Figure 17.1 Age-Specific Mortality Rates by Sex



Note: Data refer to the seven years before the survey.

LDHS 2007

17.3 ESTIMATES OF MATERNAL MORTALITY

Two survey methods are generally used to estimate maternal mortality in developing countries: the indirect sisterhood method (Graham et al., 1989) and a direct variant of the sisterhood method (Rutenberg and Sullivan, 1991). In this report, the direct estimation procedure is applied. Age-specific mortality rates are calculated by dividing the number of maternal deaths by woman-years of exposure. To remove the effect of truncation bias (the upper boundary for eligibility for women interviewed in the LDHS is 49 years), the report standardized the overall rate for women age 15-49 by the age distribution of the survey respondents. Maternal deaths are defined as any death that occurred during pregnancy, childbirth, or within two months after the birth or termination of a pregnancy.[2] Estimates of maternal mortality are therefore based solely on the timing of the death in relationship to pregnancy.

Table 17.3 presents direct estimates of maternal mortality for the seven-year period preceding the survey. The data indicate that the rate of mortality associated with pregnancy and childbearing is 1.7 maternal deaths per 1,000 woman-years of exposure. The estimated age-specific mortality rates display a generally plausible pattern, being higher at the peak of childbearing ages of the twenties and thirties than at the younger and older age groups. The one exception is age 40-44, where maternal mortality rates are highest. This is unlikely because fewer women are likely to be pregnant at these ages and the pattern is most likely due to the large confidence intervals around each rate. Maternal deaths represent 35 percent of all deaths to women age 15-49 (127/359), a figure that is on the high side (Stanton et al., 1997).

The maternal mortality rate can be converted to a maternal mortality ratio and expressed per 100,000 live births by dividing the rate by the general fertility rate of 0.171 that prevailed during the same time period. With this procedure, the maternal mortality ratio during the seven-year period before the survey is estimated as 994 maternal deaths per 100,000 live births. This figure should be

[2] This time-dependent definition includes all deaths that occurred during pregnancy and two months after pregnancy, even if the death was due to nonmaternal causes. However, this definition is unlikely to result in overreporting of maternal deaths because most deaths to women during the two-month period are due to maternal causes.

viewed with caution because the number of female deaths occurring during pregnancy, at delivery, or within two months of delivery is small (127). As a result, the maternal mortality estimates are subject to larger sampling errors than the adult mortality estimates; the 95 percent confidence intervals indicate that the maternal mortality ratio varies from 745 to 1,243 (see Appendix Table B.2).

The 1999-2000 LDHS included similar questions as the 2007 LDHS; however, the earlier survey asked these questions from male as well as female respondents, but the 2007 LDHS only included the questions on siblings for female respondents. In addition, the maternal mortality ratio in the report for the former survey was based on the indirect estimation procedure.

The maternal mortality ratio from the 1999-2000 survey was 578 deaths per 100,000 live births, based on reports from both female and male respondents. This rate refers to the period about 12-13 years before the survey, or roughly 1987-2000. This is far lower than the rate of 994 for the seven years before the 2007 LDHS, or roughly 2000-06. Applying indirect methodology to the data from the 2007 LDHS yields an estimate of the maternal mortality ratio of 748 for a period roughly 12-13 years before the survey, a figure that is much higher than the estimate based on the 1999-2000 survey and much lower than the estimate for the seven-year period before the 2007 survey. Differences between the two surveys could be due to variations in estimation, differences in analysis, and large sampling errors. Nevertheless, given the magnitude of the differences, it is difficult not to conclude that there has been an increase in maternal mortality in the last two decades.

It is important to remember that the sample size implemented in these two surveys does not allow for precise estimates of maternal mortality. The sampling errors around each of the estimates are large and, consequently, differences need to be interpreted with caution. A large increase in the maternal mortality ratio is not supported by the trends in related indicators, such as antenatal care coverage, delivery in health facilities, and medical assistance at delivery, all of which have remained more or less stable over the last seven years.

Table 17.3 Maternal mortality

Maternal mortality rates for the seven-year period preceding the survey, based on the survivorship of sisters of survey respondents, Liberia 2007

Age	Maternal deaths	Exposure (years)	Mortality rates (1,000)	Proportion maternal
15-19	21	13,101	1.60	0.30
20-24	16	14,814	1.10	0.30
25-29	25	13,984	1.77	0.40
30-34	26	12,127	2.14	0.40
35-39	18	9,999	1.77	0.39
40-44	16	6,329	2.51	0.38
45-49	6	3,731	1.51	0.25
15-49	127	74,086	1.70[a]	0.35
General fertility rate	-	-	0.171[a]	-
Maternal mortality ratio[1]	-	-	994	-

[a] Age-standardized
[1] Per 100,000 live births; calculated as maternal mortality rate divided by the general fertility rate

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SAMPLE DESIGN AND IMPLEMENTATION

Appendix A

A.1 INTRODUCTION

The 2007 Liberia Demographic and Health Survey (2007 LDHS) was the third of its kind following the ones conducted in 1986 and 1999-2000. The 2007 LDHS was a nationwide survey calling for a nationally representative sample of approximately 7,500 households which would yield approximately 7,000 completed interviews of women age 15-49 and 6,000 completed interviews of men age 15-49. It was designed to provide information on key demographic rates, particularly fertility and under-five mortality rates; the use of contraception; knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections (STI); and on the prevalence of HIV/AIDS among adult population of reproductive age. In Liberia, there are 15 counties, each consisting of several districts, and each district consisting of clans. The counties were grouped to form five geographical regions, each of which consisted of three counties. The survey estimates are reported for the country as a whole, for the urban and rural areas, for Greater Monrovia, and for each of the five regions. There are in total eight reporting domains:

- Urban areas
- Rural areas
- The capital city of Liberia: Greater Monrovia
- North Western: Bomi, Grand Cape Mount, Gbarpolu
- South Central: Montserrado (without Monrovia), Margibi, Grand Bassa
- South Eastern A: River Cess , Sinoe, Grand Gedeh
- South Eastern B: Rivergee, Grand Kru, Maryland
- North Central : Bong, Nimba, Lofa

In all of the households selected, blood specimens for HIV testing were collected from all eligible women 15-49 and men 15-49 who voluntarily consented to the testing.

A.2 SAMPLING FRAME

At the time the sample was designed, the most recent population census in Liberia was conducted in 1984. A list of 4,602 enumeration areas (EAs) was constructed for the aims of the census. In the electronic file of the list, each EA contained its identification information and the number of structures residing in it. Cartographical maps were developed for every EA, delineating their boundaries. In the 22 years since the 1984 census, Liberia experienced civil wars and important population migration movements. The civil wars also changed the pattern of settlement, especially in rural areas where the residential households tended to be concentrated to form bigger villages in order to be better protected. Combined with the changes in socioeconomic development, many new communities had been established, while existing ones had expanded or contracted or even disappeared. Furthermore, the urban-rural definition of the EAs around Monrovia and the county capitals may not reflect the actual situation of the EA. Taking all these factors into account, it is obvious that the 1984 census frame was not ideal to be used as sampling frame for the 2007 LDHS, but there was no other national frame available. Therefore it was decided that the 1984 census frame should be used as the sampling frame for the 2007 LDHS. Though a complete updating of the whole sampling frame was not feasible, an updating operation was conducted before the main survey for all of the EAs that were selected for the 2007 LDHS sample. This updating operation is an important procedure to guarantee the quality of the survey data.

Table A.1 below shows the distribution of the EAs by county and by type of residence. There are in total 4,602 EAs in the country, 1,155 are urban EAs and 3,447 are rural EAs.

Table A.1. Number of 1984 census enumeration areas (EAs) by county and by type of residence

County	Residence		Total
	Urban	Rural	
Bomi	43	146	189
Grand Cape Mount	11	160	171
Gbarpolu	2	137	139
Montserrado	6	165	171
Margibi	50	229	279
Grand Bassa	85	324	409
River Cess	4	90	94
Sinoe	38	96	134
Grand Gedeh	35	145	180
Rivergee	1	108	109
Grand Kru	7	93	100
Maryland	28	119	147
Bong	58	482	540
Nimba	28	775	803
Lofa	51	378	429
Greater Monrovia	708	0	708
Total	1,155	3,447	4,602

Because the population distribution in the 1984 census frame was outdated, it was decided to use the population projection to design the sample. The percent distribution of the population according to county and by type of residence, based on the 2005 population projection, is shown in Table A.2 below. 33.5 percent of the Liberia population lives in the urban area. The urban percentage may be under projected since the population projection did not able to project urban and rural population separately. The sample allocation of the LBDHS 2006 was based on the following distributions.

Table A.2 Projected population, percent distribution of the population, and percentage urban by county

County	Projected population	Percentage of total population	Percentage urban
Bomi	21,863	0.7	27.1
Grand Cape Mount	39,190	1.3	7.2
Gbarpolu	117,876	3.9	5.2
Montserrado	132,446	4.4	2.2
Margibi	206,712	6.8	13.5
Grand Bassa	161,569	5.3	21.1
River Cess	29,450	1.0	2.0
Sinoe	71,964	2.4	18.5
Grand Gedeh	98,701	3.3	26.0
Rivergee	62,296	2.1	3.1
Grand Kru	25,242	0.8	6.3
Maryland	127,399	4.2	21.2
Bong	323,441	10.7	8.8
Nimba	538,801	17.8	3.0
Lofa	269,794	8.9	7.6
Monrovia	796,386	26.3	100.0
Rural	2,011,746	66.5	
Urban	1,011,384	33.5	
Total	3,023,130	100.0	33.5

Table A.3 Projected population, percent distribution of the population, and percentage urban by region

County	Projected population	Percentage of total population	Percentage urban
North Western	178,930	5.9	8.3
South Central	500,728	16.6	13.0
South Eastern A	200,115	6.6	19.8
South Eastern B	214,936	7.1	14.2
North Central	1,132,036	37.4	5.8
Greater Monrovia	796,386	26.3	100.0
Rural	2,011,746	66.5	
Total urban	1,011,384	33.5	
Total	3,023,130	100.0	33.5

A.3 SAMPLING PROCEDURE AND SAMPLE ALLOCATION

The sample for LBDHS 2006 was a stratified sample selected in two stages. First, 300 EAs were selected with a stratified probability proportional to size sampling from the sampling frame. The EA size was the number of structure residing in the EA recorded at 1984 census. Stratification was achieved by separating every county into urban and rural areas. The urban areas in each county mainly consisted of the county capital. Therefore the 15 counties plus Greater Monrovia which has only urban areas were stratified into 31 sampling strata, 15 rural strata and 16 urban strata. Samples were selected independently in every stratum, with a predetermined number of EAs to be selected. Implicit stratification would be achieved in each of the explicit sampling stratum by sorting the sampling frame according to districts within the stratum and by using the probability proportional to size selection procedure.

A household listing operation was carried out in all selected EAs, and the resulting lists of households served as the sampling frame for the selection of households in the second stage. Some of the selected EAs were too big in size. In order to control the amount of work required for the household listing, selected EAs that had more than 200 households were segmented. Only one segment was selected for the survey with probability proportional to the segment size. Household listing was conducted only in the selected segment (see detailed instructions for segmentation in the *Manual for Household Listing*). So a 2007 LDHS cluster was either an EA or a segment of an EA. In the second stage selection, a fixed number of 25 households were selected in every urban cluster and rural cluster, by an equal probability systematic sampling. A spreadsheet indicating the selected household numbers for each cluster was prepared. No replacements and no changes of the pre-selected households were allowed in the implementing stages in order to prevent bias. All women and men age 15-49 who stayed in the household the night before the survey were eligible to be interviewed.

Table A.4 shows the sample allocation of clusters and households by report domain and by type of residence. Table A.5 shows the sample allocation of clusters by county and residence. The allocation took into account the urban-rural distribution of each report domain. Sample allocation between the geographical regions is not proportional since the regions are too different in size. Experience from other DHS surveys shows that in order to get a reasonable precision for most of the women's indicators at domain level, it is necessary to have at least 800 completed interviews for each domain. A proportional allocation according to the size of region would not provide enough completed interviews for small regions such as North Western, South Eastern A and South Eastern B regions. Therefore these three regions were oversampled. The allocation of regional urban and rural samples within each region and between the counties was approximately proportional to the county's urban and rural population, respectively. Among the 300 clusters, 116 clusters are in urban areas and 184 are in rural areas. The total number of households selected was 7,500, among them 2,900 reside in urban areas and 4,600 reside in rural areas.

Table A.4 Sample allocation of clusters and households by reporting domain and residence

Report domain	Allocation of clusters			Allocation of households		
	Urban	Rural	Total	Urban	Rural	Total
North Western	8	38	46	200	950	1,150
South Central	10	36	46	250	900	1,150
South Eastern A	13	33	46	325	825	1,150
South Eastern B	11	35	46	275	875	1,150
North Central	8	42	50	200	1,050	1,250
Greater Monrovia	66	0	66	1,650	0	1,650
Total	16	184	300	2,900	4,600	7,500

Table A.5 Sample allocation of clusters by country and residence

County	Number of urban EAs	Number of rural EAs	Total
Bomi	4	4	8
Grand Cape Mount	2	8	10
Gbarpolu	2	26	28
Montserrado	2	10	12
Margibi	4	15	19
Grand Bassa	4	11	15
River Cess	2	6	8
Sinoe	4	12	16
Grand Gedeh	7	15	22
Rivergee	1	11	12
Grand Kru	2	5	7
Maryland	8	19	27
Bong	3	12	15
Nimba	2	20	22
Lofa	3	10	13
Greater Monrovia	66		66
Total	116	184	300

The expected numbers of women and men interviewed were based on the combined results obtained from the 1986 LDHS and the 1999-2000 LDHS. In Liberia, there are 1.05 women age 15-49 and 0.9 men age 15-49 per household; the household gross response rate was estimated at 90 percent; the woman's individual response rate was estimated at 90 percent; the man's individual response rate was estimated at 80 percent. The total number of completed interviews was expected to be 6,379 women age 15-49 and 4,860 men age 15-49.

A.4 SAMPLING PROBABILITIES

Since the 2007 LDHS sample was a two-stage stratified cluster sample, sampling probabilities is calculated separately for each sampling stage and for each cluster. We use the following notations:

P_{1hi}: first stage's sampling probability of the i^{th} cluster in stratum h
P_{2hi}: second-stage's sampling probability within the i^{th} cluster (households)
P_{hi}: overall sampling probability of any households of the i^{th} cluster in stratum h

Let a_h be the number of clusters selected in stratum h, M_{hi} the number of structures according to the sampling frame in the i^{th} cluster, and $\sum M_{hi}$ the total number of structures in the stratum h. The probability of selecting the i^{th} cluster in stratum h is calculated as follows:

$$P_{1hi} = \frac{a_h \, M_{hi}}{\sum M_{hi}}$$

Let b_{hi} be the proportion of structures in the selected segment compared to the total number of structures in EA *i* in stratum *h* if the EA is segmented, otherwise $b_{hi} = 1$. Let L_{hi} be the number of households listed in the household listing operation in cluster *i* in stratum *h*, let g_{hi} be the number of households selected in the cluster. The second stage's selection probability for each household in the cluster is calculated as follows:

$$P_{2hi} = \frac{g_{hi}}{L_{hi}} \times b_{hi}$$

The overall selection probability of each household in cluster *i* of stratum *h* is therefore the production of the selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hi}$$

Because of the nonproportional allocation of the sample to the different reporting domains, and the measure of size of each cluster in the frame is the number of structures instead of the number of households, a self-weighting sample cannot be achieved for the 2007 LDHS. Therefore sampling weights will be required for any analysis using the data to ensure the actual representativity of the sample. The sampling weight for each household in cluster *i* of stratum *h* is the inverse of its selection probability:

$$W_{hi} = 1 / P_{hi}$$

A spreadsheet containing all sampling parameters and selection probabilities was prepared to facilitate the calculation of sampling weights. Household sampling weights and the individual sampling weights were obtained by adjusting the calculated weight to compensate for household nonresponse and individual nonresponse, respectively. These weights were further normalized at national level to produce unweighted cases equal to weighted cases for both households and individuals at national level. The normalized weights are valid for estimation of proportions and means at any aggregation levels, but not valid for estimation of totals.

Tables A.6 and A.7 show the response rates for the selected households, women and men by residence and region.

Table A.6 Sample implementation: Women

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall response rates, according to urban-rural residence and region, Liberia 2007

	Residence		Region						
Result	Urban	Rural	Monrovia	North Western	South Central	South Eastern A	South Eastern B	North Central	Total
Selected households									
Completed (C)	90.9	91.6	90.2	93.5	87.5	82.5	97.5	97.0	91.3
Household present but no competent respondent at home (HP)	1.6	0.5	2.4	0.2	0.3	1.4	0.2	0.3	0.9
Refused (R)	1.2	0.6	1.5	1.3	0.5	1.0	0.2	0.2	0.8
Dwelling not found (DNF)	1.3	0.7	1.4	1.3	0.6	1.6	0.3	0.2	0.9
Household absent (HA)	2.3	2.9	1.8	1.5	3.0	7.9	0.5	1.8	2.7
Dwelling vacant/address not a dwelling (DV)	2.0	1.8	1.7	0.9	4.3	2.9	1.1	0.3	1.8
Dwelling destroy (DD)	0.9	1.9	1.0	1.4	3.8	2.7	0.2	0.2	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	2,868	4,603	1,616	1,148	1,156	1,150	1,150	1,251	7,471
Household response rate (HRR)	95.8	98.1	94.4	97.1	98.4	95.4	99.3	99.3	97.2
Eligible women									
Completed (EWC)	94.6	95.7	95.1	97.0	94.0	91.9	95.5	97.3	95.2
Not at home (EWNH)	3.0	1.8	3.0	0.9	2.0	4.0	2.5	1.4	2.3
Postponed (EWP)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Refused (EWR)	1.6	1.3	1.3	1.0	2.1	2.6	1.6	0.4	1.5
Partly completed (EWPC)	0.0	0.2	0.1	0.1	0.4	0.1	0.1	0.0	0.1
Incapacitated (EWI)	0.4	0.7	0.3	0.4	1.2	0.8	0.2	0.5	0.5
Other (EWO)	0.4	0.3	0.3	0.5	0.2	0.6	0.2	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	3,376	4,072	1,954	789	1,139	874	1,303	1,389	7,448
Eligible women response rate (EWRR)	94.6	95.7	95.1	97.0	94.0	91.9	95.5	97.3	95.2
Overall response rate (ORR)	90.6	93.9	89.8	94.2	92.6	87.6	94.8	96.5	92.5

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{100 * EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI + EWO}$$

[3] The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR/100$$

Table A.7 Sample implementation: Men

Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men and overall response rates, according to urban-rural residence and region Liberia 2007

	Residence		Region						
Result	Urban	Rural	Monrovia	North Western	South Central	South Eastern A	South Eastern B	North Central	Total
Selected households									
Completed (C)	90.9	91.6	90.2	93.5	87.5	82.5	97.5	97.0	91.3
Household present but no competent respondent at home (HP)	1.6	0.5	2.4	0.2	0.3	1.4	0.2	0.3	0.9
Refused (R)	1.2	0.6	1.5	1.3	0.5	1.0	0.2	0.2	0.8
Dwelling not found (DNF)	1.3	0.7	1.4	1.3	0.6	1.6	0.3	0.2	0.9
Household absent (HA)	2.3	2.9	1.8	1.5	3.0	7.9	0.5	1.8	2.7
Dwelling vacant/address not a dwelling (DV)	2.0	1.8	1.7	0.9	4.3	2.9	1.1	0.3	1.8
Dwelling destroy (DD)	0.9	1.9	1.0	1.4	3.8	2.7	0.2	0.2	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	2,868	4,603	1,616	1,148	1,156	1,150	1,150	1,251	7,471
Household response rate (HRR)	95.8	98.1	94.4	97.1	98.4	95.4	99.3	99.3	97.2
Eligible men									
Completed (EMC)	90.4	94.6	91.7	94.9	93.1	89.5	92.4	95.4	92.8
Not at home (EMNH)	6.2	2.6	5.6	1.3	4.1	6.4	4.2	2.5	4.2
Postponed (EMP)	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.1
Refused (EMR)	2.2	1.7	2.1	2.8	1.9	2.0	2.0	1.2	1.9
Partly completed (EMPC)	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0
Incapacitated (EMI)	0.4	0.4	0.2	0.1	0.6	0.7	0.3	0.4	0.4
Other (EMO)	0.7	0.5	0.4	0.7	0.2	1.2	1.1	0.3	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	2,801	3,675	1,558	689	1,003	809	1,212	1,205	6,476
Eligible men response rate (EMRR)	90.4	94.6	91.7	94.9	93.1	89.5	92.4	95.4	92.8
Overall response rate (ORR)	86.6	92.8	86.5	92.2	91.7	85.4	91.8	94.7	90.2

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] Using the number of eligible men falling into specific response categories, the eligible man response rate (EWRR) is calculated as:

$$\frac{100 * EMC}{EMC + EMNH + EMP + EMR + EMPC + EMI + EMO}$$

[3] The overall response rate (ORR) is calculated as:

$$ORR = HRR * EMRR/100$$

ESTIMATES OF SAMPLING ERRORS

Appendix B

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2007 Liberia Demographic and Health Survey (2007 LDHS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2007 LDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2007 LDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the LDHS is a Macro SAS procedure. This procedure used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$SE^2(r) = var(r) = \frac{1-f}{x^2}\sum_{h=1}^{H}\left[\frac{m_h}{m_h-1}\left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h}\right)\right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi} \text{ , and } z_h = y_h - rx_h$$

where h represents the stratum which varies from 1 to H,
m_h is the total number of clusters selected in the h^{th} stratum,
y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,

x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} stratum, and
f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2007 LDHS, there were 298 non-empty clusters. Hence, 298 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 298 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 297 clusters (i^{th} cluster excluded), and
k is the total number of clusters.

In addition to the standard error, the design effect (DEFT) for each estimate is calculated, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. The relative standard error and confidence limits for the estimates are also calculated.

Sampling errors for the 2007 LDHS are calculated for selected variables considered to be of primary interest for the women's survey and for the men's surveys, respectively. The results are presented in this appendix for the country as a whole, for urban and rural areas, for the Greater Monrovia, and for each of the 5 geographical regions. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.10 present the value of the statistic (R), its standard error (SE), the number of unweighted (N-UNWE) and weighted (N-WEIG) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1). In the case of the total fertility rate and total abortion rate, the number of unweighted cases is not relevant, as there is no known unweighted value for woman-years of exposure to child-bearing.

The confidence interval (e.g., as calculated for *children ever born to women aged 40-49*) can be interpreted as follows: the overall average from the national sample is 6.216 and its standard error is 0.094. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 6.216±2×0.094. There is a high probability (95 percent) that the *true* average number of children ever born to all women aged 40 to 49 is between 6.027 and 6.404.

For the total sample, the value of the DEFT, averaged over all variables, is 1.8. This means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.8 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Liberia 2007

Variable	Estimate	Base population
	WOMEN	
Urban residence	Proportion	All women 15-49
No education	Proportion	All women 15-49
With secondary education or higher	Proportion	All women 15-49
Never married (in union)	Proportion	All women 15-49
Currently married (in union)	Proportion	All women 15-49
Had first sex before age 18	Proportion	All women 20-49
Children ever born to women 15-49	Mean	All women 15-49
Children ever born to women 40-49	Mean	All women 40-49
Children surviving	Mean	All women 15-49
Knowing any contraceptive method	Proportion	Currently married women 15-49
Knowing any modern contraceptive method	Proportion	Currently married women 15-49
Ever used any contraceptive method	Proportion	Currently married women 15-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using condom	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using any traditional method	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using periodic abstinence	Proportion	Currently married women 15-49
Using public sector source	Proportion	Current users of modern methods
Want no more children	Proportion	Currently married women 15-49
Want to delay at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49 with numeric response
Mother received tetanus injection	Proportion	Births in last 5 years
Mother received skilled birth attendance	Proportion	Births in last 5 years
Child has diarrhea in the past 2 weeks	Proportion	Children under 5
Child treated with ORS packets	Proportion	Children under 5 with diarrhea in past 2 weeks
Consulted medical personnel	Proportion	Children under 5 with diarrhea in past 2 weeks
Child having health card, seen	Proportion	Children 12-23 months
Child received BCG vaccination	Proportion	Children 12-23 months
Child received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Child received polio vaccination (3 doses)	Proportion	Children 12-23 months
Child received measles vaccination	Proportion	Children 12-23 months
Child fully inmunized	Proportion	Children 12-23 months
Has heard of HIV	Proportion	All women 15-49
Has comprehensive knowledge of HIV	Proportion	All women 15-49
Higher-risk sex past 12 months among youth	Proportion	All women 15-24 who had sex in last 12 months
Total fertility rate (past 3 years)	Rate	All women
Neonatal mortality rate (past 10 years)[1]	Rate	Number of births in past 5 (10 years)
Postneonatal mortality rate (past 10 years) [1]	Rate	Number of births in past 5 (10 years)
Infant mortality rate (past 10 years) [1]	Rate	Number of births in past 5 (10 years)
Child mortality rate (past 10 years) [1]	Rate	Number of births in past 5 (10 years)
Under-five mortality rate (past 10 years) [1]	Rate	Number of births in past 5 (10 years)
Maternal mortality ratio (0-6 years) [2]	Ratio	Number of births in past 7 years
HIV prevalence	Proportion	All women 15-49 who were tested
	MEN	
Urban residence	Proportion	All men 15-49
No education	Proportion	All men 15-49
With secondary education or higher	Proportion	All men 15-49
Never married (in union)	Proportion	All men 15-49
Currently married (in union)	Proportion	All men 15-49
Had first sex before age 18	Proportion	All men 20-49
Knowing any contraceptive method	Proportion	Currently married men 15-49
Knowing any modern contraceptive method	Proportion	Currently married men 15-49
Ever used condom	Proportion	Currently married men 15-49
Want no more children	Proportion	Currently married men 15-49
Want to delay at least 2 years	Proportion	Currently married men 15-49
Ideal number of children	Mean	All men 15-49 with numeric response
Has comprehensive knowledge of HIV	Proportion	All men 15-49
Higher-risk sex past 12 months among youth	Proportion	All men 15-24 who had sex in past 12 months
HIV prevalence	Proportion	All men 15-49 who were tested
	WOMEN AND MEN	
HIV prevalence	Proportion	All women and men 15-49 who were tested

[1] Childhood mortality rates calculated for 0-4 years at the national level and 0-9 years for sub-national data.
[2] Maternal mortality ratio is calculated only for the total sample.

Table B.2 Sampling errors for national sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.423	0.017	7092	7092	2.878	0.040	0.389	0.456
No education	0.424	0.012	7092	7092	2.068	0.029	0.399	0.448
With secondary education or higher	0.254	0.010	7092	7092	1.984	0.040	0.233	0.274
Never married (in union)	0.261	0.009	7092	7092	1.649	0.033	0.244	0.279
Currently married (in union)	0.640	0.011	7092	7092	1.987	0.018	0.617	0.663
Had sex before age of 18	0.785	0.011	5752	5780	2.089	0.014	0.763	0.808
Children ever born	3.100	0.043	7092	7092	1.312	0.014	3.014	3.187
Children ever born to women over 40	6.216	0.094	1275	1339	1.199	0.015	6.027	6.404
Children surviving	2.507	0.031	7092	7092	1.204	0.013	2.444	2.570
Knowing any contraceptive method	0.870	0.016	4508	4540	3.277	0.019	0.837	0.903
Knowing any modern contraceptive method	0.867	0.017	4508	4540	3.296	0.019	0.833	0.900
Ever used any contraceptive method	0.335	0.015	4508	4540	2.134	0.045	0.305	0.365
Currently using any method	0.114	0.008	4508	4540	1.739	0.072	0.098	0.131
Currently using a modern method	0.103	0.008	4508	4540	1.740	0.077	0.087	0.118
Currently using pill	0.038	0.005	4508	4540	1.716	0.128	0.029	0.048
Currently using condoms	0.016	0.003	4508	4540	1.354	0.159	0.011	0.021
Currently using injectabless	0.041	0.005	4508	4540	1.668	0.121	0.031	0.050
Currently using any traditional method	0.012	0.002	4508	4540	1.224	0.166	0.008	0.016
Currently using female sterilization	0.006	0.001	4508	4540	1.138	0.226	0.003	0.008
Currently using periodic abstinence	0.010	0.002	4508	4540	1.192	0.181	0.006	0.013
Using public sector source	0.508	0.035	818	831	1.988	0.069	0.438	0.578
Want no more children	0.307	0.010	4508	4540	1.483	0.033	0.286	0.327
Want to delay at least 2 years	0.341	0.013	4508	4540	1.871	0.039	0.314	0.367
Ideal number of children	4.998	0.056	6670	6644	2.014	0.011	4.886	5.111
Mothers received complete tetanus protection	0.782	0.016	3996	3928	2.410	0.020	0.750	0.813
Mothers received medical care at birth	0.463	0.020	5799	5594	2.568	0.044	0.422	0.503
Had diarrhea in the past 2 weeks	0.198	0.009	5305	5132	1.603	0.048	0.179	0.216
Treated with sugar-salt-water solution	0.531	0.024	1072	1014	1.414	0.045	0.483	0.579
Sought medical treatment	0.493	0.029	1072	1014	1.718	0.059	0.435	0.551
Having health card, seen	0.476	0.026	996	977	1.594	0.054	0.424	0.528
Received BCG vaccination	0.771	0.028	996	977	2.021	0.036	0.716	0.826
Received DPT vaccination (3 doses)	0.503	0.027	996	977	1.653	0.053	0.449	0.556
Received polio vaccination (3 doses)	0.494	0.025	996	977	1.566	0.051	0.444	0.545
Received measles vaccination	0.630	0.027	996	977	1.745	0.043	0.576	0.685
Fully immunized	0.390	0.024	996	977	1.499	0.061	0.343	0.438
Has heard of HIV/AIDS	0.892	0.014	7092	7092	3.912	0.016	0.864	0.921
Has comprehensive knowledge of HIV/AIDS	0.194	0.011	7092	7092	2.253	0.055	0.173	0.215
Higer-risk sex past 12 months among youth	0.593	0.018	2098	2068	1.648	0.030	0.558	0.628
Total fertility rate (past 3 years)	5.199	0.135	na	20086	1.318	0.026	4.929	5.470
Neonatal mortality (0-4 years)	31.881	2.899	5824	5612	1.155	0.091	26.082	37.679
Post-neonatal mortality (0-4 years)	39.355	3.483	5800	5601	1.275	0.089	32.389	46.321
Infant mortality (0-4 years)	71.236	4.402	5846	5633	1.181	0.062	62.432	80.039
Child mortality (0-4 years)	41.245	3.606	5511	5327	1.202	0.087	34.032	48.458
Under-five mortality (0-4 years)	109.543	5.339	5930	5703	1.155	0.049	98.865	120.220
Maternal mortality ratio (past 0-6 years)	994	125	na	na	1.378	0.125	745	1243
HIV prevalence	0.018	0.002	6482	6381	1.086	0.100	0.014	0.022
MEN								
Urban residence	0.404	0.016	6009	6009	2.550	0.040	0.371	0.436
No education	0.176	0.011	6009	6009	2.185	0.061	0.154	0.197
With secondary education or higher	0.509	0.013	6009	6009	1.955	0.025	0.483	0.534
Never married (in union)	0.378	0.011	6009	6009	1.735	0.029	0.357	0.400
Currently married (in union)	0.568	0.011	6009	6009	1.660	0.019	0.547	0.589
Had sex before age of 18	0.485	0.012	4831	4853	1.600	0.024	0.462	0.508
Knowing any contraceptive method	0.952	0.006	3329	3413	1.732	0.007	0.939	0.965
Knowing any modern contraceptive method	0.950	0.007	3329	3413	1.773	0.007	0.936	0.963
Ever used any contraceptive method	0.564	0.019	3329	3413	2.195	0.033	0.527	0.602
Want no more children	0.203	0.010	3329	3413	1.400	0.048	0.183	0.222
Want to delay at least 2 years	0.333	0.013	3329	3413	1.652	0.041	0.306	0.360
Ideal number of children	5.619	0.086	5778	5790	1.816	0.015	5.446	5.792
Has comprehensive knowledge of HIV/AIDS	0.317	0.015	6009	6009	2.468	0.047	0.287	0.346
Higer-risk sex past 12 months among youth	0.871	0.014	1475	1431	1.593	0.016	0.844	0.899
HIV prevalence	0.012	0.002	5207	5351	1.143	0.145	0.008	0.015
WOMEN AND MEN								
HIV prevalence	0.015	0.001	11689	11733	1.141	0.085	0.013	0.018

na = Not applicable

Table B.3 Sampling errors for urban sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	1.000	0.000	3194	2998	na	0.000	1.000	1.000
No education	0.243	0.012	3194	2998	1.604	0.050	0.219	0.268
With secondary education or higher	0.458	0.016	3194	2998	1.763	0.034	0.427	0.489
Never married (in union)	0.381	0.010	3194	2998	1.207	0.027	0.360	0.402
Currently married (in union)	0.514	0.014	3194	2998	1.590	0.027	0.486	0.542
Had sex before age of 18	0.767	0.015	2463	2302	1.758	0.020	0.737	0.797
Children ever born	2.369	0.049	3194	2998	1.142	0.021	2.271	2.468
Children ever born to women over 40	5.550	0.174	456	428	1.357	0.031	5.203	5.898
Children surviving	1.960	0.035	3194	2998	1.000	0.018	1.890	2.029
Knowing any contraceptive method	0.968	0.005	1673	1541	1.086	0.005	0.958	0.977
Knowing any modern contraceptive method	0.967	0.005	1673	1541	1.089	0.005	0.957	0.976
Ever used any contraceptive method	0.538	0.021	1673	1541	1.698	0.039	0.496	0.579
Currently using any method	0.188	0.012	1673	1541	1.265	0.064	0.164	0.212
Currently using a modern method	0.164	0.011	1673	1541	1.263	0.070	0.141	0.187
Currently using pill	0.060	0.008	1673	1541	1.327	0.129	0.044	0.075
Currently using condoms	0.025	0.005	1673	1541	1.295	0.199	0.015	0.035
Currently using injectabless	0.074	0.011	1673	1541	1.749	0.152	0.051	0.096
Currently using any traditional method	0.024	0.005	1673	1541	1.270	0.197	0.015	0.034
Currently using female sterilization	0.003	0.001	1673	1541	1.128	0.537	0.000	0.005
Currently using periodic abstinence	0.022	0.005	1673	1541	1.247	0.202	0.013	0.031
Using public sector source	0.447	0.049	537	533	2.273	0.110	0.349	0.545
Want no more children	0.265	0.015	1673	1541	1.414	0.058	0.235	0.296
Want to delay at least 2 years	0.366	0.023	1673	1541	1.933	0.062	0.321	0.412
Ideal number of children	4.425	0.047	3026	2847	1.428	0.011	4.330	4.519
Mothers received complete tetanus protection	0.907	0.010	1513	1310	1.316	0.011	0.887	0.928
Mothers received medical care at birth	0.787	0.017	2038	1694	1.522	0.021	0.754	0.820
Had diarrhea in the past 2 weeks	0.188	0.016	1852	1563	1.590	0.084	0.156	0.219
Treated with sugar-salt-water solution	0.570	0.036	382	293	1.223	0.064	0.497	0.643
Sought medical treatment	0.524	0.041	382	293	1.373	0.078	0.442	0.605
Having health card, seen	0.580	0.027	368	318	1.003	0.047	0.525	0.634
Received BCG vaccination	0.916	0.019	368	318	1.265	0.021	0.878	0.954
Received DPT vaccination (3 doses)	0.698	0.033	368	318	1.304	0.047	0.633	0.764
Received polio vaccination (3 doses)	0.641	0.032	368	318	1.208	0.050	0.578	0.705
Received measles vaccination	0.767	0.027	368	318	1.175	0.035	0.713	0.822
Fully immunized	0.525	0.032	368	318	1.171	0.061	0.460	0.589
Has heard of HIV/AIDS	0.971	0.006	3194	2998	2.135	0.007	0.958	0.984
Has comprehensive knowledge of HIV/AIDS	0.278	0.020	3194	2998	2.572	0.073	0.238	0.319
Higer-risk sex past 12 months among youth	0.728	0.020	1051	1016	1.441	0.027	0.689	0.768
Total fertility rate (past 3 years)	3.819	0.159	na	8363	1.437	0.042	3.501	4.137
Neonatal mortality (0-9 years)	30.591	3.497	3962	3385	1.096	0.114	23.596	37.585
Post-neonatal mortality (0-9 years)	47.151	3.783	3976	3396	0.940	0.080	39.584	54.718
Infant mortality (0-9 years)	77.741	5.759	3978	3398	1.073	0.074	66.223	89.260
Child mortality (0-9 years)	58.283	5.569	3950	3396	1.251	0.096	47.146	69.421
Under-five mortality (0-9 years)	131.494	7.797	4009	3430	1.092	0.059	115.901	147.087
HIV prevalence	0.028	0.003	2878	2694	1.081	0.119	0.021	0.035
MEN								
Urban residence	1.000	0.000	2531	2426	0.000	0.000	1.000	1.000
No education	0.084	0.010	2531	2426	1.730	0.113	0.065	0.103
With secondary education or higher	0.707	0.014	2531	2426	1.513	0.019	0.680	0.735
Never married (in union)	0.485	0.016	2531	2426	1.647	0.034	0.452	0.518
Currently married (in union)	0.464	0.017	2531	2426	1.706	0.036	0.430	0.498
Had sex before age of 18	0.504	0.018	1971	1922	1.592	0.036	0.468	0.540
Knowing any contraceptive method	0.991	0.003	1157	1125	1.145	0.003	0.985	0.998
Knowing any modern contraceptive method	0.991	0.003	1157	1125	1.145	0.003	0.985	0.998
Ever used any contraceptive method	0.705	0.026	1157	1125	1.956	0.037	0.653	0.758
Want no more children	0.203	0.017	1157	1125	1.457	0.085	0.168	0.237
Want to delay at least 2 years	0.317	0.021	1157	1125	1.514	0.065	0.276	0.359
Ideal number of children	4.602	0.099	2461	2360	2.010	0.021	4.404	4.799
Has comprehensive knowledge of HIV/AIDS	0.425	0.018	2531	2426	1.804	0.042	0.390	0.461
Higer-risk sex past 12 months among youth	0.928	0.013	747	694	1.339	0.014	0.903	0.953
HIV prevalence	0.021	0.004	2106	2160	1.137	0.170	0.014	0.028
WOMEN AND MEN								
HIV prevalence	0.025	0.002	4984	4854	1.121	0.100	0.020	0.030

na = Not applicable

Table B.4 Sampling errors for rural sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.000	0.000	3898	4094	na	na	0.000	0.000
No education	0.556	0.018	3898	4094	2.290	0.033	0.519	0.592
With secondary education or higher	0.104	0.010	3898	4094	2.016	0.095	0.084	0.124
Never married (in union)	0.174	0.012	3898	4094	1.969	0.069	0.150	0.198
Currently married (in union)	0.732	0.016	3898	4094	2.309	0.022	0.700	0.765
Had sex before age of 18	0.797	0.016	3289	3478	2.288	0.020	0.765	0.829
Children ever born	3.635	0.060	3898	4094	1.301	0.017	3.515	3.756
Children ever born to women over 40	6.528	0.113	819	911	1.158	0.017	6.303	6.754
Children surviving	2.908	0.043	3898	4094	1.197	0.015	2.821	2.995
Knowing any contraceptive method	0.820	0.024	2835	2999	3.368	0.030	0.771	0.869
Knowing any modern contraceptive method	0.815	0.025	2835	2999	3.389	0.030	0.766	0.865
Ever used any contraceptive method	0.231	0.018	2835	2999	2.221	0.076	0.196	0.267
Currently using any method	0.077	0.010	2835	2999	2.057	0.134	0.056	0.097
Currently using a modern method	0.071	0.010	2835	2999	2.039	0.138	0.051	0.091
Currently using pill	0.027	0.006	2835	2999	2.008	0.225	0.015	0.040
Currently using condoms	0.011	0.003	2835	2999	1.474	0.260	0.005	0.017
Currently using injectables	0.024	0.004	2835	2999	1.476	0.179	0.015	0.032
Currently using any traditional method	0.006	0.002	2835	2999	1.255	0.316	0.002	0.009
Currently using female sterilization	0.007	0.002	2835	2999	1.119	0.249	0.004	0.011
Currently using periodic abstinence	0.003	0.001	2835	2999	1.256	0.432	0.000	0.006
Using public sector source	0.617	0.040	281	298	1.372	0.065	0.537	0.696
Want no more children	0.328	0.013	2835	2999	1.484	0.040	0.302	0.354
Want to delay at least 2 years	0.328	0.016	2835	2999	1.826	0.049	0.296	0.360
Ideal number of children	5.428	0.088	3644	3797	2.127	0.016	5.253	5.604
Mothers received complete tetanus protection	0.719	0.023	2483	2618	2.512	0.032	0.673	0.764
Mothers received medical care at birth	0.322	0.025	3761	3900	2.756	0.077	0.272	0.372
Had diarrhea in the past 2 weeks	0.202	0.012	3453	3569	1.582	0.057	0.179	0.225
Treated with sugar-salt-water solution	0.515	0.031	690	721	1.473	0.059	0.454	0.577
Sought medical treatment	0.480	0.037	690	721	1.794	0.077	0.406	0.554
Having health card, seen	0.426	0.036	628	660	1.799	0.085	0.354	0.498
Received BCG vaccination	0.701	0.039	628	660	2.116	0.056	0.622	0.779
Received DPT vaccination (3 doses)	0.408	0.035	628	660	1.770	0.086	0.338	0.479
Received polio vaccination (3 doses)	0.424	0.033	628	660	1.663	0.079	0.357	0.490
Received measles vaccination	0.564	0.037	628	660	1.859	0.066	0.490	0.639
Fully immunized	0.325	0.031	628	660	1.613	0.095	0.264	0.387
Has heard of HIV/AIDS	0.835	0.024	3898	4094	4.039	0.029	0.787	0.883
Has comprehensive knowledge of HIV/AIDS	0.132	0.010	3898	4094	1.910	0.078	0.111	0.153
Higer-risk sex past 12 months among youth	0.462	0.028	1047	1052	1.812	0.061	0.406	0.518
Total fertility rate (past 3 years)	6.197	0.133	na	11723	1.205	0.022	5.931	6.464
Neonatal mortality (0-9 years)	36.771	2.995	7200	7456	1.200	0.081	30.780	42.762
Post-neonatal mortality (0-9 years)	62.190	5.244	7181	7455	1.497	0.084	51.703	72.677
Infant mortality (0-9 years)	98.961	6.564	7222	7490	1.464	0.066	85.833	112.088
Child mortality (0-9 years)	52.245	4.344	7059	7364	1.276	0.083	43.556	60.933
Under-five mortality (0-9 years)	146.035	7.759	7294	7567	1.454	0.053	130.517	161.553
HIV prevalence	0.011	0.002	3604	3688	1.110	0.179	0.007	0.014
MEN								
Urban residence	0.000	0.000	3478	3583	na	na	0.000	0.000
No education	0.238	0.016	3478	3583	2.236	0.068	0.205	0.270
With secondary education or higher	0.374	0.017	3478	3583	2.073	0.045	0.340	0.408
Never married (in union)	0.306	0.014	3478	3583	1.793	0.046	0.278	0.334
Currently married (in union)	0.638	0.014	3478	3583	1.657	0.021	0.611	0.665
Had sex before age of 18	0.472	0.015	2860	2931	1.592	0.031	0.443	0.502
Knowing any contraceptive method	0.933	0.009	2172	2287	1.717	0.010	0.914	0.951
Knowing any modern contraceptive method	0.929	0.010	2172	2287	1.756	0.010	0.910	0.948
Ever used any contraceptive method	0.495	0.024	2172	2287	2.264	0.049	0.447	0.544
Want no more children	0.203	0.012	2172	2287	1.370	0.058	0.179	0.226
Want to delay at least 2 years	0.341	0.017	2172	2287	1.701	0.051	0.307	0.376
Ideal number of children	6.319	0.119	3317	3430	1.671	0.019	6.081	6.557
Has comprehensive knowledge of HIV/AIDS	0.243	0.021	3478	3583	2.895	0.087	0.201	0.286
Higer-risk sex past 12 months among youth	0.818	0.024	728	738	1.649	0.029	0.771	0.865
HIV prevalence	0.006	0.002	3101	3191	1.142	0.272	0.003	0.009
WOMEN AND MEN								
HIV prevalence	0.008	0.001	6705	6879	1.159	0.155	0.006	0.011

na = Not applicable

Table B.5 Sampling errors for Monrovia sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	1.000	0.000	1858	2329	0.000	0.000	1.000	1.000
No education	0.208	0.014	1858	2329	1.510	0.068	0.180	0.236
With secondary education or higher	0.508	0.019	1858	2329	1.671	0.038	0.469	0.547
Never married (in union)	0.400	0.012	1858	2329	1.074	0.030	0.376	0.425
Currently married (in union)	0.497	0.017	1858	2329	1.444	0.034	0.463	0.530
Had sex before age of 18	0.783	0.018	1421	1779	1.632	0.023	0.748	0.819
Children ever born	2.205	0.059	1858	2329	1.084	0.027	2.088	2.322
Children ever born to women over 40	5.260	0.219	255	329	1.298	0.042	4.822	5.697
Children surviving	1.831	0.041	1858	2329	0.954	0.022	1.749	1.913
Knowing any contraceptive method	0.983	0.005	922	1157	1.113	0.005	0.973	0.992
Knowing any modern contraceptive method	0.982	0.005	922	1157	1.115	0.005	0.972	0.992
Ever used any contraceptive method	0.544	0.025	922	1157	1.527	0.046	0.494	0.594
Currently using any method	0.190	0.015	922	1157	1.167	0.079	0.160	0.221
Currently using a modern method	0.166	0.014	922	1157	1.182	0.087	0.137	0.195
Currently using pill	0.060	0.009	922	1157	1.186	0.155	0.041	0.079
Currently using condoms	0.024	0.006	922	1157	1.217	0.258	0.011	0.036
Currently using injectabless	0.076	0.014	922	1157	1.653	0.190	0.047	0.105
Currently using any traditional method	0.024	0.006	922	1157	1.106	0.232	0.013	0.035
Currently using female sterilization	0.003	0.002	922	1157	0.996	0.572	0.000	0.007
Currently using periodic abstinence	0.023	0.005	922	1157	1.103	0.238	0.012	0.034
Using public sector source	0.422	0.058	345	441	2.168	0.137	0.306	0.539
Want no more children	0.237	0.018	922	1157	1.290	0.076	0.201	0.273
Want to delay at least 2 years	0.396	0.029	922	1157	1.799	0.073	0.338	0.454
Ideal number of children	4.298	0.055	1745	2197	1.381	0.013	4.189	4.407
Mothers received complete tetanus protection	0.936	0.012	756	933	1.318	0.013	0.912	0.959
Mothers received medical care at birth	0.838	0.020	957	1169	1.446	0.023	0.799	0.877
Had diarrhea in the past 2 weeks	0.155	0.018	893	1094	1.382	0.113	0.120	0.191
Treated with sugar-salt-water solution	0.584	0.053	140	170	1.207	0.091	0.478	0.690
Sought medical treatment	0.559	0.054	140	170	1.219	0.096	0.451	0.667
Having health card, seen	0.580	0.035	190	231	0.938	0.060	0.511	0.650
Received BCG vaccination	0.937	0.022	190	231	1.246	0.024	0.892	0.981
Received DPT vaccination (3 doses)	0.751	0.039	190	231	1.198	0.052	0.673	0.829
Received polio vaccination (3 doses)	0.661	0.035	190	231	0.975	0.052	0.592	0.730
Received measles vaccination	0.798	0.035	190	231	1.161	0.043	0.729	0.867
Fully immunized	0.554	0.037	190	231	0.997	0.067	0.480	0.628
Has heard of HIV/AIDS	0.979	0.006	1858	2329	1.844	0.006	0.967	0.991
Has comprehensive knowledge of HIV/AIDS	0.291	0.026	1858	2329	2.437	0.088	0.239	0.342
Higer-risk sex past 12 months among youth	0.745	0.023	634	795	1.323	0.031	0.699	0.790
Total fertility rate (past 3 years)	3.383	0.177	na	6498	1.409	0.052	3.028	3.737
Neonatal mortality (0-9 years)	29.008	4.393	1925	2395	1.052	0.151	20.221	37.795
Post-neonatal mortality (0-9 years)	40.234	4.292	1932	2401	0.930	0.107	31.650	48.818
Infant mortality (0-9 years)	69.241	6.711	1932	2403	1.046	0.097	55.819	82.664
Child mortality (0-9 years)	55.427	6.221	1948	2417	0.954	0.112	42.985	67.869
Under-five mortality (0-9 years)	120.831	9.440	1953	2430	1.052	0.078	101.951	139.710
HIV prevalence	0.029	0.004	1719	2101	1.016	0.142	0.021	0.037
MEN								
Urban residence	1.000	0.000	1428	1862	na	0.000	1.000	1.000
No education	0.077	0.012	1428	1862	1.645	0.151	0.054	0.100
With secondary education or higher	0.729	0.016	1428	1862	1.365	0.022	0.697	0.761
Never married (in union)	0.493	0.020	1428	1862	1.537	0.041	0.453	0.534
Currently married (in union)	0.455	0.022	1428	1862	1.631	0.047	0.412	0.498
Had sex before age of 18	0.523	0.022	1122	1479	1.476	0.042	0.479	0.567
Knowing any contraceptive method	0.992	0.004	640	847	1.133	0.004	0.984	1.000
Knowing any modern contraceptive method	0.992	0.004	640	847	1.133	0.004	0.984	1.000
Ever used any contraceptive method	0.689	0.034	640	847	1.830	0.049	0.622	0.756
Want no more children	0.201	0.022	640	847	1.373	0.108	0.157	0.245
Want to delay at least 2 years	0.288	0.026	640	847	1.438	0.090	0.237	0.340
Ideal number of children	4.502	0.119	1387	1810	1.881	0.026	4.264	4.739
Has comprehensive knowledge of HIV/AIDS	0.440	0.022	1428	1862	1.690	0.051	0.395	0.484
Higer-risk sex past 12 months among youth	0.924	0.016	408	539	1.206	0.017	0.892	0.955
HIV prevalence	0.023	0.004	1216	1658	1.029	0.191	0.014	0.032
WOMEN AND MEN								
HIV prevalence	0.026	0.003	2935	3759	1.036	0.116	0.020	0.032

na = Not applicable

Table B.6 Sampling errors for North Western sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.140	0.027	765	509	2.142	0.193	0.086	0.193
No education	0.603	0.050	765	509	2.822	0.083	0.503	0.703
With secondary education or higher	0.112	0.018	765	509	1.543	0.157	0.077	0.147
Never married (in union)	0.131	0.016	765	509	1.274	0.119	0.100	0.162
Currently married (in union)	0.693	0.070	765	509	4.161	0.101	0.553	0.833
Had sex before age of 18	0.626	0.034	665	442	1.786	0.054	0.559	0.694
Children ever born	3.482	0.158	765	509	1.598	0.045	3.166	3.797
Children ever born to women over 40	5.992	0.397	166	108	1.637	0.066	5.199	6.785
Children surviving	2.816	0.101	765	509	1.388	0.036	2.613	3.018
Knowing any contraceptive method	0.950	0.014	569	353	1.526	0.015	0.922	0.978
Knowing any modern contraceptive method	0.946	0.014	569	353	1.520	0.015	0.917	0.975
Ever used any contraceptive method	0.390	0.050	569	353	2.432	0.128	0.290	0.490
Currently using any method	0.096	0.032	569	353	2.595	0.337	0.031	0.160
Currently using a modern method	0.092	0.032	569	353	2.652	0.350	0.028	0.157
Currently using pill	0.029	0.012	569	353	1.715	0.418	0.005	0.053
Currently using condoms	0.026	0.011	569	353	1.709	0.438	0.003	0.049
Currently using injectabless	0.037	0.012	569	353	1.519	0.325	0.013	0.061
Currently using any traditional method	0.003	0.002	569	353	1.008	0.757	0.000	0.008
Currently using female sterilization	0.000	0.000	569	353	0.337	0.717	0.000	0.001
Currently using periodic abstinence	0.003	0.002	569	353	1.008	0.757	0.000	0.008
Using public sector source	0.676	0.077	85	48	1.497	0.114	0.522	0.830
Want no more children	0.409	0.036	569	353	1.757	0.089	0.336	0.481
Want to delay at least 2 years	0.372	0.033	569	353	1.636	0.089	0.306	0.438
Ideal number of children	5.114	0.183	744	482	2.304	0.036	4.749	5.479
Mothers received complete tetanus protection	0.757	0.031	479	332	1.626	0.041	0.695	0.820
Mothers received medical care at birth	0.476	0.053	736	523	2.474	0.111	0.370	0.581
Had diarrhea in the past 2 weeks	0.098	0.015	671	475	1.399	0.157	0.068	0.129
Treated with sugar-salt-water solution	0.591	0.142	62	47	2.381	0.240	0.308	0.875
Sought medical treatment	0.612	0.053	62	47	0.894	0.086	0.507	0.718
Having health card, seen	0.473	0.074	125	88	1.638	0.156	0.326	0.621
Received BCG vaccination	0.852	0.049	125	88	1.559	0.057	0.755	0.949
Received DPT vaccination (3 doses)	0.634	0.079	125	88	1.792	0.124	0.477	0.792
Received polio vaccination (3 doses)	0.573	0.077	125	88	1.710	0.134	0.419	0.726
Received measles vaccination	0.678	0.064	125	88	1.542	0.094	0.550	0.806
Fully immunized	0.496	0.078	125	88	1.732	0.158	0.340	0.652
Has heard of HIV/AIDS	0.910	0.021	765	509	2.028	0.023	0.868	0.952
Has comprehensive knowledge of HIV/AIDS	0.073	0.017	765	509	1.830	0.236	0.039	0.108
Higer-risk sex past 12 months among youth	0.424	0.085	191	119	2.355	0.202	0.253	0.595
Total fertility rate (past 3 years)	6.462	0.349	na	1459	0.808	0.054	5.763	7.160
Neonatal mortality (0-9 years)	33.862	6.944	1416	985	1.282	0.205	19.973	47.751
Post-neonatal mortality (0-9 years)	52.989	8.169	1424	1001	0.990	0.154	36.650	69.328
Infant mortality (0-9 years)	86.851	12.348	1423	994	1.257	0.142	62.155	111.546
Child mortality (0-9 years)	60.617	10.104	1364	943	1.114	0.167	40.409	80.825
Under-five mortality (0-9 years)	142.203	16.484	1437	1008	1.303	0.116	109.234	175.172
HIV prevalence	0.020	0.007	707	458	1.404	0.372	0.005	0.034
MEN								
Urban residence	0.121	0.019	654	405	1.492	0.157	0.083	0.159
No education	0.391	0.063	654	405	3.262	0.161	0.265	0.517
With secondary education or higher	0.348	0.064	654	405	3.425	0.185	0.219	0.477
Never married (in union)	0.306	0.054	654	405	2.965	0.176	0.198	0.413
Currently married (in union)	0.640	0.057	654	405	3.036	0.090	0.525	0.755
Had sex before age of 18	0.424	0.043	582	335	2.074	0.100	0.339	0.510
Knowing any contraceptive method	0.982	0.009	457	259	1.505	0.010	0.963	1.001
Knowing any modern contraceptive method	0.981	0.010	457	259	1.492	0.010	0.962	1.000
Ever used any contraceptive method	0.339	0.031	457	259	1.412	0.092	0.277	0.402
Want no more children	0.198	0.025	457	259	1.361	0.129	0.147	0.248
Want to delay at least 2 years	0.360	0.040	457	259	1.756	0.110	0.281	0.439
Ideal number of children	6.053	0.287	629	396	1.792	0.047	5.480	6.627
Has comprehensive knowledge of HIV/AIDS	0.215	0.037	654	405	2.319	0.174	0.140	0.290
Higer-risk sex past 12 months among youth	0.901	0.044	87	72	1.347	0.048	0.814	0.988
HIV prevalence	0.003	0.002	575	363	0.990	0.733	0.000	0.008
WOMEN AND MEN								
HIV prevalence	0.012	0.004	1282	820	1.298	0.323	0.004	0.020

na = Not applicable

Table B.7 Sampling errors for South Central sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.203	0.025	1071	1011	2.039	0.124	0.153	0.253
No education	0.517	0.035	1071	1011	2.279	0.068	0.447	0.586
With secondary education or higher	0.170	0.023	1071	1011	2.040	0.138	0.123	0.216
Never married (in union)	0.224	0.025	1071	1011	1.938	0.110	0.175	0.274
Currently married (in union)	0.680	0.027	1071	1011	1.880	0.039	0.626	0.734
Had sex before age of 18	0.822	0.021	883	850	1.604	0.025	0.781	0.864
Children ever born	3.616	0.099	1071	1011	1.077	0.028	3.417	3.815
Children ever born to women over 40	6.871	0.241	211	218	1.215	0.035	6.389	7.352
Children surviving	2.682	0.072	1071	1011	1.022	0.027	2.538	2.827
Knowing any contraceptive method	0.872	0.021	694	688	1.636	0.024	0.831	0.914
Knowing any modern contraceptive method	0.872	0.021	694	688	1.636	0.024	0.831	0.914
Ever used any contraceptive method	0.334	0.032	694	688	1.788	0.096	0.270	0.399
Currently using any method	0.102	0.014	694	688	1.234	0.139	0.074	0.131
Currently using a modern method	0.093	0.014	694	688	1.250	0.148	0.066	0.121
Currently using pill	0.031	0.007	694	688	1.144	0.245	0.016	0.046
Currently using condoms	0.011	0.004	694	688	0.962	0.354	0.003	0.018
Currently using injectabless	0.036	0.008	694	688	1.187	0.234	0.019	0.053
Currently using any traditional method	0.009	0.004	694	688	1.056	0.419	0.001	0.017
Currently using female sterilization	0.015	0.005	694	688	1.002	0.312	0.005	0.024
Currently using periodic abstinence	0.005	0.003	694	688	1.224	0.626	0.000	0.012
Using public sector source	0.367	0.063	99	88	1.291	0.172	0.241	0.493
Want no more children	0.317	0.017	694	688	0.960	0.053	0.283	0.351
Want to delay at least 2 years	0.253	0.018	694	688	1.095	0.071	0.217	0.290
Ideal number of children	5.074	0.111	938	894	1.391	0.022	4.853	5.295
Mothers received complete tetanus protection	0.810	0.021	640	616	1.373	0.026	0.767	0.853
Mothers received medical care at birth	0.431	0.044	939	915	2.218	0.102	0.343	0.518
Had diarrhea in the past 2 weeks	0.206	0.023	844	819	1.568	0.114	0.160	0.253
Treated with sugar-salt-water solution	0.431	0.043	190	169	1.049	0.100	0.345	0.517
Sought medical treatment	0.419	0.053	190	169	1.313	0.128	0.312	0.526
Having health card, seen	0.427	0.050	164	157	1.282	0.118	0.326	0.528
Received BCG vaccination	0.765	0.056	164	157	1.657	0.073	0.653	0.876
Received DPT vaccination (3 doses)	0.395	0.052	164	157	1.353	0.132	0.291	0.499
Received polio vaccination (3 doses)	0.369	0.057	164	157	1.493	0.155	0.255	0.483
Received measles vaccination	0.578	0.047	164	157	1.184	0.080	0.485	0.671
Fully immunized	0.275	0.045	164	157	1.273	0.163	0.185	0.365
Has heard of HIV/AIDS	0.922	0.015	1071	1011	1.797	0.016	0.893	0.952
Has comprehensive knowledge of HIV/AIDS	0.199	0.019	1071	1011	1.561	0.096	0.161	0.237
Higer-risk sex past 12 months among youth	0.613	0.041	318	283	1.508	0.067	0.530	0.696
Total fertility rate (past 3 years)	5.783	0.275	na	2898	1.261	0.048	5.233	6.333
Neonatal mortality (0-9 years)	39.560	5.232	1809	1750	1.040	0.132	29.095	50.025
Post-neonatal mortality (0-9 years)	102.336	12.698	1810	1750	1.583	0.124	76.940	127.731
Infant mortality (0-9 years)	141.896	15.267	1815	1757	1.543	0.108	111.361	172.430
Child mortality (0-9 years)	46.267	6.963	1774	1708	1.165	0.150	32.342	60.193
Under-five mortality (0-9 years)	181.598	14.365	1826	1769	1.396	0.079	152.868	210.328
HIV prevalence	0.022	0.005	977	904	1.134	0.240	0.012	0.033
MEN								
Urban residence	0.179	0.022	934	894	1.776	0.125	0.135	0.224
No education	0.233	0.033	934	894	2.348	0.140	0.167	0.298
With secondary education or higher	0.417	0.033	934	894	2.055	0.080	0.350	0.483
Never married (in union)	0.338	0.031	934	894	1.987	0.091	0.276	0.399
Currently married (in union)	0.585	0.028	934	894	1.725	0.048	0.529	0.641
Had sex before age of 18	0.509	0.025	745	732	1.364	0.049	0.459	0.559
Knowing any contraceptive method	0.996	0.003	513	523	0.894	0.003	0.991	1.001
Knowing any modern contraceptive method	0.996	0.003	513	523	0.894	0.003	0.991	1.001
Ever used any contraceptive method	0.543	0.033	513	523	1.501	0.061	0.477	0.609
Want no more children	0.236	0.022	513	523	1.163	0.092	0.192	0.280
Want to delay at least 2 years	0.311	0.022	513	523	1.080	0.071	0.267	0.355
Ideal number of children	5.572	0.186	866	837	1.529	0.033	5.200	5.945
Has comprehensive knowledge of HIV/AIDS	0.231	0.029	934	894	2.111	0.126	0.172	0.289
Higer-risk sex past 12 months among youth	0.916	0.023	207	187	1.179	0.025	0.871	0.962
HIV prevalence	0.005	0.003	813	803	1.142	0.571	0.000	0.011
WOMEN AND MEN								
HIV prevalence	0.014	0.003	1790	1707	1.188	0.235	0.007	0.021

na = Not applicable

Table B.8 Sampling errors for South Eastern A sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.272	0.037	803	375	2.373	0.137	0.197	0.347
No education	0.473	0.030	803	375	1.694	0.063	0.413	0.532
With secondary education or higher	0.098	0.014	803	375	1.298	0.139	0.071	0.125
Never married (in union)	0.179	0.017	803	375	1.251	0.094	0.146	0.213
Currently married (in union)	0.737	0.022	803	375	1.396	0.029	0.693	0.780
Had sex before age of 18	0.838	0.025	666	315	1.756	0.030	0.788	0.888
Children ever born	3.633	0.121	803	375	1.193	0.033	3.392	3.874
Children ever born to women over 40	7.120	0.378	141	69	1.772	0.053	6.364	7.876
Children surviving	2.976	0.097	803	375	1.166	0.033	2.782	3.170
Knowing any contraceptive method	0.700	0.039	566	276	2.041	0.056	0.621	0.779
Knowing any modern contraceptive method	0.693	0.039	566	276	2.014	0.057	0.615	0.772
Ever used any contraceptive method	0.272	0.037	566	276	1.977	0.137	0.198	0.346
Currently using any method	0.097	0.018	566	276	1.451	0.187	0.061	0.133
Currently using a modern method	0.080	0.018	566	276	1.539	0.219	0.045	0.116
Currently using pill	0.027	0.008	566	276	1.210	0.306	0.010	0.043
Currently using condoms	0.026	0.009	566	276	1.422	0.369	0.007	0.045
Currently using injectabless	0.022	0.007	566	276	1.169	0.328	0.008	0.036
Currently using any traditional method	0.016	0.006	566	276	1.214	0.398	0.003	0.029
Currently using female sterilization	0.004	0.004	566	276	1.534	0.969	0.000	0.013
Currently using periodic abstinence	0.016	0.006	566	276	1.214	0.398	0.003	0.029
Using public sector source	0.647	0.082	85	33	1.558	0.127	0.483	0.810
Want no more children	0.278	0.028	566	276	1.461	0.099	0.223	0.333
Want to delay at least 2 years	0.423	0.036	566	276	1.727	0.085	0.351	0.495
Ideal number of children	5.936	0.109	748	349	1.142	0.018	5.717	6.154
Mothers received complete tetanus protection	0.627	0.038	543	256	1.816	0.060	0.552	0.703
Mothers received medical care at birth	0.328	0.029	853	405	1.557	0.089	0.270	0.386
Had diarrhea in the past 2 weeks	0.180	0.020	780	371	1.363	0.113	0.139	0.220
Treated with sugar-salt-water solution	0.292	0.048	141	67	1.105	0.166	0.195	0.388
Sought medical treatment	0.340	0.075	141	67	1.583	0.220	0.190	0.489
Having health card, seen	0.393	0.053	149	70	1.299	0.136	0.287	0.500
Received BCG vaccination	0.681	0.049	149	70	1.275	0.072	0.583	0.779
Received DPT vaccination (3 doses)	0.249	0.047	149	70	1.301	0.189	0.155	0.343
Received polio vaccination (3 doses)	0.265	0.052	149	70	1.426	0.196	0.161	0.368
Received measles vaccination	0.517	0.044	149	70	1.045	0.084	0.430	0.604
Fully immunized	0.125	0.032	149	70	1.179	0.256	0.061	0.189
Has heard of HIV/AIDS	0.823	0.022	803	375	1.623	0.027	0.779	0.867
Has comprehensive knowledge of HIV/AIDS	0.096	0.017	803	375	1.652	0.179	0.062	0.130
Higer-risk sex past 12 months among youth	0.363	0.049	216	91	1.500	0.136	0.265	0.462
Total fertility rate (past 3 years)	6.885	0.324	na	1069	1.447	0.047	6.238	7.533
Neonatal mortality (0-9 years)	41.509	7.676	1543	731	1.249	0.185	26.157	56.861
Post-neonatal mortality (0-9 years)	45.570	7.791	1543	732	1.225	0.171	29.988	61.151
Infant mortality (0-9 years)	87.079	12.826	1547	733	1.378	0.147	61.427	112.731
Child mortality (0-9 years)	49.505	8.981	1498	715	1.198	0.181	31.544	67.466
Under-five mortality (0-9 years)	132.273	14.339	1559	739	1.146	0.108	103.595	160.951
HIV prevalence	0.014	0.005	735	329	1.084	0.340	0.004	0.023
MEN								
Urban residence	0.239	0.033	724	357	2.064	0.137	0.173	0.304
No education	0.114	0.017	724	357	1.403	0.146	0.081	0.147
With secondary education or higher	0.449	0.027	724	357	1.442	0.059	0.396	0.503
Never married (in union)	0.310	0.019	724	357	1.104	0.061	0.272	0.348
Currently married (in union)	0.631	0.024	724	357	1.332	0.038	0.584	0.679
Had sex before age of 18	0.547	0.025	602	299	1.229	0.046	0.497	0.596
Knowing any contraceptive method	0.914	0.014	448	225	1.032	0.015	0.886	0.941
Knowing any modern contraceptive method	0.912	0.013	448	225	1.008	0.015	0.885	0.939
Ever used any contraceptive method	0.535	0.038	448	225	1.587	0.070	0.460	0.610
Want no more children	0.191	0.033	448	225	1.779	0.174	0.124	0.257
Want to delay at least 2 years	0.367	0.024	448	225	1.073	0.067	0.319	0.416
Ideal number of children	7.884	0.314	695	345	1.494	0.040	7.256	8.512
Has comprehensive knowledge of HIV/AIDS	0.214	0.027	724	357	1.761	0.126	0.160	0.268
Higer-risk sex past 12 months among youth	0.859	0.032	184	83	1.253	0.038	0.794	0.924
HIV prevalence	0.013	0.005	625	312	1.063	0.376	0.003	0.022
WOMEN AND MEN								
HIV prevalence	0.013	0.003	1360	642	1.122	0.264	0.006	0.020

na = Not applicable

Table B.9 Sampling errors for South Eastern B sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.137	0.014	1244	451	1.473	0.105	0.108	0.165
No education	0.413	0.024	1244	451	1.694	0.057	0.366	0.461
With secondary education or higher	0.130	0.015	1244	451	1.567	0.115	0.100	0.159
Never married (in union)	0.263	0.020	1244	451	1.620	0.077	0.222	0.303
Currently married (in union)	0.658	0.025	1244	451	1.829	0.037	0.609	0.707
Had sex before age of 18	0.810	0.020	992	366	1.565	0.024	0.771	0.849
Children ever born	3.477	0.126	1244	451	1.510	0.036	3.224	3.729
Children ever born to women over 40	6.597	0.255	218	87	1.278	0.039	6.088	7.106
Children surviving	2.993	0.089	1244	451	1.264	0.030	2.816	3.171
Knowing any contraceptive method	0.760	0.032	794	297	2.085	0.042	0.697	0.824
Knowing any modern contraceptive method	0.759	0.032	794	297	2.082	0.042	0.696	0.823
Ever used any contraceptive method	0.164	0.016	794	297	1.205	0.097	0.132	0.196
Currently using any method	0.061	0.010	794	297	1.229	0.171	0.040	0.082
Currently using a modern method	0.053	0.009	794	297	1.168	0.175	0.034	0.072
Currently using pill	0.016	0.006	794	297	1.344	0.372	0.004	0.028
Currently using condoms	0.008	0.003	794	297	0.928	0.358	0.002	0.014
Currently using injectabless	0.027	0.006	794	297	1.084	0.232	0.014	0.039
Currently using any traditional method	0.008	0.003	794	297	1.007	0.389	0.002	0.015
Currently using female sterilization	0.002	0.001	794	297	0.846	0.722	0.000	0.004
Currently using periodic abstinence	0.006	0.003	794	297	0.992	0.468	0.000	0.011
Using public sector source	0.546	0.055	94	24	1.073	0.102	0.435	0.656
Want no more children	0.347	0.019	794	297	1.107	0.054	0.310	0.385
Want to delay at least 2 years	0.317	0.023	794	297	1.375	0.072	0.271	0.362
Ideal number of children	4.938	0.237	1221	442	2.607	0.048	4.463	5.412
Mothers received complete tetanus protection	0.506	0.035	744	272	1.878	0.068	0.437	0.576
Mothers received medical care at birth	0.306	0.032	1119	414	1.981	0.105	0.242	0.370
Had diarrhea in the past 2 weeks	0.279	0.019	1028	380	1.243	0.069	0.241	0.318
Treated with sugar-salt-water solution	0.654	0.047	295	106	1.483	0.071	0.561	0.747
Sought medical treatment	0.639	0.054	295	106	1.689	0.084	0.531	0.747
Having health card, seen	0.199	0.046	170	65	1.509	0.231	0.107	0.291
Received BCG vaccination	0.496	0.044	170	65	1.167	0.089	0.407	0.584
Received DPT vaccination (3 doses)	0.191	0.037	170	65	1.220	0.191	0.118	0.264
Received polio vaccination (3 doses)	0.351	0.045	170	65	1.233	0.127	0.261	0.440
Received measles vaccination	0.400	0.057	170	65	1.543	0.143	0.286	0.515
Fully immunized	0.160	0.033	170	65	1.188	0.208	0.094	0.227
Has heard of HIV/AIDS	0.864	0.025	1244	451	2.591	0.029	0.813	0.914
Has comprehensive knowledge of HIV/AIDS	0.157	0.020	1244	451	1.974	0.130	0.116	0.198
Higer-risk sex past 12 months among youth	0.645	0.040	360	128	1.577	0.062	0.565	0.725
Total fertility rate (past 3 years)	6.046	0.254	na	1267	1.447	0.042	5.539	6.554
Neonatal mortality (0-9 years)	35.757	5.692	2163	803	1.094	0.159	24.372	47.141
Post-neonatal mortality (0-9 years)	37.727	6.546	2144	793	1.509	0.174	24.635	50.819
Infant mortality (0-9 years)	73.484	9.403	2167	804	1.439	0.128	54.678	92.289
Child mortality (0-9 years)	51.107	7.950	2120	788	1.311	0.156	35.206	67.007
Under-five mortality (0-9 years)	120.835	13.943	2187	812	1.614	0.115	92.950	148.720
HIV prevalence	0.024	0.005	1066	411	0.982	0.192	0.015	0.033
MEN								
Urban residence	0.157	0.023	1120	407	2.108	0.146	0.111	0.202
No education	0.089	0.013	1120	407	1.525	0.146	0.063	0.115
With secondary education or higher	0.483	0.021	1120	407	1.414	0.044	0.440	0.525
Never married (in union)	0.441	0.019	1120	407	1.306	0.044	0.403	0.480
Currently married (in union)	0.520	0.021	1120	407	1.424	0.041	0.478	0.563
Had sex before age of 18	0.459	0.023	847	314	1.360	0.051	0.412	0.505
Knowing any contraceptive method	0.828	0.022	548	211	1.356	0.026	0.784	0.872
Knowing any modern contraceptive method	0.826	0.022	548	211	1.330	0.026	0.783	0.869
Ever used any contraceptive method	0.426	0.038	548	211	1.814	0.090	0.349	0.503
Want no more children	0.228	0.020	548	211	1.112	0.087	0.189	0.268
Want to delay at least 2 years	0.272	0.028	548	211	1.475	0.103	0.215	0.328
Ideal number of children	6.254	0.197	1090	396	1.508	0.031	5.861	6.647
Has comprehensive knowledge of HIV/AIDS	0.175	0.017	1120	407	1.526	0.099	0.140	0.209
Higer-risk sex past 12 months among youth	0.889	0.023	334	109	1.340	0.026	0.843	0.935
HIV prevalence	0.008	0.004	908	362	1.408	0.519	0.000	0.016
WOMEN AND MEN								
HIV prevalence	0.017	0.003	1974	772	1.184	0.206	0.010	0.023

na = Not applicable

Table B.10 Sampling errors for North Central sample, Liberia 2007

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.095	0.013	1351	2417	1.644	0.138	0.069	0.121
No education	0.549	0.025	1351	2417	1.881	0.046	0.498	0.600
With secondary education or higher	0.121	0.014	1351	2417	1.529	0.112	0.094	0.148
Never married (in union)	0.183	0.017	1351	2417	1.612	0.093	0.149	0.216
Currently married (in union)	0.732	0.020	1351	2417	1.676	0.028	0.692	0.772
Had sex before age of 18	0.793	0.024	1125	2028	2.011	0.031	0.745	0.842
Children ever born	3.514	0.082	1351	2417	1.061	0.023	3.350	3.677
Children ever born to women over 40	6.407	0.140	284	528	0.896	0.022	6.127	6.687
Children surviving	2.857	0.060	1351	2417	0.981	0.021	2.737	2.977
Knowing any contraceptive method	0.825	0.040	963	1769	3.214	0.048	0.746	0.904
Knowing any modern contraceptive method	0.818	0.040	963	1769	3.224	0.049	0.738	0.899
Ever used any contraceptive method	0.227	0.026	963	1769	1.925	0.115	0.175	0.279
Currently using any method	0.085	0.016	963	1769	1.732	0.183	0.054	0.116
Currently using a modern method	0.078	0.015	963	1769	1.679	0.186	0.049	0.108
Currently using pill	0.035	0.010	963	1769	1.702	0.290	0.015	0.055
Currently using condoms	0.010	0.004	963	1769	1.240	0.389	0.002	0.019
Currently using injectabless	0.025	0.006	963	1769	1.237	0.248	0.013	0.038
Currently using any traditional method	0.007	0.003	963	1769	1.163	0.460	0.001	0.013
Currently using female sterilization	0.005	0.002	963	1769	0.968	0.423	0.001	0.010
Currently using periodic abstinence	0.003	0.002	963	1769	1.130	0.623	0.000	0.008
Using public sector source	0.693	0.052	110	196	1.173	0.075	0.590	0.797
Want no more children	0.325	0.020	963	1769	1.326	0.062	0.285	0.365
Want to delay at least 2 years	0.324	0.025	963	1769	1.641	0.076	0.275	0.374
Ideal number of children	5.487	0.126	1274	2281	1.922	0.023	5.236	5.739
Mothers received complete tetanus protection	0.756	0.036	834	1519	2.462	0.048	0.683	0.829
Mothers received medical care at birth	0.326	0.038	1195	2167	2.441	0.117	0.250	0.402
Had diarrhea in the past 2 weeks	0.228	0.018	1089	1993	1.348	0.078	0.193	0.264
Treated with sugar-salt-water solution	0.549	0.041	244	455	1.215	0.075	0.466	0.631
Sought medical treatment	0.471	0.054	244	455	1.603	0.114	0.364	0.578
Having health card, seen	0.497	0.056	198	366	1.560	0.112	0.385	0.608
Received BCG vaccination	0.715	0.064	198	366	1.980	0.090	0.587	0.843
Received DPT vaccination (3 doses)	0.464	0.053	198	366	1.488	0.114	0.358	0.570
Received polio vaccination (3 doses)	0.494	0.051	198	366	1.435	0.104	0.391	0.596
Received measles vaccination	0.598	0.062	198	366	1.764	0.103	0.475	0.722
Fully immunized	0.403	0.048	198	366	1.371	0.119	0.307	0.499
Has heard of HIV/AIDS	0.809	0.039	1351	2417	3.661	0.049	0.730	0.887
Has comprehensive knowledge of HIV/AIDS	0.147	0.015	1351	2417	1.546	0.102	0.117	0.176
Higer-risk sex past 12 months among youth	0.452	0.039	379	651	1.517	0.086	0.374	0.530
Total fertility rate (past 3 years)	5.980	0.179	na	6895	0.977	0.030	5.622	6.339
Neonatal mortality (0-9 years)	35.097	4.517	2306	4177	1.060	0.129	26.063	44.130
Post-neonatal mortality (0-9 years)	55.559	6.451	2304	4173	1.183	0.116	42.656	68.461
Infant mortality (0-9 years)	90.655	8.463	2316	4197	1.167	0.093	73.729	107.582
Child mortality (0-9 years)	56.399	6.877	2305	4190	1.176	0.122	42.644	70.153
Under-five mortality (0-9 years)	141.941	11.330	2341	4240	1.230	0.080	119.282	164.601
HIV prevalence	0.005	0.002	1278	2180	0.943	0.381	0.001	0.008
MEN								
Urban residence	0.098	0.009	1149	2084	1.053	0.094	0.080	0.117
No education	0.225	0.021	1149	2084	1.712	0.094	0.183	0.267
With secondary education or higher	0.397	0.023	1149	2084	1.618	0.059	0.351	0.444
Never married (in union)	0.307	0.017	1149	2084	1.266	0.056	0.272	0.341
Currently married (in union)	0.646	0.016	1149	2084	1.112	0.024	0.615	0.678
Had sex before age of 18	0.447	0.021	933	1694	1.299	0.047	0.405	0.490
Knowing any contraceptive method	0.930	0.015	723	1347	1.538	0.016	0.901	0.959
Knowing any modern contraceptive method	0.924	0.015	723	1347	1.563	0.017	0.894	0.955
Ever used any contraceptive method	0.564	0.039	723	1347	2.110	0.069	0.486	0.642
Want no more children	0.190	0.017	723	1347	1.170	0.090	0.156	0.224
Want to delay at least 2 years	0.369	0.027	723	1347	1.507	0.073	0.315	0.423
Ideal number of children	6.046	0.174	1111	2006	1.602	0.029	5.698	6.394
Has comprehensive knowledge of HIV/AIDS	0.309	0.034	1149	2084	2.474	0.109	0.242	0.377
Higer-risk sex past 12 months among youth	0.782	0.036	255	442	1.399	0.046	0.709	0.854
HIV prevalence	0.007	0.002	1070	1853	0.931	0.347	0.002	0.011
WOMEN AND MEN								
HIV prevalence	0.006	0.001	2348	4033	0.957	0.262	0.003	0.009

na = Not applicable

DATA QUALITY TABLES

Appendix **C**

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Liberia 2007

	Female		Male			Female		Male	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	575	3.4	626	3.8	36	167	1.0	185	1.1
1	500	2.9	563	3.5	37	145	0.8	150	0.9
2	630	3.7	613	3.8	38	240	1.4	188	1.2
3	625	3.6	645	4.0	39	161	0.9	154	0.9
4	513	3.0	619	3.8	40	202	1.2	161	1.0
5	501	2.9	457	2.8	41	91	0.5	87	0.5
6	614	3.6	645	4.0	42	194	1.1	190	1.2
7	588	3.4	563	3.4	43	116	0.7	141	0.9
8	548	3.2	528	3.2	44	94	0.5	128	0.8
9	492	2.9	484	3.0	45	177	1.0	152	0.9
10	515	3.0	605	3.7	46	128	0.7	99	0.6
11	341	2.0	364	2.2	47	96	0.6	91	0.6
12	459	2.7	485	3.0	48	186	1.1	158	1.0
13	431	2.5	418	2.6	49	101	0.6	155	0.9
14	408	2.4	433	2.7	50	187	1.1	119	0.7
15	274	1.6	231	1.4	51	108	0.6	133	0.8
16	335	2.0	294	1.8	52	137	0.8	144	0.9
17	239	1.4	229	1.4	53	98	0.6	88	0.5
18	274	1.6	271	1.7	54	99	0.6	107	0.7
19	292	1.7	240	1.5	55	97	0.6	99	0.6
20	360	2.1	290	1.8	56	74	0.4	101	0.6
21	249	1.5	159	1.0	57	58	0.3	64	0.4
22	309	1.8	231	1.4	58	65	0.4	77	0.5
23	300	1.7	202	1.2	59	70	0.4	60	0.4
24	279	1.6	249	1.5	60	107	0.6	98	0.6
25	279	1.6	177	1.1	61	34	0.2	32	0.2
26	266	1.5	251	1.5	62	53	0.3	65	0.4
27	274	1.6	201	1.2	63	27	0.2	37	0.2
28	243	1.4	175	1.1	64	35	0.2	44	0.3
29	215	1.3	172	1.1	65	83	0.5	102	0.6
30	299	1.7	203	1.2	66	36	0.2	26	0.2
31	161	0.9	128	0.8	67	24	0.1	35	0.2
32	248	1.4	198	1.2	68	47	0.3	47	0.3
33	165	1.0	127	0.8	69	32	0.2	32	0.2
34	167	1.0	155	1.0	70+	318	1.9	311	1.9
35	288	1.7	212	1.3	Don't know/ missing	9	0.1	2	0.0
					Total	17,149	100.0	16,307	100.0

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview.

Table C.2.1 Age distribution of eligible and interviewed women

De facto household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by five-year age groups, Liberia 2007

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percent of women
		Number	Percent	
10-14	2,153	na	na	na
15-19	1,414	1,347	18.5	95.2
20-24	1,497	1,418	19.5	94.7
25-29	1,277	1,218	16.7	95.4
30-34	1,039	998	13.7	96.1
25-39	1,001	971	13.3	97.0
40-44	697	671	9.2	96.2
45-49	688	657	9.0	95.5
50-54	629	na	na	na
15-49	7,613	7,280	100.0	95.6

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable

Table C.2.2 Age distribution of eligible and interviewed men

De facto household population of men aged 10-54, interviewed men aged 15-49 and percent of eligible men who were interviewed (weighted), Liberia 2007

Age group	Household population of men age 10-54	Interviewed men age 15-49		Percent of men
		Number	Percent	
10-14	2,304	na	na	na
15-19	1,265	1,158	19.3	91.5
20-24	1,133	1,046	17.4	92.4
25-29	976	910	15.2	93.3
30-34	811	764	12.7	94.2
25-39	889	831	13.8	93.4
40-44	708	676	11.3	95.4
45-49	655	622	10.3	95.0
50-54	591	na	na	na
15-54	7,027	6,006	100.0	85.5

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Liberia 2007

Age group	Reference population	Percentage with missing information	Number of cases
Birth date	Births in the 15 years preceding the survey		
Month only		2.87	15,139
Month and year		0.10	15,139
Age at death	Deaths among births in the 15 years preceding the survey	0.13	2,259
Age/date at first union[1]	All women age 15-49	1.92	5,239
Respondent's education	All women age 15-49	0.23	7,092
Diarrhea in past 2 weeks	Living children age 0-59 months	4.91	5,132
Height		4.53	5,863
Weight		4.06	5,863
Height or weight		4.62	5,863

[1] Both year and age missing

Table C.4 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), Liberia 2007

Calendar year	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]		
	L	D	T	L	D	T	L	D	T	L	D	T
2007	125	2	127	100.0	100.0	100.0	125.6	19.7	122.5	na	na	na
2006	1,117	75	1,192	100.0	94.8	99.6	107.6	159.6	110.2	na	na	na
2005	988	72	1,060	100.0	99.6	100.0	118.0	92.1	116.0	92.2	89.8	92.0
2004	1,027	85	1,112	98.6	96.1	98.4	98.9	108.6	99.7	98.5	81.4	97.0
2003	1,095	138	1,234	99.2	99.7	99.3	100.7	156.7	105.7	114.5	141.5	117.0
2002	887	110	997	98.0	97.6	98.0	108.0	109.8	108.2	95.8	102.6	96.5
2001	757	76	833	99.6	97.4	99.4	82.7	114.1	85.1	75.4	41.9	70.3
2000	1,122	252	1,374	97.4	94.3	96.8	110.4	124.5	112.8	142.8	200.8	150.8
1999	814	175	989	93.8	92.7	93.6	97.0	106.2	98.6	79.7	80.0	79.8
1998	920	186	1,106	96.4	97.5	96.6	99.5	121.4	102.9	116.4	108.6	115.0
2003-2007	4,352	372	4,724	99.5	97.9	99.3	106.4	128.8	108.0	na	na	na
1998-2002	4,501	800	5,300	97.1	95.5	96.8	100.1	116.5	102.4	na	na	na
1993-1997	3,486	934	4,420	95.1	94.7	95.0	101.7	105.2	102.4	na	na	na
1988-1992	2,410	892	3,302	96.2	92.9	95.3	99.8	107.6	101.8	na	na	na
<1988	3,031	1,209	4,240	96.4	94.6	95.9	104.7	138.9	113.4	na	na	na
All	17,781	4,207	21,987	97.0	94.7	96.6	102.7	118.8	105.6	na	na	na

na = Not applicable
[1] Replace with calendar years in stub. For example, if survey takes place in 2000, 0 becomes 2000, 1 becomes 1999, etc.
[2] Both year and month of birth given
[3] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively
[4] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey (weighted), Liberia 2007

Age at death (days)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1	52	54	45	42	193
1	45	33	39	19	136
2	13	17	16	11	57
3	10	14	18	8	51
4	8	14	8	6	36
5	8	7	8	6	28
6	1	6	2	5	14
7	20	19	21	29	88
8	2	8	6	2	18
9	2	0	2	2	6
10	4	2	2	2	9
12	0	1	0	0	1
13	0	1	0	0	1
14	6	5	7	9	25
15	0	1	0	4	5
16	0	0	1	0	1
17	0	0	0	3	3
18	1	0	0	0	1
20	0	4	0	2	6
21	0	8	5	1	13
23	2	0	0	0	2
25	0	0	0	4	4
29	0	4	0	0	4
30	0	3	2	0	5
Missing	0	0	0	3	3
Total 0-30	173	199	181	154	707
Percent early neonatal[1]	78.9	72.9	75.1	62.7	72.7

[1] Under one week/under one month

Table C.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for five-year periods of birth preceding the survey, Liberia 2007

Age at death (months)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1[a]	173	199	181	157	710
1	23	39	54	36	153
2	30	41	60	36	167
3	18	60	47	53	179
4	23	33	28	33	116
5	16	46	31	20	114
6	18	36	53	33	140
7	12	24	33	30	99
8	10	30	36	43	118
9	19	38	40	33	131
10	12	10	15	9	45
11	7	10	12	9	38
12	4	11	23	10	47
13	0	9	7	10	26
14	1	14	3	3	20
15	4	5	1	1	11
16	1	5	0	3	9
17	0	0	2	2	4
18	4	5	14	6	29
19	0	1	4	0	6
20	0	5	1	1	7
21	2	2	4	0	7
24+	2	1	3	2	8
Missing	0	0	0	0	0
1 year	35	81	99	108	323
Total 0-11[1]	362	565	591	492	2,010

[a] Includes deaths under one month reported in days
[1] Under one month/under one year

Table C.7 Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Liberia 2007

Background characterisitic	Height-for-age			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	
Age in months												
<6	1.5	5.1	0.1	0.3	2.8	4.8	0.3	0.1	2.1	10.4	0.4	446
6-8	6.0	17.0	(0.6)	1.6	7.3	3.7	(0.3)	5.7	16.7	2.7	(0.7)	287
9-11	4.3	18.1	(0.8)	3.3	13.4	2.2	(0.8)	6.2	26.3	0.0	(1.3)	288
12-17	13.6	32.6	(1.4)	3.4	11.7	1.8	(0.7)	9.6	32.2	1.0	(1.5)	460
18-23	18.8	44.6	(1.7)	2.5	11.5	1.9	(0.7)	9.4	32.2	1.0	(1.5)	519
24-35	18.8	39.4	(1.5)	1.9	6.0	1.2	(0.4)	7.6	28.6	0.4	(1.3)	1,077
36-47	22.4	42.4	(1.8)	0.9	4.3	1.6	(0.2)	5.0	23.0	0.7	(1.2)	1,133
48-59	22.3	41.9	(1.8)	0.7	2.9	2.0	(0.2)	4.3	22.4	0.2	(1.2)	960
Sex												
Male	17.8	37.8	(1.5)	1.5	6.3	2.2	(0.3)	5.7	24.5	1.5	(1.1)	2,690
Female	15.7	32.0	(1.3)	1.6	6.3	2.0	(0.3)	6.2	23.1	1.5	(1.1)	2,480
Birth interval in months[2]												
First birth[3]	19.8	36.9	(1.5)	1.5	6.0	2.4	(0.4)	9.0	28.0	1.1	(1.3)	901
<24	19.7	42.2	(1.6)	2.3	6.0	0.9	(0.3)	5.6	30.0	0.6	(1.2)	526
24-47	13.3	32.3	(1.3)	1.7	6.5	1.9	(0.3)	4.8	20.1	1.5	(1.1)	1,745
48+	13.3	28.1	(1.1)	1.2	5.9	2.7	(0.2)	4.5	18.5	2.3	(0.9)	1,098
Size at birth[2]												
Very small	19.3	38.9	(1.7)	2.3	6.0	1.9	(0.5)	10.7	31.9	1.0	(1.4)	432
Small	15.1	35.1	(1.4)	3.0	9.2	0.5	(0.5)	7.0	28.2	1.5	(1.3)	550
Average or larger	14.8	32.4	(1.3)	1.3	5.8	2.3	(0.3)	4.9	20.4	1.6	(1.0)	3,231
Mother's interview status												
Interviewed	15.5	33.4	(1.4)	1.6	6.2	2.1	(0.3)	5.7	22.5	1.5	(1.1)	4,270
Not interviewed but in household	19.3	37.2	(1.5)	1.3	6.7	3.1	(0.3)	3.2	27.8	1.8	(1.2)	155
Not interviewed, and not in the household[4]	23.9	43.9	(1.7)	1.5	6.9	1.7	(0.4)	8.0	30.4	1.4	(1.3)	744
Mother's nutritional status[5]												
Thin (BMI <18.5)	23.6	41.4	(1.6)	2.4	8.0	1.5	(0.6)	12.4	33.7	2.2	(1.4)	344
Normal (BMI 18.5-24.9)	15.7	33.9	(1.4)	1.5	6.4	2.2	(0.3)	5.3	22.9	1.3	(1.1)	3,248
Overwieght/obese (BMI ≥25)	10.5	27.2	(1.1)	1.2	4.1	2.3	(0.1)	3.3	15.8	2.2	(0.8)	705
Residence												
Urban	10.6	25.9	(1.1)	2.3	7.9	2.9	(0.4)	5.2	21.0	1.6	(1.0)	1,553
Rural	19.4	39.0	(1.5)	1.2	5.6	1.7	(0.3)	6.3	25.0	1.5	(1.2)	3,616
Region												
Monrovia	9.6	25.4	(1.1)	2.6	8.9	2.1	(0.5)	5.0	21.8	1.6	(1.1)	1,084
North Western	10.7	33.6	(1.4)	0.1	3.3	2.2	(0.2)	3.5	18.9	1.6	(1.0)	511
South Central	15.3	33.6	(1.4)	1.7	6.9	1.8	(0.3)	6.6	22.5	0.7	(1.1)	805
South Eastern A	20.2	34.1	(1.5)	1.3	6.5	1.4	(0.3)	7.7	26.6	2.6	(1.1)	379
South Eastern B	22.7	40.8	(1.6)	2.1	8.5	3.0	(0.3)	8.7	25.8	1.8	(1.2)	370
North Central	21.1	40.2	(1.6)	1.3	5.1	2.0	(0.3)	6.0	25.8	1.6	(1.1)	2,020

Continued…

Table C.7—*Continued*

	Height-for-age			Weight-for-height				Weight-for-age				
	Percentage below -3 SD	Percentage below -2 SD[1]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage above +2 SD	Mean Z-score (SD)	Number of children
Mother's education[6]												
No education	17.0	35.9	(1.5)	1.6	5.6	2.4	(0.3)	5.3	23.5	1.8	(1.1)	2,227
Primary	16.3	34.8	(1.4)	1.4	7.1	1.8	(0.3)	6.4	24.6	1.0	(1.1)	1,488
Secondary and higher	9.5	23.6	(1.0)	2.1	6.4	2.1	(0.3)	4.8	16.5	1.8	(0.9)	708
Wealth quintile												
Lowest	22.1	39.9	(1.6)	1.2	5.7	1.8	(0.3)	7.0	26.6	1.5	(1.2)	1,152
Second	20.7	40.7	(1.5)	1.4	6.3	1.2	(0.3)	6.9	26.0	1.6	(1.2)	1,263
Middle	15.7	35.7	(1.4)	2.1	7.8	2.4	(0.4)	6.4	25.5	1.1	(1.2)	1,085
Fourth	12.4	30.7	(1.3)	1.6	5.4	3.1	(0.3)	4.8	20.3	1.9	(1.0)	1,017
Highest	8.2	21.2	(0.9)	1.8	6.5	2.0	(0.4)	3.2	17.6	1.4	(0.9)	652
Total	16.8	35.0	(1.4)	1.6	6.3	2.1	(0.3)	5.9	23.8	1.5	(1.1)	5,170

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO Child Growth Standards. Totals include children with information on size at birth, mother's nutritional status, and mother's education missing. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

[1] Includes children who are below -3 standard deviations (SD) from the International Reference Population median

[2] Excludes children whose mothers were not interviewed

[3] First born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval

[4] Includes children whose mothers are deceased

[5] Excludes children whose mothers were not weighed and measured. Mother's nutritional status in terms of BMI (Body Mass Index) is presented in Table 1.10

[6] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire

Table C.8 Coverage of HIV testing among interviewed women by social and demographic characteristics

Percent distribution of interviewed women age 15-49 by HIV testing status, according to social and demographic characteristics (unweighted), Liberia 2007

	Testing status					
Characteristic	Tested	Refused to provide blood	Absent at the time of blood collection	Other/ missing	Total	Number
Marital status						
Never married	89.6	9.1	0.0	1.3	100.0	1,906
Ever had sex	90.1	8.5	0.0	1.4	100.0	1,553
Never had sex	87.3	11.6	0.0	1.1	100.0	353
Married/living together	92.1	7.2	0.0	0.7	100.0	4,508
Divorced or separated	92.4	6.7	0.0	1.0	100.0	511
Widowed	91.0	8.4	0.0	0.6	100.0	167
Type of union						
In polygynous union	94.9	4.4	0.0	0.7	100.0	749
Not in polygynous union	91.6	7.7	0.1	0.7	100.0	3,594
Not currently in union	90.2	8.6	0.0	1.2	100.0	2,584
Ever had sexual intercourse						
Yes	91.7	7.5	0.0	0.8	100.0	6,706
No	87.3	11.6	0.0	1.1	100.0	353
Currently pregnant						
Pregnant	92.8	5.8	0.1	1.2	100.0	741
Not pregnant or not sure	91.2	7.9	0.0	0.8	100.0	6,351
Times slept away from home in past 12 months						
None	91.8	7.2	0.0	0.9	100.0	4,883
1-2	91.8	7.4	0.0	0.8	100.0	1,344
3-4	88.1	10.7	0.0	1.2	100.0	429
5+	88.3	11.7	0.0	0.0	100.0	342
Time away in past 12 months						
Away for more than one month	91.5	7.6	0.0	0.8	100.0	981
Away only for less than 1 month	90.2	9.2	0.0	0.7	100.0	1,047
Not away	91.8	7.2	0.0	0.9	100.0	4,894
Language						
Bassa	89.9	9.5	0.0	0.6	100.0	692
Gbandi	91.9	6.5	0.0	1.6	100.0	124
Gio	97.6	1.8	0.0	0.5	100.0	380
Gola	89.7	9.9	0.0	0.4	100.0	233
Grebo	88.0	10.1	0.0	1.8	100.0	1,312
Kissi	91.6	5.1	0.4	3.0	100.0	237
Kpelle	93.6	5.9	0.1	0.4	100.0	1,401
Krahn	90.5	9.0	0.0	0.5	100.0	409
Kru	90.2	9.5	0.0	0.4	100.0	528
Lorma	94.0	5.2	0.0	0.8	100.0	381
Mandigo	94.0	5.5	0.0	0.5	100.0	200
Mano	90.3	9.4	0.0	0.3	100.0	372
Mende	92.5	7.5	0.0	0.0	100.0	107
Vai	92.5	7.2	0.0	0.3	100.0	305
None/ only English	86.7	12.4	0.0	0.9	100.0	218
Other	95.2	2.4	0.0	2.4	100.0	125
Religion						
Christian	91.0	8.1	0.0	0.9	100.0	6,116
Muslim	92.9	6.5	0.0	0.6	100.0	694
Traditional religion	96.4	3.6	0.0	0.0	100.0	28
No religion	96.7	2.7	0.0	0.5	100.0	184
Total	91.4	7.7	0.0	0.9	100.0	7,092

Note: Total includes some cases with information missing

Table C.9 Coverage of HIV testing among interviewed men by social and demographic characteristics

Percent distribution of interviewed men 15-49 by HIV testing status, according to social and demographic characteristics (unweighted), Liberia 2007

Characteristic	Testing status				Total	Number
	Tested	Refused to provide blood	Absent at the time of blood collection	Other/ missing		
Marital status						
Never married	84.9	14.1	0.1	0.9	100.0	2,370
Ever had sex	85.2	13.7	0.1	1.0	100.0	1,687
Never had sex	84.0	15.1	0.1	0.7	100.0	683
Married/living together	88.0	10.9	0.2	1.0	100.0	3,329
Divorced or separated	86.7	11.5	0.0	1.8	100.0	279
Widowed	80.6	19.4	0.0	0.0	100.0	31
Type of union						
In polygynous union	93.9	5.4	0.0	0.7	100.0	280
Not in polygynous union	87.4	11.4	0.2	1.0	100.0	3,049
Not currently in union	85.0	13.9	0.1	1.0	100.0	2,678
Ever had sexual intercourse						
Yes	87.0	11.9	0.2	1.0	100.0	5,314
No	84.1	15.1	0.1	0.7	100.0	684
Male circumcision						
Circumcised	86.7	12.2	0.2	1.0	100.0	5,877
Not circumcised	86.3	13.7	0.0	0.0	100.0	95
Times slept away from home in past 12 months						
None	86.9	12.2	0.1	0.8	100.0	3,179
1-2	86.5	12.5	0.1	0.9	100.0	1,094
3-4	86.2	11.6	0.4	1.7	100.0	747
5+	86.7	12.2	0.1	1.0	100.0	959
Time away in past 12 months						
Away for more than one month	88.3	9.8	0.1	1.8	100.0	950
Away only for less than 1 month	85.5	13.5	0.2	0.7	100.0	1,782
Not away	86.9	12.2	0.1	0.8	100.0	3,179
Language						
Bassa	88.1	11.1	0.2	0.7	100.0	595
Gbandi	86.0	13.2	0.0	0.9	100.0	114
Gio	95.8	4.2	0.0	0.0	100.0	354
Gola	82.7	15.6	0.6	1.2	100.0	173
Grebo	82.5	15.4	0.0	2.1	100.0	1,106
Kissi	91.9	7.1	0.0	1.0	100.0	198
Kpelle	87.4	11.8	0.3	0.6	100.0	1,181
Krahn	84.3	13.7	0.7	1.2	100.0	402
Kru	83.3	16.2	0.0	0.5	100.0	437
Lorma	86.7	13.3	0.0	0.0	100.0	279
Mandigo	93.6	5.1	0.0	1.3	100.0	235
Mano	87.7	11.4	0.3	0.6	100.0	324
Mende	88.9	11.1	0.0	0.0	100.0	81
Vai	90.3	8.3	0.0	1.4	100.0	216
None/ only English	83.2	15.8	0.0	1.1	100.0	184
Other	82.9	14.4	0.0	2.7	100.0	111
Religion						
Christian	85.8	13.0	0.2	1.0	100.0	5,023
Muslim	90.8	7.9	0.1	1.2	100.0	685
Traditional religion	94.3	5.7	0.0	0.0	100.0	88
No religion	91.2	8.8	0.0	0.0	100.0	182
Total	86.7	12.2	0.1	1.0	100.0	6,009

Note: Total includes some cases with information missing

Table C.10 Coverage of HIV testing among interviewed women by sexual behavior characteristics

Percent distribution of interviewed women who ever had sexual intercourse by HIV test status, according to sexual behavior characteristics (unweighted), Liberia 2007

Sexual behavior characteristic	Testing status				Total	Number
	Tested	Refused to provide blood	Absent at the time of blood collection	Other/ missing		
Age at first sexual intercourse						
<16	91.8	7.5	0.0	0.7	100.0	3,197
16-17	92.5	6.7	0.1	0.7	100.0	2,225
18-19	89.7	9.2	0.0	1.0	100.0	673
20+	87.4	10.5	0.0	2.1	100.0	190
Higher-risk intercourse in past 12 months						
Had higher-risk intercourse	91.0	7.9	0.0	1.1	100.0	1,964
Had sexual intercourse, not higher risk	92.2	7.2	0.1	0.6	100.0	3,848
No sexual intercourse in past 12 months	91.1	7.5	0.0	1.5	100.0	894
Number of sexual partners in past 12 months						
0	91.9	7.3	0.0	0.8	100.0	727
1	91.6	7.6	0.0	0.8	100.0	5,414
2	93.5	6.2	0.0	0.3	100.0	354
3+	97.4	2.6	0.0	0.0	100.0	39
Number of higher-risk partners in past 12 months						
0	91.9	7.3	0.0	0.7	100.0	4,742
1	90.6	8.3	0.0	1.1	100.0	1,745
2	93.0	6.4	0.0	0.5	100.0	187
3+	100.0	0.0	0.0	0.0	100.0	32
Condom use						
Ever used a condom	90.9	8.6	0.0	0.6	100.0	1,270
Never used a condom	92.0	7.1	0.0	0.9	100.0	5,374
Condom use at last sexual intercourse in past 12 months						
Used condom	92.6	7.4	0.0	0.0	100.0	338
Did not use condom	91.7	7.5	0.0	0.8	100.0	5,443
No sexual intercourse in past 12 months	91.1	7.5	0.0	1.5	100.0	894
Number of lifetime partners						
1	90.0	8.3	0.1	1.7	100.0	1,325
2	90.5	8.6	0.0	0.9	100.0	1,734
3-4	93.3	6.1	0.1	0.5	100.0	1,923
5-9	92.3	7.5	0.0	0.2	100.0	1,016
10+	94.9	5.1	0.0	0.0	100.0	255
Prior HIV testing status						
Ever tested, got result	90.8	8.3	0.0	0.9	100.0	228
Ever tested, did not get result	84.2	15.8	0.0	0.0	100.0	57
Never tested	91.8	7.4	0.0	0.8	100.0	6,415
Condom use at last higher-risk intercourse in past 12 months						
Used condom	93.2	6.8	0.0	0.0	100.0	280
Did not use condom	90.6	8.1	0.0	1.2	100.0	1,684
No higher-risk intercourse/no intercourse past 12 months	91.9	7.3	0.0	0.7	100.0	4,742
Condom use at first sex						
Used condom	95.0	5.0	0.0	0.0	100.0	139
Did not use condom	91.3	7.6	0.0	1.0	100.0	2,122
Total	91.7	7.5	0.0	0.8	100.0	6,706

Note: Total includes some cases with information missing

Table C.11 Coverage of HIV testing among interviewed men by sexual behavior characteristics

Percent distribution of interviewed men who ever had sexual intercourse by HIV test status, according to sexual behavior characteristics (unweighted), Liberia 2007

Sexual behavior characteristic	Testing status: Tested	Refused to provide blood	Absent at the time of blood collection	Other/ missing	Total	Number
Age at first sexual intercourse						
<16	87.7	11.0	0.2	1.2	100.0	1,158
16-17	85.7	13.3	0.1	0.9	100.0	1,687
18-19	86.9	11.5	0.3	1.2	100.0	1,446
20+	88.4	11.0	0.1	0.5	100.0	975
Higher-risk intercourse in past 12 months[1]						
Had higher-risk intercourse	86.6	12.2	0.2	1.0	100.0	2,707
Had sexual intercourse, not higher risk	87.4	11.5	0.1	1.0	100.0	2,312
No sexual intercourse in past 12 months	87.5	11.9	0.0	0.7	100.0	295
Number of sexual partners in past 12 months						
0	89.4	10.6	0.0	0.0	100.0	226
1	86.8	12.0	0.1	1.1	100.0	3,817
2	88.0	10.9	0.2	0.9	100.0	990
3+	85.3	13.7	1.0	0.0	100.0	204
Number of higher-risk partners in past 12 months[2]						
0	87.4	11.5	0.1	1.0	100.0	2,607
1	87.0	11.7	0.1	1.2	100.0	2,019
2	86.0	12.7	0.6	0.8	100.0	521
3+	84.4	15.6	0.0	0.0	100.0	167
Condom use						
Ever used a condom	85.6	13.0	0.2	1.2	100.0	2,564
Never used a condom	88.3	10.7	0.1	0.8	100.0	2,714
Condom use at last sexual intercourse in past 12 months						
Used condom	82.2	16.7	0.1	1.0	100.0	701
Did not use condom	87.8	11.0	0.2	1.0	100.0	4,309
No sexual intercourse in past 12 months	87.5	11.9	0.0	0.7	100.0	295
Paid for sexual intercourse in past 12 months[3]						
Yes	86.1	12.1	0.0	1.7	100.0	173
Used condom	79.2	20.8	0.0	0.0	100.0	77
Did not use condom	91.7	5.2	0.0	3.1	100.0	96
No (No paid sexual intercourse/no sexual intercourse in past 12 months)	87.0	11.8	0.2	1.0	100.0	5,141
Number of lifetime partners						
1	88.7	10.6	0.0	0.7	100.0	282
2	84.5	13.3	0.3	2.0	100.0	400
3-4	88.9	9.9	0.0	1.2	100.0	760
5-9	85.1	13.6	0.2	1.1	100.0	1,298
10+	88.2	10.9	0.3	0.6	100.0	1,497
Prior HIV testing status						
Ever tested, got result	81.7	18.3	0.0	0.0	100.0	295
Ever tested, did not get result	83.0	14.9	0.0	2.1	100.0	47
Never tested	87.2	11.6	0.1	1.1	100.0	4,759
Condom use at last higher-risk intercourse in past 12 months[1]						
Used condom	81.9	16.7	0.1	1.3	100.0	712
Did not use condom	88.3	10.5	0.2	1.0	100.0	1,995
No higher-risk intercourse/no intercourse past 12 months	87.4	11.5	0.1	1.0	100.0	2,607
Condom use at first sex						
Used condom	83.2	13.9	0.0	3.0	100.0	101
Did not use condom	86.2	12.5	0.1	1.2	100.0	1,406
Total	87.0	11.9	0.2	1.0	100.0	5,314

Note: Total includes some cases with information missing
[1] Sexual intercourse with a nonmarital, noncohabiting partner
[2] Nonmarital, noncohabiting partner who was among the last three partners in the past 12 months.
[3] At least one of the last three sexual partners in the past 12 months was a prostitute.

PERSONS INVOLVED IN THE 2007 LIBERIA DEMOGRAPHIC AND HEALTH SURVEY

Appendix D

ADMINISTRATIVE TEAM

Dr. Toga G. McIntosh, Minister of Planning and Economic Affairs and Chairman of LISGIS Board
Dr. Walter Gonlegarley, Minister of Health and Social Welfare and Member of LISGIS Board
Dr. T. Edward Liberty, Director-General of LISGIS
The late Dr. Tomah Marbiah, Director of Liberia Institute of Biomedical Research
Mrs. Lorpu Bruce, Deputy Director of NACP

PROJECT STEERING AND TECHNICAL COMMITTEES

The Ministries of Planning and Economic Affairs, Internal Affairs,
Health and Social Welfare, Gender and Development, and Information
Liberia Institute of Statistics and Geo-Information Services (LISGIS)
Family Planning Association of Liberia
National AIDS Control Programme
Liberia Institute for Biomedical Research (LIBR)
United States Agency for International Development (USAID)
United Nations Population Fund (UNFPA)
United Nations Development Programme (UNDP)
United Nations Children's Funds (UNICEF)

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Mr. Augustine Fayiah, Survey Project Coordinator/LISGIS
Mr. Johnson Q. Kei, Assistant Survey Project Coordinator/LISGIS
Ms. Sarah Saah, Secretary/LISGIS
Mrs. Lucretia D. Bollie, Radio operator/LISGIS
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Mr. Janjay Jones
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Mr. Andrew Tellewoyan
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Ms. Hawa Sandemanie
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Ms. Felecia Koon
Ms. Regina Moore
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Mr. Foday Kallon
Ms. Ophelia Neufville
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Mr. Herbert Tonnel
Mr. Thomas T.S. Dennis
Ms. Josephine Ballah
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Mr. Francis F. Wreh
Mr. Richard Ngafuan
Mrs. Bebee S. Wesley
and Mr. Yusuff Sarnoh

INSTITUTIONS

Ministry of Internal Affairs, especially the local sub-offices
Ministry of Health and Social Welfare, especially the County Health Teams
All public and private institutions that assisted the LDHS project staff during the data collection

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UNFPA

Ms. Rose Gakuba, UNFPA Resident Representative
Mr. Jason Onsembe, UNFPA Country Support Team (CST).

QUESTIONNAIRES

Appendix ***E***

GOVERNMENT OF LIBERIA Number:
LIBERIA INSTITUTE FOR STATISTICS AND GEO-INFORMATION SERVICES
2006-07 LIBERIA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD QUESTIONNAIRE

IDENTIFICATION August 31 2006

NAME OF COUNTY _____	. . . . .
NAME OF DISTRICT _____	. . . . .
NAME OF CLAN/TOWNSHIP _____	
NAME OF CITY/TOWN/VILLAGE _____	
LDHS CLUSTER NUMBER	. . . . .
LDHS STRUCTURE NUMBER	. . . . .
HOUSEHOLD NUMBER	. . . . .
URBAN: MONROVIA=1; OTHER URBAN=2; VILLAGE=3	. . . . .
NAME OF HOUSEHOLD HEAD _____	

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY
				MONTH
				YEAR 2 0 0
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT*
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:
1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD
TOTAL ELIGIBLE WOMEN
TOTAL ELIGIBLE MEN
LINE NO. OF RESPONDENT TO HHOLD QUEST.

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

Introduction and Consent

Hello. My name is _____. I am working with the Liberia Institute for Statistics and Geo-Information Services (LISGIS). We are conducting a National Demographic and Health Survey. We would very much like your participation in this survey. The survey interview takes a few minutes to complete As part of this survey, we would first like to ask some questions about your household. All of the answers you give will be confidential. Participation in the survey is completely voluntary. If I ask any question you do not want to answer, let me know and I will go to the next question or you can stop the interview at any time. However, we hope you will participate in the survey since your views are important

At this time, do you want to ask me anything about the survey? May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . . 1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . . 2 → END

HOUSEHOLD SCHEDULE

							IF AGE 15 OR OLDER			
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	ELIGIBILITY		
	Please give me the names of the persons who usually live in your household and visitors who slept here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-22 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) sleep here last night?	How old is (NAME)? IF LESS THAN 1 YEAR, WRITE 00'.	What is (NAME'S) current marital status? 1 = MARRIED OR LIVING TOGETHER 2 = DIVORCED, SEPARATED 3 = WIDOWED 4 = NEVER-MARRIED, NEVER LIVED TOGETHER	CIRCLE LINE NUMBER OF ALL **WOMEN** AGE 15-49	CIRCLE LINE NUMBER OF ALL **MEN** AGE 15-49	CIRCLE LINE NUMBER OF ALL CHILD-REN **AGE 0-5**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
01			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS		01	01	01
02			1 2	1 2	1 2			02	02	02
03			1 2	1 2	1 2			03	03	03
04			1 2	1 2	1 2			04	04	04
05			1 2	1 2	1 2			05	05	05
06			1 2	1 2	1 2			06	06	06
07			1 2	1 2	1 2			07	07	07
08			1 2	1 2	1 2			08	08	08
09			1 2	1 2	1 2			09	09	09
10			1 2	1 2	1 2			10	10	10

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = NIECE/NEPHEW BY BLOOD
10 = NIECE/NEPHEW BY MARRIAGE
11 = OTHER RELATIVE
12 = ADOPTED/FOSTER/ STEPCHILD
13 = NOT RELATED
98 = DON'T KNOW

	IF AGE 0-17 YEARS				IF AGE 3 YEARS OR OLDER		IF AGE 3-24 YEARS				IF AGE 0-4 YRS
LINE NO.	SURVIVORSHIP AND RESIDENCE OF BIOLOGICAL PARENTS				EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE				BIRTH REGIS-TRATION
	Is (NAME)'s natural mother still living?	Does (NAME)'s natural mother usually live in this household or was she a guest last night? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER. IF NO, RECORD '00'.	Is (NAME)'s natural father still living?	Does (NAME)'s natural father usually live in this household or was he a guest last night? IF YES: What is his name? RECORD FATHER'S LINE NUMBER. IF NO, RECORD '00'.	Has (NAME) ever been to school?	What is the highest level of school (NAME) **attended**? SEE CODES BELOW. What is the highest grade (NAME) **completed** at that level? SEE CODES BELOW.	Did (NAME) go to school any time during **this** school year? (2006-07)	During this school year, what level and grade [is/was] (NAME) attending? SEE CODES BELOW.	Did (NAME) go to school any time during the **last** school year, that is, (2005 - 2006)?	During that school year, what grade was (NAME) in? SEE CODES BELOW.	Does (NAME) have a birth certifi-**ficate?** SHOW EXAM-PLE. THIS IS **NOT** A ROAD TO HEALTH CARD
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Y N DK		Y N DK		Y N	LEVEL GRADE	Y N	LEVEL GRADE	Y N	LEVEL GRADE	Y N
01	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
02	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
03	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
04	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
05	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
06	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
07	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 27		1 2 → GO TO 22		1 2
08	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
09	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
10	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2

CODES FOR Qs. 17, 19, AND 21: EDUCATION

LEVEL	GRADE
1 = PRIMARY	00 = LESS THAN 1 YEAR COMPLETED (USE '00' FOR Q. 17 ONLY. THIS CODE IS NOT ALLOWED FOR QS. 19 AND 21)
2 = SECONDARY	
3 = HIGHER	
6 = NURSERY, KINDERGARTEN	
8 = DON'T KNOW	98 = DON'T KNOW

							IF AGE 15 OR OLDER			
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	ELIGIBILITY		
	Please give me the names of the persons who usually live in your household and visitors who slept here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-22 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) sleep here last night?	How old is (NAME)? IF LESS THAN 1 YEAR, WRITE 00'.	What is (NAME'S) current marital status? 1 = MARRIED OR LIVING TOGETHER 2 = DIVORCED, SEPARATED 3 = WIDOWED 4 = NEVER-MARRIED, NEVER LIVED TOGETHER	CIRCLE LINE NUMBER OF ALL **WOMEN** AGE 15-49	CIRCLE LINE NUMBER OF ALL **MEN** AGE 15-49	CIRCLE LINE NUMBER OF ALL CHILD-REN **AGE 0-5**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
11			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS		11	11	11
12			1 2	1 2	1 2			12	12	12
13			1 2	1 2	1 2			13	13	13
14			1 2	1 2	1 2			14	14	14
15			1 2	1 2	1 2			15	15	15
16			1 2	1 2	1 2			16	16	16
17			1 2	1 2	1 2			17	17	17
18			1 2	1 2	1 2			18	18	18
19			1 2	1 2	1 2			19	19	19
20			1 2	1 2	1 2			20	20	20

TICK HERE IF CONTINUATION SHEET USED ☐

2A) Just to make sure that I have a complete list. Are there any other persons, like small children or infants that we have not listed? YES ☐ → ADD TO TABLE NO ☐

2B) Are there any other people who may not be members of your family, like lodgers, domestic servants, or friends who usually live here? YES ☐ → ADD TO TABLE NO ☐

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed? YES ☐ → ADD TO TABLE NO ☐

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = NIECE/NEPHEW BY BLOOD
10 = NIECE/NEPHEW BY MARIAGE
11 = OTHER RELATIVE
12 = ADOPTED/FOSTER/ STEPCHILD
13 = NOT RELATED
98 = DON'T KNOW

	IF AGE 0-17 YEARS				IF AGE 3 YEARS OR OLDER		IF AGE 3-24 YEARS				IF AGE 0-4 YRS
LINE NO.	SURVIVORSHIP AND RESIDENCE OF BIOLOGICAL PARENTS				EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE				BIRTH REGIS-TRATION
	Is (NAME)'s natural mother still living?	Does (NAME)'s natural mother usually live in this household or was she a guest last night? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER. IF NO, RECORD '00'.	Is (NAME)'s natural father still living?	Does (NAME)'s natural father usually live in this household or was he a guest last night? IF YES: What is his name? RECORD FATHER'S LINE NUMBER. IF NO, RECORD '00'.	Has (NAME) ever been to school?	What is the highest level of school (NAME) **attended**? SEE CODES BELOW. What is the highest grade (NAME) **completed** at that level? SEE CODES BELOW.	Did (NAME) go to school any time during **this** school year? (2006-07)	During this school year, what level and grade [is/was] (NAME) attending? SEE CODES BELOW.	Did (NAME) go to school any time during the **last** school year, that is, (2005 - 2006)?	During that school year, what grade was (NAME) in? SEE CODES BELOW.	Does (NAME) have a birth certifi-**ficate?** SHOW EXAM-PLE. THIS IS **NOT** A ROAD TO HEALTH CARD
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
11	Y N DK 1 2 8 → GO TO 14		Y N DK 1 2 8 → GO TO 16		Y N 1 2 → GO TO 22	LEVEL GRADE	Y N 1 2 → GO TO 20	LEVEL GRADE	Y N 1 2 → GO TO 22	LEVEL GRADE	1 2
12	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
13	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
14	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 29		1 2 → GO TO 20		1 2 → GO TO 22		1 2
15	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
16	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
17	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
18	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 29		1 2 → GO TO 20		1 2 → GO TO 22		1 2
19	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2
20	1 2 8 → GO TO 14		1 2 8 → GO TO 16		1 2 → GO TO 22		1 2 → GO TO 20		1 2 → GO TO 22		1 2

CODES FOR Qs. 17, 19, AND 21: EDUCATION

LEVEL	GRADE
1 = PRIMARY	00 = LESS THAN 1 YEAR COMPLETED
2 = SECONDARY	(USE '00' FOR Q. 17 ONLY.
3 = HIGHER	THIS CODE IS NOT ALLOWED
6 = NURSERY, KINDERGARTEN	FOR QS. 19 AND 21)
8 = DON'T KNOW	98 = DON'T KNOW

HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	Where do you people get your drinking water from?	PIPED WATER PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PUBLIC TAP/STANDPIPE . . . . . 13 TUBE WELL OR BOREHOLE . . . . . 21 DUG WELL HAND PUMP, PROTECTED WELL . . . 31 UNPROTECTED WELL . . . . . 32 WATER FROM SPRING PROTECTED SPRING . . . . . 41 UNPROTECTED SPRING . . . . . 42 RAINWATER . . . . . 51 TANKER TRUCK . . . . . 61 CART WITH SMALL TANK . . . . . 71 SURFACE WATER/RIVER/LAKE/STREAM 81 BOTTLED WATER . . . . . 91 OTHER _____ 96 (SPECIFY)	→ 106 → 103 → 106 → 103 → 103
102	Where do you get water from for washing and cooking?	PIPED WATER PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PUBLIC TAP/STANDPIPE . . . . . 13 TUBE WELL OR BOREHOLE . . . . . 21 DUG WELL HAND PUMP, PROTECTED WELL . . . 31 UNPROTECTED WELL . . . . . 32 WATER FROM SPRING PROTECTED SPRING . . . . . 41 UNPROTECTED SPRING . . . . . 42 RAINWATER . . . . . 51 TANKER TRUCK . . . . . 61 CART WITH SMALL TANK . . . . . 71 SURFACE WATER/RIVER/LAKE/STREAM 81 OTHER _____ 96 (SPECIFY)	→ 106 → 106
103	Where is that water source located?	IN OWN DWELLING . . . . . 1 IN OWN YARD/PLOT . . . . . 2 ELSEWHERE 3	→ 106
104	How long does it take to go there, get water, and come back?	MINUTES . . . . . ☐☐☐ DON'T KNOW 998	
105	Who **usually** goes to get the water?	ADULT WOMAN . . . . . 1 ADULT MAN . . . . . 2 FEMALE CHILD UNDER 15 YEARS . . . . . 3 MALE CHILD UNDER 15 YEARS . . . . . 4 FEMALE AND MALE CHILDREN EQUALLY 5 OTHER _____ 6 (SPECIFY)	
106	Do you do anything to the water to make it safer to drink?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 108

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
107	What do you do to make the water safe for drinking? Anything else? RECORD ALL MENTIONED.	BOIL . . . . . A ADD BLEACH/CHLORINE . . . . . B STRAIN THROUGH A CLOTH . . . . . C USE WATER FILTER (CERAMIC/SAND, ETC) D SOLAR DISINFECTION . . . . . E LET IT STAND AND SETTLE . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
108	What type of toilet do you use here?	FLUSH OR POUR FLUSH TOILET FLUSH TO PIPED SEWER SYSTEM . . . 11 FLUSH TO SEPTIC TANK . . . . . 12 FLUSH TO PIT LATRINE . . . . . 13 FLUSH TO SOMEWHERE ELSE . . . 14 FLUSH, DON'T KNOW WHERE . . . 15 PIT LATRINE VENTILATED IMPROVED PIT LATRINE 21 PIT LATRINE WITH SLAB . . . . . 22 PIT LATRINE WITHOUT SLAB/OPEN PIT 23 COMPOSTING TOILET . . . . . 31 BUCKET TOILET . . . . . 41 HANGING TOILET/HANGING LATRINE . 51 NO FACILITY/BUSH/FIELD . . . . . 61 OTHER _____ 96 (SPECIFY)	→ 111
109	Do other households use this toilet?	YES . . . . . 1 NO 2	→ 111
110	How many households use this toilet?	NO. OF HOUSEHOLDS IF LESS THAN 10 . . . . . 0 10 OR MORE HOUSEHOLDS . . . . . 95 DON'T KNOW 98	

111	Does your household have:		YES	NO
	Electricity?	ELECTRICITY	1	2
	A generator?	GENERATOR	1	2
	A radio?	RADIO	1	2
	A mobile telephone?	MOBILE TELEPHONE	1	2
	An ice box?	ICE BOX (REFRIGERATOR) .	1	2
	A table?	TABLE	1	2
	Chairs?	CHAIRS	1	2
	A cupboard?	CUPBOARD	1	2
	A mattress (not made of straw or grass)?	MATTRESS	1	2
	A sewing machine?	SEWING MACHINE	1	2
	A television?	TELEVISION	1	2
	A computer?	COMPUTER	1	2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
112	What do you use for cooking--coal, gas, wood?	ELECTRICITY . . . . . 01 GAS CYLINDER . . . . . 02 KEROSENE STOVE . . . . . 03 FIRE COAL / COAL / CHARCOAL . . . . . 04 WOOD . . . . . 05 NO FOOD COOKED IN HOUSEHOLD . . . 95 OTHER _____ 96 (SPECIFY)	→ 115
113	Where do you usually do your cooking?	INSIDE THE HOUSE . . . . . 1 ON A PORCH . . . . . 2 IN A SEPARATE BUILDING . . . . . 3 OUTDOORS . . . . . 4 OTHER _____ 6 (SPECIFY)	→ 115
114	Do you have a separate room which is used as a kitchen?	YES . . . . . 1 NO 2	
115	MAIN MATERIAL OF THE FLOOR OF THE HOUSEHOLD. RECORD OBSERVATION. IF DIFFERENT ROOMS HAVE DIFFERENT FLOOR MATERIAL, CIRCLE THE CODE FOR THE MOST COMMON, i.e., WHAT COVERS THE LARGEST AREA.	NATURAL FLOOR EARTH/SAND/MUD . . . . . 11 RUDIMENTARY FLOOR WOOD PLANKS . . . . . 21 FINISHED FLOOR PARQUET OR POLISHED WOOD . . . 31 FLOOR MAT, LINOLEUM, VINYL . . . . . 32 CERAMIC TILES . . . . . 33 CONCRETE, CEMENT . . . . . 34 CARPET . . . . . 35 OTHER _____ 96 (SPECIFY)	
116	MAIN MATERIAL OF THE ROOF OF THE HOUSEHOLD. RECORD OBSERVATION.	NATURAL ROOFING THATCH/PALM LEAF . . . . . 11 RUDIMENTARY ROOFING PALM/BAMBOO/MATS . . . . . 21 WOOD PLANKS . . . . . 22 TARPAULIN, PLASTIC . . . . . 23 FINISHED ROOFING ZINC, METAL . . . . . 31 WOOD . . . . . 32 CERAMIC TILES . . . . . 34 CONCRETE, CEMENT . . . . . 35 ASBESTOS SHEETS, SHINGLES . . . 36 OTHER _____ 96 (SPECIFY)	
117	MAIN MATERIAL OF THE OUTSIDE WALLS OF THE HOUSEHOLD. RECORD OBSERVATION.	NATURAL WALLS MUD AND STICKS . . . . . 11 CANE/PALM/TRUNKS . . . . . 12 STRAW, THATCH MATS . . . . . 13 RUDIMENTARY WALLS MUD BRICKS . . . . . 21 PLYWOOD, REUSED WOOD . . . . . 22 CARDBOARD, PLASTIC . . . . . 23 FINISHED WALLS CEMENT OR STONE BLOCKS . . . . . 31 BRICKS . . . . . 32 WOOD PLANKS/SHINGLES . . . . . 33 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			SKIP
118	How many rooms in this household are used for sleeping?	ROOMS			
119	Does any member of this household own:		**YES**	**NO**	
	A watch?	WATCH	1	2	
	A bicycle?	BICYCLE	1	2	
	A motorcycle or motor scooter?	MOTORCYCLE/SCOOTER . . .	1	2	
	A car or truck?	CAR/TRUCK	1	2	
	A boat or a canoe?	BOAT OR CANOE	1	2	
120	Does this household own any livestock, other farm animals, or poultry?	YES . . . . . 1 NO 2			→ 122
121	How many of the following animals does this household own? IF NONE, ENTER '00'. IF MORE THAN 95, ENTER '95'. IF UNKNOWN, ENTER '98'.				
	Cows?	COWS			
	Pigs?	PIGS			
	Goats?	GOATS			
	Sheep?	SHEEP			
	Chickens, ducks or guinea fowls?	CHICKENS, DUCKS, FOWL . . .			
122	Does anyone in this household have a bank account?	YES . . . . . 1 NO 2			
123	What do you do with the dirt from this household?	COLLECTED BY GOVERNMENT . . . 11 COLLECTED BY COMMUNITY ASSOCIATION . . . . . 12 COLLECTED BY PRIVATE COMPANY 13 DUMPED IN COMPOUND . . . . . 14 DUMPED IN STREET / DUMP PILE 15 DUMPED IN BUSH . . . . . 16 BURNED . . . . . 17 BURIED . . . . . 18 FED TO ANIMALS . . . . . 19 OTHER _____ 96 (SPECIFY)			
124	Does your household have any mosquito nets that can be used while sleeping?	YES . . . . . 1 NO 2			→ 200
125	How many mosquito nets does your household have? IF 7 OR MORE NETS, RECORD '7'.	NUMBER OF NETS			

SCHOOL ABSENCE AND CHILD LABOR
FOR ALL CHILDREN AGED 5 THROUGH 14

200 CHECK COLUMN (7) AGE:

AT LEAST ONE CHILD AGE 5-14 ☐ ↓ NO CHILDREN AGE 5-14 ☐ → 301

LINE NUMBER	CHILD 'S NAME	SCHOOL ABSENCE			WORK LAST **WEEK**		WORK IN LAST **YEAR**	HOUSEHOLD CHORES		WORK IN FAMILY BUSINESS OR FARM	
WRITE CHILD'S LINE NUMBER FROM COL.1 IN THE HOUSE-HOLD SCHED-ULE	WRITE CHILD'S NAME FROM COL.2 IN THE HOUSE-HOLD SCHED-ULE.	Is (NAME) going to school these days?	How many days was (NAME) absent from school last week? IF '0', GO TO 206	Why was (NAME) absent from school (or not going to school)? SEE CODES BELOW	During the past week, did (NAME) do any kind of work for someone who is not a member of this household? IF YES: Was that for pay or unpaid?	Since last (DAY OF THE WEEK), about how many hours did (NAME) do this work for someone who is not a member of this house-hold? INCLUDE ALL HOURS AT ALL JOBS.	At any time during the past year, did (NAME) do any kind of work for someone who is not a member of this household? IF YES: Was that for pay or unpaid?	During the past week, did (NAME) help with house-hold chores like shopping collecting firewood, cleaning, fetching water, or caring for children?	Since last (DAY OF THE WEEK), about how many hours did (NAME) spend doing these chores?	During the past week, did (NAME) do any other family work, on the farm or in a business or selling goods in the street?	Since last (DAY OF THE WEEK), about how many hours did (NAME) spend doing this work?
(201)	(202)	(203)	(204)	(205)	(206)	(207)	(208)	(209)	(210)	(211)	(212)
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐
☐☐		Y N 1 2 ↓ GO TO 205	DAYS ☐ IF 0, GO TO 206	REASON ☐☐	PAID UNPD NO 1 2 3 ↓ GO TO 208	HOURS ☐☐ ↓ GO TO 209	PAID UNPD NO 1 2 3	Y N 1 2 ↓ GO TO 211	HOURS ☐☐	Y N 1 2 ↓ NEXT LINE	HOURS ☐☐

CODES FOR COL. (205):

11=WORK	14= CHILD WAS SICK	17=SECURITY CONCERNS	20=SCHOOL TOO FAR
12=DID NOT WANT TO GO	15=HAD TO CARE FOR SICK RELATIVE	18=VACATION, HOLIDAYS	21=NO MONEY FOR FEES
13=MISTREATED AT SCHOOL	16=SCHOOL IS TOO FAR	19=SCHOOL NOT OPEN	96=OTHER

CHILD DISCIPLINE
FOR ONE CHILD AGED 2 THROUGH 14

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	CHECK COLUMN 7: MORE THAN 1 CHILD AGED 2-14 ☐ ONLY 1 CHILD AGED 2-14 ☐ → 303 NO CHILD AGED 2-14 ☐ → 501		
302	CHECK HOUSEHOLD QUESTIONNAIRE, LAST PAGE SELECT THE CHILD AGE 2-14 AS DESCRIBED		
303	WRITE NAME AND LINE NUMBER OF SELECTED CHILD	_____ NAME ☐☐	
304	All adults use certain ways to teach children the right behavior or to correct a behavior problem. I will read various methods that are used and I want you to tell me if you or anyone else in your household has used this method with (NAME) in the past month.		
	a) Took away privileges, forbade something (NAME) liked or did not allow him/her to leave the house?	YES . . . . . 1 NO 2	
	b) Explained why something was wrong?	YES . . . . . 1 NO 2	
	c) Shook him/her?	YES . . . . . 1 NO 2	
	d) Shouted, yelled or screamed at him/her?	YES . . . . . 1 NO 2	
	e) Gave him/her something else to do?	YES . . . . . 1 NO 2	
	f) Spanked him/her on the bottom with bare hand?	YES . . . . . 1 NO 2	
	g) Hit him/her on the bottom or elsewhere on the body with something like a belt, a stick or other hard object?	YES . . . . . 1 NO 2	
	h) Called him/her dumb, lazy, or another name like that?	YES . . . . . 1 NO 2	
	i) Slapped him/her on the face, head, arm or leg?	YES . . . . . 1 NO 2	
	j) Beat him/her up with an implement over and over as hard as one could?	YES . . . . . 1 NO 2	
305	Do you believe that in order to bring up (NAME) properly, you need to physically punish him/her?	YES . . . . . 1 NO . . . . . 2 DOES NOT KNOW/NO OPINION 8	

WEIGHT AND HEIGHT FOR CHILDREN AGE 0-5

501	CHECK COLUMN 11. RECORD LINE NUMBER AND AGE FOR ALL CHILDREN 0-5 YEARS IN Q. 502. IF MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRES. **A FINAL OUTCOME MUST BE RECORDED IN Q. 508**.			
		CHILD 1	**CHILD 2**	**CHILD 3**
502	LINE NUMBER FROM COLUMN 11 NAME FROM COLUMN 2	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____
503	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK : What is (NAME'S) birth date?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐
504	CHECK 503: CHILD BORN IN JANUARY 2001 OR LATER?	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 515)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 515)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 515)
505	WEIGHT IN KILOGRAMS	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐
506	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐	CM. ☐☐☐.☐	CM. ☐☐☐.☐
507	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2
508	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6
509		GO BACK TO 503 IN NEXT COLUMN IN THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE ADDITIONAL QUESTIONNAIRE(S); IF NO MORE CHILDREN, GO TO 515.		

		CHILD 4	**CHILD 5**	**CHILD 6**
502	LINE NUMBER FROM COLUMN 11 NAME FROM COLUMN 2	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . ☐☐ NAME _____
503	What is (NAME'S) birth date? IF MOTHER INTERVIEWED, COPY MONTH AND YEAR FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME'S) birth date?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐
504	CHECK 503: CHILD BORN IN JANUARY 2001 OR LATER	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 515)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 515)	YES . . . . . 1 NO . . . . . 2 (GO TO 503 FOR NEXT CHILD OR, IF NO MORE, GO TO 515)
505	WEIGHT IN KILOGRAMS	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐	KG. . . . ☐☐.☐
506	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐	CM. ☐☐☐.☐	CM. ☐☐☐.☐
507	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2
508	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6	MEASURED . . . . . 1 NOT PRESENT . . . . . 2 REFUSED . . . . . 3 OTHER 6
509		GO BACK TO 503 IN NEXT COLUMN IN THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE ADDITIONAL QUESTIONNAIRE(S); IF NO MORE CHILDREN, GO TO 515.		

WEIGHT, HEIGHT AND HIV TESTING FOR WOMEN AGE 15-49

515	CHECK COL. 9. WRITE LINE NUMBER AND NAME FOR ALL WOMEN AGE 15-49 IN 516. IF MORE THAN 3 WOMEN, USE ADDITIONAL QUESTIONNAIRES. **A FINAL OUTCOME MUST BE RECORDED IN 519 AND 530**			
		WOMAN 1	WOMAN 2	WOMAN 3
516	LINE NUMBER (COLUMN 9) NAME (COLUMN 2)	LINE NUMBER . . . . [ ][ ] NAME ____________	LINE NUMBER . . . . [ ][ ] NAME ____________	LINE NUMBER . . . . [ ][ ] NAME ____________
517	WEIGHT IN KILOGRAMS	KG. . . . . [ ][ ][ ] . [ ]	KG. . . . . . [ ][ ][ ] . [ ]	KG. . . . . . [ ][ ][ ] . [ ]
518	HEIGHT IN CENTIMETERS	CM. . . . . [ ][ ][ ] . [ ]	CM. . . . . . [ ][ ][ ] . [ ]	CM. . . . . . [ ][ ][ ] . [ ]
519	RESULT OF WEIGHT AND HEIGHT MEASUREMENT	MEASURED . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6	MEASURED . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6	MEASURED . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6
520	AGE: CHECK COLUMN 7.	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 525)	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 525)	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 525)
521	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION) . . . 1 OTHER . . . . 2 (GO TO 525)	CODE 4 (NEVER IN UNION) . . . 1 OTHER . . . . 2 (GO TO 525)	CODE 4 (NEVER IN UNION) . . . . . 1 OTHER . . . . 2 (GO TO 525)
522	LINE NO. OF PARENT/GUARDIAN RECORD '00' IF NOT LISTED.	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT . [ ][ ]	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT . [ ][ ]	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT . [ ][ ]
525	READ HIV TEST CONSENT. FOR NEVER-IN-UNION WOMEN 15-17, ASK CONSENT FROM PARENT/GUARDIAN IN 522 BEFORE ASKING WOMAN	GRANTED, **BOTH** HIV AND FURTHER TESTING . . . . 1 GRANTED, HIV **ONLY** . . . . 2 PARENT/GUARDIAN REFUSED . 3 RESPONDENT REFUSED . . . . . 4 ____________ (SIGN) (IF CODE 3 OR 4, GO TO 530).	GRANTED, **BOTH** HIV AND FURTHER TESTING . . . . 1 GRANTED, HIV **ONLY** . . . . 2 PARENT/GUARDIAN REFUSED . 3 RESPONDENT REFUSED . . . . . 4 ____________ (SIGN) (IF CODE 3 OR 4, GO TO 530).	GRANTED, **BOTH** HIV AND FURTHER TESTING . . . . 1 GRANTED, HIV **ONLY** . . . . 2 PARENT/GUARDIAN REFUSED . 3 RESPONDENT REFUSED . . . . . 4 ____________ (SIGN) (IF CODE 3 OR 4, GO TO 530).
526	IF CODE '1' OR '2', PROCEED WITH TAKING BLOOD SPOTS. A FINAL OUTCOME MUST BE RECORDED IN 530 FOR EACH WOMAN.			
529	BAR CODE LABEL	PUT 1ST BAR CODE LABEL HERE PUT 2ND BAR CODE LABEL ON RESPONDENT'S FILTER PAPER AND 3RD ON TRANSMITTAL FORM **IF CODE '2' (HIV ONLY), WRITE 'NO ADDITIONAL TEST' ON FILTER PAPER**	PUT 1ST BAR CODE LABEL HERE PUT 2ND BAR CODE LABEL ON RESPONDENT'S FILTER PAPER AND 3RD ON TRANSMITTAL FORM **IF CODE '2' (HIV ONLY), WRITE 'NO ADDITIONAL TEST' ON FILTER PAPER**	PUT 1ST BAR CODE LABEL HERE PUT 2ND BAR CODE LABEL ON RESPONDENT'S FILTER PAPER AND 3RD ON TRANSMITTAL FORM **IF CODE '2' (HIV ONLY), WRITE 'NO ADDITIONAL TEST' ON FILTER PAPER**
530	OUTCOME OF HIV TEST PROCEDURE	BLOOD TAKEN . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6	BLOOD TAKEN . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6	BLOOD TAKEN . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6

CONSENT STATEMENT FOR HIV TEST

READ CONSENT STATEMENT TO EACH RESPONDENT. CIRCLE CODE '1' IN 536 IFHE CONSENTS TO THE HIV TEST AND CODE '3' IF HE REFUSES.

FOR NEVER-IN-UNION MEN AGE 15-17, ASK CONSENT FROM THE PARENT OR OTHER ADULT IDENTIFIED AS RESPONSIBLE FOR THE ADOLESCENT BEFOR ASKING THE ADOLESCENT FOR HIS CONSENT. CONDUCT THE TEST ONLY IF BOTH PARENT (OTHER ADULT) **AND** THE ADOLESCENT CONSENT.

As part of the survey we also are asking people all over the country to take an HIV test. HIV is the virus that causes AIDS. AIDS is a very serious illness. The HIV test is being done to see how big the AIDS problem is in Liberia.

For the HIV test, we need a few drops of blood from a finger. The equipment used in taking the blood is clean and completely safe. It has never been used before and will be thrown away after each test.

No names will be attached so we will not be able to tell you the test results. No one else will be able to know the test results either.

If you want to know whether you have HIV, I can tell you the nearby facilities that offer counseling and testing for HIV.

Do you have any questions?

You can say yes to the test, or you can say no. It is up to you to decide.
Will you give some drops of blood for the HIV test? (allow NAME OF ADOLESCENT to take the HIV test?)

We would also like to store part of the blood sample at the laboratory for further tests in the future. We are not certain about what tests might be done.

The blood sample will not have any name or other data attached that could identify (you/NAME OF ADOLESCENT). You do not have to agree.
If you do not want the blood sample stored for later use, (you/NAME OF ADOLESCENT) can still participate in the HIV testing in this survey. Will you allow us to keep the blood sample stored for later testing or research?

530D GO BACK TO 517 IN NEXT COLUMN IN THIS QUESTIONNAIRE OR ADDITIONAL QUESTIONNAIRE(S); IF NO MORE WOMEN, GO TO 531

HIV TESTING FOR MEN AGE 15-49

531	CHECK COL. 10. WRITE LINE NUMBER AND NAME FOR ALL MEN AGE 15-49 IN 532. IF MORE THAN 3 MEN, USE ADDITIONAL QUESTIONNAIRE. **A FINAL OUTCOME MUST BE RECORDED IN 539.**			
		MAN 1	MAN 2	MAN 3
532	LINE NUMBER (COLUMN 10) NAME (COLUMN 2)	LINE NUMBER . . . . [ ][ ] NAME ____________	LINE NUMBER . . . . [ ][ ] NAME ____________	LINE NUMBER . . . . [ ][ ] NAME ____________
533	AGE: CHECK COLUMN 7.	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 536)	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 536)	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 536)
534	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION . . . . . 1 OTHER . . . . 2 (GO TO 536)	CODE 4 (NEVER IN UNION . . . . . 1 OTHER . . . . 2 (GO TO 536)	CODE 4 (NEVER IN UNION . . . . 1 OTHER . . . . 2 (GO TO 536)
535	LINE NO. OF PARENT/GUARDIAN RECORD '00' IF NOT LISTED.	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT . [ ][ ]	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT . [ ][ ]	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT . [ ][ ]
536	READ HIV TEST CONSENT. FOR NEVER-IN-UNION MEN 15-17, ASK CONSENT FROM PARENT/GUARDIAN IDENTIFIED IN 535 BEFORE ASKING RESPONDENT.	GRANTED, **BOTH** HIV AND FURTHER TESTING . . . . 1 GRANTED, HIV **ONLY** . . . . 2 PARENT/GUARDIAN REFUSED . 3 RESPONDENT REFUSED . . . . . 4 ____________ (SIGN) (IF CODE 3 OR 4, GO TO 539).	GRANTED, **BOTH** HIV AND FURTHER TESTING . . . . 1 GRANTED, HIV **ONLY** . . . . 2 PARENT/GUARDIAN REFUSED . 3 RESPONDENT REFUSED . . . . . 4 ____________ (SIGN) (IF CODE 3 OR 4, GO TO 539).	GRANTED, **BOTH** HIV AND FURTHER TESTING . . . . 1 GRANTED, HIV **ONLY** . . . . 2 PARENT/GUARDIAN REFUSED . 3 RESPONDENT REFUSED . . . . . 4 ____________ (SIGN) (IF CODE 3 OR 4, GO TO 539).
537	IF CODE 1 OR 2, PROCEED WITH TAKING BLOOD SPOTS. A FINAL OUTCOME MUST BE RECORDED IN 539 FOR EACH MAN.			
538	BAR CODE LABEL	PUT THE 1ST BAR CODE LABEL HERE PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND 3RD ON THE TRANSMITTAL FORM **IF CODE '2' (HIV ONLY), WRITE 'NO ADDITIONAL TEST' ON FILTER PAPER**	PUT THE 1ST BAR CODE LABEL HERE PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND 3RD ON THE TRANSMITTAL FORM **IF CODE '2' (HIV ONLY), WRITE 'NO ADDITIONAL TEST' ON FILTER PAPER**	PUT THE 1ST BAR CODE LABEL HERE PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND 3RD ON THE TRANSMITTAL FORM **IF CODE '2' (HIV ONLY), WRITE 'NO ADDITIONAL TEST' ON FILTER PAPER**
539	OUTCOME OF HIV TEST PROCEDURE	BLOOD TAKEN . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6	BLOOD TAKEN . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6	BLOOD TAKEN . . . . 1 NOT PRESENT . . . . 2 REFUSED . . . . 3 OTHER 6

CONSENT STATEMENT FOR HIV TEST

READ CONSENT STATEMENT TO EACH RESPONDENT. CIRCLE CODE '1' IN 536 IFHE CONSENTS TO THE HIV TEST AND CODE '3' IF HE REFUSES.

FOR NEVER-IN-UNION MEN AGE 15-17, ASK CONSENT FROM THE PARENT OR OTHER ADULT IDENTIFIED AS RESPONSIBLE FOR THE ADOLESCENT BEFORE ASKING THE ADOLESCENT FOR HIS CONSENT. CONDUCT THE TEST ONLY IF BOTH PARENT (OTHER ADULT) **AND** THE ADOLESCENT CONSENT.

As part of the survey we also are asking people all over the country to take an HIV test. HIV is the virus that causes AIDS. AIDS is a very serious illness. The HIV test is being done to see how big the AIDS problem is in Liberia.

For the HIV test, we need a few drops of blood from a finger. The equipment used in taking the blood is clean and completely safe. It has never been used before and will be thrown away after each test.

No names will be attached so we will not be able to tell you the test results. No one else will be able to know the test results either.

If you want to know whether you have HIV, I can tell you the nearby facilities that offer counseling and testing for HIV.

Do you have any questions?

You can say yes to the test, or you can say no. It is up to you to decide.
Will you give some drops of blood for the HIV test? (allow NAME OF ADOLESCENT to take the HIV test?)

We would also like to store part of the blood sample at the laboratory for further tests in the future. We are not certain about what tests might be done.

The blood sample will not have any name or other data attached that could identify (you/NAME OF ADOLESCENT). You do not have to agree. If you do not want the blood sample stored for later use, (you/NAME OF ADOLESCENT) can still participate in the HIV testing in this survey. Will you allow us to keep the blood sample stored for later testing or research?

540	GO BACK TO 533 FOR NEXT MAN; IF NO MORE MEN, END INTERVIEW.

TABLE FOR SELECTION OF CHILD FOR THE CHILD DISCIPLINE QUESTIONS AND WOMAN FOR THE DOMESTIC VIOLENCE QUESTIONS

LOOK AT THE LAST DIGIT OF THE **QUESTIONNAIRE** NUMBER ON THE COVER PAGE. THIS IS THE NUMBER OF THE **ROW** YOU SHOULD GO TO.

CHECK THE TOTAL NUMBER OF CHILDREN 2-14 IN COLUMN (7) OR NUMBER OF WOMEN 15-49 IN COLUMN (9) OF THE HOUSEHOLD QUESTIONNAIRE. THIS IS THE NUMBER OF THE **COLUMN** YOU SHOULD GO TO.

FIND THE BOX WHERE THE ROW AND THE COLUMN MEET AND CIRCLE THE NUMBER THAT APPEARS IN THE BOX. THIS NUMBER IS USED TO IDENTIFY WHETHER THE FIRST ('1'), SECOND ('2'), THIRD ('3'), ETC. ELIGIBLE CHILD/WOMAN LISTED IN THE HOUSEHOLD SCHEDULE WILL BE ASKED THE DISCIPLINE/DOMESTIC VIOLENCE QUESTIONS.

FOR CHILD DISCIPLINE: WRITE THE NAME AND LINE NUMBER IN Q. 303.
FOR DOMESTIC VIOLENCE: PUT A CHECK MARK NEXT TO THE LINE NUMBER OF THE SELECTED WOMAN IN COL.9.

EXAMPLE: IF THE QUESTIONNAIRE NUMBER IS '3716', GO TO ROW '6'.
IF THERE ARE THREE ELIGIBLE WOMEN IN THE HOUSEHOLD, GO TO COLUMN '3'.
FIND THE BOX WHERE ROW '6' AND COLUMN '3' MEET. THE NUMBER IN THAT BOX ('2') INDICATES THAT THE SECOND ELIGIBLE WOMAN IN THE HOUSEHOLD LISTING SHOULD BE ASKED THE DOMESTIC VIOLENCE QUESTIONS.
SUPPOSE THE LINE NUMBERS OF THE THREE WOMEN ARE '02', '03', AND '07'. THE WOMAN TO BE ASKED THE DOMESTIC VIOLENCE QUESTIONS IS THE SECOND ONE, I.E., THE WOMAN ON LINE '03'.

LAST DIGIT OF THE QUESTIONNAIRE NUMBER (ROW)	TOTAL NUMBER OF ELIGIBLE CHILDREN / WOMEN IN HOUSEHOLD (COLUMN)							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5

GOVERNMENT OF LIBERIA
LIBERIA INSTITUTE FOR STATISTICS AND GEO-INFORMATION SERVICES
2006-07 LIBERIA DEMOGRAPHIC AND HEALTH SURVEY

August 31 2006

QUESTIONNAIRE FOR WOMEN 15-49

IDENTIFICATION

NAME OF COUNTY _____	. . . . .
NAME OF DISTRICT _____	. . . . .
NAME OF CLAN/TOWNSHIP _____	
NAME OF CITY/TOWN/VILLAGE _____	
LDHS CLUSTER NUMBER	. . . . .
LDHS STRUCTURE NUMBER	. . . . .
HOUSEHOLD NUMBER	. . . . .
URBAN: MONROVIA=1; OTHER URBAN=2; VILLAGE=3	. . . . .
NAME OF HOUSEHOLD HEAD _____	
NAME AND LINE NUMBER OF WOMAN _____	

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR (2 0 0)
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT*
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

Hello. My name is _____ and I am working with the Liberia Institute for Statistics and Geo-Information Services (LISGIS). We are conducting a National Demographic and Health Survey that asks women and men about various health issues. We would very much appreciate your participation in this survey. This information will help the government to plan health services. The survey interview usually takes about 45 minutes. The information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary. If I ask you any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope that you will participate in this survey since your views are important.

Do you want to ask me anything about the survey? May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME AT START OF INTERVIEW:	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	How long have you been living continuously in (NAME OF CITY, TOWN, VILLAGE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . ☐☐ ALWAYS . . . . . 95 VISITOR 96	→ 103A
103	Just before you moved here, did you live in a city, in a town, or in a village?	CITY . . . . . 1 TOWN . . . . . 2 VILLAGE 3	
103A	During the war, did you leave your house? IF YES: Where did you go? CIRCLE ALL MENTIONED.	NO, DID NOT LEAVE HOUSE . . . . . A STAYED WITH RELATIVES OR FRIENDS INSIDE LIBERIA . . . . . B WENT TO A CAMP . . . . . C LIVED IN THE BUSH . . . . . D WENT OUTSIDE LIBERIA . . . . . E OTHER _____ X	
104	In the last 12 months, how many times did you travel away from your home and slept away?	NUMBER OF TRIPS . . . . . ☐☐ NONE 00	→ 106
105	In the last 12 months, have you been away from home for more than one month at a time?	YES . . . . . 1 NO 2	
106	In what month and year were you born?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
107	How old are you? COMPARE AND CORRECT 106 OR 107 IF INCONSISTENT.	AGE IN COMPLETED YEARS ☐☐	
108	Have you ever been to school?	YES . . . . . 1 NO 2	→ 112
109	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 HIGHER 3	
110	What is the highest grade you completed at that level?	GRADE . . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
111	CHECK 109: PRIMARY ☐ SECONDARY OR HIGHER ☐ → 115		
112	Can you read this sentence to me? SHOW SENTENCES TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 CAN READ ONLY PART OF SENTENCE 2 CAN READ WHOLE SENTENCE . . . . . 3 CAN READ, BUT NOT ENGLISH _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
113	Have you ever been to any program besides primary school that teaches you to read and write?	YES . . . . . 1 NO 2	
114	CHECK 112: CODE '2', '3' OR '4' CIRCLED ☐ CODE '1' OR '5' CIRCLED ☐ → 116		
115	Do you read **newspapers or magazines**? How many times a week do you read them: almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
116	Do you listen to the **radio**? How many times a week do you listen: almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
117	Do you read watch **TV or videos**? How many times a week do you watch TV: almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
118	What is your religion?	CHRISTIAN . . . . . 1 MUSLIM . . . . . 2 TRADITIONAL RELIGION . . . . . 3 NO RELIGION . . . . . 4 OTHER _____ 6 (SPECIFY)	
119	What dialect do you speak (besides English)?	BASSA . . . . . 01 GBANDI . . . . . 02 BELLE . . . . . 03 DEY . . . . . 04 GIO . . . . . 05 GOLA . . . . . 06 GREBO . . . . . 07 KISSI . . . . . 08 KPELLE . . . . . 09 KRAHN . . . . . 10 KRU . . . . . 11 LORMA . . . . . 12 MANDIGO . . . . . 13 MANO . . . . . 14 MENDE . . . . . 15 VAI . . . . . 16 NONE / ONLY ENGLISH . . . . . 17 OTHER 96	

SENTENCES FOR READING (Q.112):

1. The child is reading a book.
2. Farming is hard work.
3. Parents should care for their children.
4. The rains were heavy this year.

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Have you ever born?	YES . . . . . 1 NO 2	→ 206
202	Do you have any children you born who are living with you?	YES . . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . . [ ][ ] DAUGHTERS AT HOME . . . . . [ ][ ]	
204	Do you have any children you born who are still living but do not live with you?	YES . . . . . 1 NO 2	→ 206
205	How many sons are still living but do not live with you? And how many daughters are still living but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE . . . . . [ ][ ] DAUGHTERS ELSEWHERE . [ ][ ]	
206	Have you ever born a child who was born alive and later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . . 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . . [ ][ ] GIRLS DEAD . . . . . [ ][ ]	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL . . . . . [ ][ ]	
209	CHECK 208: So in all, you have born ____ (TOTAL) children in your life. Is that correct? YES ↓ NO → PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE BIRTHS ↓ NO BIRTHS →		→ 226

211 Now I want the names of all the children you born, whether still alive or not, starting with the first one.

RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.
(IF THERE ARE MORE THAN 12 BIRTHS, USE AN ADDITIONAL QUESTIONNAIRE STARTING WITH THE SECOND ROW).

212 What is/was the name of your (first/next) child? (NAME)	213 Were any of these births twins?	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday?	216 Is (NAME) still living?	217 IF LIVING: How old is (NAME)? RECORD AGE IN COM-PLETED YEARS.	218 IF LIVING: Is (NAME) living with you?	219 IF LIVING: RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Did you born any other child between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
01	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (NEXT BIRTH)	DAYS . . . 1 MONTHS 2 YEARS . . 3	
02	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
03	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
04	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
05	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
06	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
07	SING 1 MULT 2	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 220	AGE IN YEARS	YES . . . 1 NO 2	LINE NUMBER (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH

212 What name was given to your next baby? (NAME)	213 Were any of these births twins?	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday?	216 Is (NAME) still alive?	217 IF LIVING: How old was (NAME) at his/her last birthday? RECORD AGE IN COM-PLETED YEARS.	218 IF LIVING: Is (NAME) living with you?	219 IF LIVING: RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
08	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
09	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
10	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
11	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
12	SING 1 MULT 2	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH

222 Did you born any child since the birth of (NAME OF LAST BIRTH)? IF YES, RECORD BIRTH(S) IN TABLE.

YES 1
NO 2

223 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME ☐ NUMBERS ARE DIFFERENT ☐→ (PROBE AND RECONCILE)

CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. ☐

FOR EACH BIRTH SINCE JANUARY 2001: MONTH AND YEAR OF BIRTH ARE RECORDED. ☐

FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. ☐

FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. ☐

FOR AGE AT DEATH 12 MONTHS OR 1 YEAR: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. ☐

224 CHECK 215 AND ENTER THE NUMBER OF BIRTHS IN 2001 OR LATER.
IF NONE, RECORD '0' AND CONTINUE TO Q. 226. ☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
226	Are you pregnant now?	YES . . . . . 1 NO . . . . . 2 UNSURE 8	→ 229
227	How many months now?	MONTHS	
228	When you got pregnant, did you want to get pregnant then, did you want to wait until later, or you didn't want to have any more children?	THEN . . . . . 1 LATER . . . . . 2 DIDN'T WANT ANY MORE 3	
229	Did you ever have a pregnancy that got spoiled: miscarried, was aborted or the baby was born dead (stillbirth)?	YES . . . . . 1 NO 2	→ 236
230	When was the last time it happened?	MONTH . . . . . YEAR	
231	CHECK 230: LAST SPOILED PREGNANCY ENDED IN JAN. 2001 OR LATER ↓ LAST SPOILED PREGNANCY ENDED BEFORE JAN. 2001 → 236		
232	How many months pregnant were you when the pregnancy ended?	MONTHS	
233	Since January 2001, have you had any other pregnancies that got spoiled or aborted?	YES . . . . . 1 NO 2	→ 236
234	When did this other pregnancy end since January 2001?	MONTH . . . . . YEAR	
235	How many months pregnant were you when this pregnancy ended?	MONTHS	
236	When last you saw your period? _____ (DATE, IF GIVEN)	DAYS AGO . . . . . 1 WEEKS AGO . . . . . 2 MONTHS AGO . . . . . 3 YEARS AGO . . . . . 4 IN MENOPAUSE/ HAS HAD HYSTERECTOMY . . . 994 BEFORE LAST BIRTH . . . . . 995 NEVER MENSTRUATED 996	
237	When do you think a woman can get pregnant: just before her period begins, during her period, just after her period ends, or halfway between two periods?	JUST BEFORE HER PERIOD BEGINS 1 DURING HER PERIOD . . . . . 2 JUST AFTER HER PERIOD ENDS . . . 3 HALFWAY BETWEEN TWO PERIODS . . . . . 4 ANY TIME . . . . . 5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

SECTION 3. CONTRACEPTION

301	Now I would like to talk about family planning or birth control. Which family planning methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)? CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN GO DOWN COLUMN 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE 1 IF METHOD IS RECOGNIZED AND 2 IF NOT RECOGNIZED. THEN FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302.		302 Have you ever used (METHOD)?
01	FEMALE STERILIZATION, TUBE TIE, TURNING THE WOMB. Women can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	Have you ever had an operation to avoid having any more children? YES . . . . . 1 NO 2
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	Have you ever had a partner who had an operation to avoid having any more children? YES . . . . . 1 NO 2
03	PILL Women can take a pill every day to avoid getting pregnant.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
04	IUD Women can have a loop or coil put inside them by a doctor or a nurse.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
05	INJECTABLES Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
06	IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
07	CONDOM, RAINCOAT Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
08	FEMALE CONDOM Women can put a sheath in their vagina before sexual intercourse.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
09	RHYTHM METHOD, CALENDAR A woman can avoid getting pregnant if she doesn't have sex on the days of the month she is most likely to get pregnant.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
10	WITHDRAWAL Men can be careful and pull out before climax.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
11	EMERGENCY CONTRACEPTION After having unprotected sex, women can take special pills at any time within five days to prevent pregnancy.	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
12	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES . . . . . 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	YES . . . . . 1 NO . . . . . 2 YES . . . . . 1 NO 2
303	CHECK 302: NOT A SINGLE "YES" (NEVER USED) → AT LEAST ONE "YES" (EVER USED) → 307		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
304	Have you ever used anything or tried any method to delay or avoid getting pregnant?	YES . . . . . 1 NO 2	→ 333
306	What did you use? CORRECT 302 AND 303 (AND 301 IF NECESSARY).		
307	When you first started using family planning or birth control, how many living children did you have, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN . . . . . ☐☐	
308	CHECK 302 (01): WOMAN NOT STERILIZED ☐ ↓ WOMAN STERILIZED ☐ →		311A
309	CHECK 226: NOT PREGNANT OR UNSURE ☐ ↓ PREGNANT ☐ →		333
310	Are you using any family planning or birth control right now?	YES . . . . . 1 NO 2	→ 333
311 311A	Which method are you using? CIRCLE ALL MENTIONED. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST. CIRCLE 'A' FOR FEMALE STERILIZATION.	FEMALE STERILIZATION . . . . . A MALE STERILIZATION . . . . . B PILL . . . . . C IUD . . . . . D INJECTABLES . . . . . E IMPLANTS . . . . . F CONDOM . . . . . G FEMALE CONDOM . . . . . H RHYTHM METHOD . . . . . I WITHDRAWAL . . . . . J OTHER _____ X (SPECIFY)	→ 316 → 319A
315	The last time you got (HIGHEST METHOD ON LIST IN 311), how much did you pay, including the cost of the method and any doctor's fee? WRITE IN LIBERIAN DOLLARS.	COST ☐☐☐☐☐ FREE . . . . . 99995 DON'T KNOW 99998	→ 319A
316	In what facility did the operation take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE) CHURCH FACILITIES ARE CONSIDERED PRIVATE.	PUBLIC SECTOR GOVT. HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . 21 FAMILY PLANNING ASSN. LIBERIA 24 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
317	CHECK 311/311A: CODE 'A' CIRCLED → Before your operation, did anyone tell you that you would not be able to have any more children because of the operation? CODE 'B' CIRCLED → Before your husband/partner's operation, did anyone tell him that he would not be able to have any more children because of the operation?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
318	How much did you (your husband/partner) pay for the sterilization operation, including any fees? WRITE IN LIBERIAN DOLLARS.	COST ☐☐☐☐☐ FREE . . . . . 99995 DON'T KNOW 99998	
319 319A	In what month and year was the operation performed? Since what month and year have you been using (CURRENT METHOD) without stopping? PROBE: For how long have you been using (CURRENT METHOD) now without stopping?	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐	
320	CHECK 319/319A, 215 AND 230: IF THERE HAS BEEN ANY BIRTH OR PREGNANCY TERMINATION AFTER MONTH AND YEAR OF START OF USE OF CONTRACEPTION IN 319/319A, THEN GO BACK TO 319/319A, PROBE AND RECORD MONTH AND YEAR AT START OF **CONTINUOUS** USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION).		
323	CHECK 311/311A: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 311/311A, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	NO CODE CIRCLED . . . . . 00 → 333 FEMALE STERILIZATION . . . . . 01 → 335 MALE STERILIZATION . . . . . 02 → 335 PILL . . . . . 03 IUD . . . . . 04 INJECTABLES . . . . . 05 IMPLANTS . . . . . 06 CONDOM . . . . . 07 → 332 FEMALE CONDOM . . . . . 08 → 330 RHYTHM METHOD . . . . . 09 → 332A WITHDRAWAL . . . . . 10 → 335 OTHER METHOD . . . . . 96 → 335	
327	SInce you started using this family planning method, did any doctor or nurse ever tell you about side effects or problems you might have with the method?	YES . . . . . 1 NO 2	
330	SInce you started using this family planning method, did any doctor or nurse ever tell you about any other methods of family planning that you could use?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
332	Where did you get (CURRENT METHOD) the last time? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. 332A Where did you learn to use the rhythm method? IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE) CHURCH FACILITIES ARE CONSIDERED PRIVATE.	PUBLIC SECTOR GOVT. HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 GOVT. HEALTH CLINIC . . . . . 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . 21 PHARMACY . . . . . 22 PRIVATE DOCTOR . . . . . 23 FAMILY PLANNING ASSN. LIBERIA 24 MOBILE CLINIC . . . . . 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP . . . . . 31 CHURCH . . . . . 32 FRIEND/RELATIVE . . . . . 33 OTHER _____ 96 (SPECIFY)	→ 335
333	Do you know of a place where you can get a method of family planning?	YES . . . . . 1 NO 2	→ 335
334	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT. HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC . . . . . C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . E PHARMACY . . . . . F PRIVATE DOCTOR . . . . . G FAMILY PLANNING ASSN. LIBERIA H MOBILE CLINIC . . . . . I OTHER PRIVATE MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP . . . . . K CHURCH . . . . . L FRIEND/RELATIVE . . . . . M OTHER _____ X (SPECIFY)	
335	In the last 12 months, have you been to a health facility for care for yourself (or your children)?	YES . . . . . 1 NO 2	→ 401
336	Did any health worker at the health facility talk to you about family planning methods?	YES . . . . . 1 NO 2	

SECTION 4. PREGNANCY AND POSTNATAL CARE

401	CHECK 224: ONE OR MORE BIRTHS IN 2001 OR LATER ☐ ↓ NO BIRTHS IN 2001 OR LATER ☐ → 576			
402	CHECK 215: ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2001 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES). Now I would like to ask you some questions about the health of all your children born in the last five years. We will talk about each separately.			
403	LINE NUMBER FROM 212	LAST BIRTH LINE NO. ☐☐	NEXT-TO-LAST BIRTH LINE NO. ☐☐	SECOND-FROM-LAST BIRTH LINE NO. ☐☐
404	FROM 212 AND 216	NAME _____ LIVING ☐ ↓ DEAD ☐ ↓	NAME _____ LIVING ☐ ↓ DEAD ☐ ↓	NAME _____ LIVING ☐ ↓ DEAD ☐ ↓
405	When you got pregnant with (NAME), did you want to get pregnant then, did you want to wait until later, or you didn't want to have any more children at all?	THEN . . . . . 1 (SKIP TO 407) ← LATER . . . . . 2 NO MORE . . . . . 3 (SKIP TO 407) ←	THEN . . . . . 1 (SKIP TO 432) ← LATER . . . . . 2 NO MORE . . . . . 3 (SKIP TO 432) ←	THEN . . . . . 1 (SKIP TO 432) ← LATER . . . . . 2 NO MORE . . . . . 3 (SKIP TO 432) ←
406	How much longer did you want to wait?	MONTHS . .1 ☐☐ YEARS . .2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . .2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . .2 ☐☐ DON'T KNOW . . . 998
407	Did you see anyone for a checkup (prenatal care) for this pregnancy? IF YES: Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED.	HEALTH PERSONNEL DOCTOR . . . . . A NURSE/MIDWIFE . B PHYSICIAN ASST. C TRADITIONAL MIDWIFE . . . . D OTHER _____ X (SPECIFY) NO ONE . . . . . Y (SKIP TO 414) ←		
408	Where did you receive checkups for this pregnancy? Anywhere else? PROBE TO IDENTIFY TYPE(S) OF SOURCE(S) AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	HOME YOUR HOME . . . A OTHER HOME . . . B PUBLIC SECTOR GOVT. HOSPITAL C GOVT. HEALTH CENTER . . . . . D GOVT. HEALTH CLINIC . . . . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . G OTHER PRIVATE MED. _____ H (SPECIFY) OTHER _____ X		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
409	How many months pregnant were you when you first received a checkup for this pregnancy?	MONTHS . . . ☐☐ DON'T KNOW 98		
410	How many times did you receive prenatal checkups during this pregnancy?	NUMBER OF TIMES . ☐☐ DON'T KNOW 98		
411	As part of your prenatal checkups during this pregnancy, did anyone ever:	YES NO		
	Weigh you?	WEIGHT . . . 1 2		
	Measure your blood pressure?	BP 1 2		
	Did you give a urine sample?	URINE 1 2		
	Did you give a blood sample?	BLOOD . . . 1 2		
412	During any of your prenatal checkups, did anyone ever tell you about the danger signs in pregnancy?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 414) DON'T KNOW 8		
413	Did anyone ever tell you where to go if you had any of these danger signs?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
414	During this pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus or jerking after birth?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 417) DON'T KNOW 8		
415	During this pregnancy, how many times did you get a tetanus injection?	TIMES . . . . . ☐ DON'T KNOW . . . 8		
416	CHECK 415:	2 OR MORE TIMES ☐ (SKIP TO 421) OTHER ☐		
417	**Before this pregnancy,** did you ever receive any tetanus injection?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 421) DON'T KNOW 8		
418	**Before this pregnancy**, how many times did you receive a tetanus injection? IF 7 OR MORE TIMES, WRITE '7'.	TIMES . . . . . ☐ DON'T KNOW . . . 8		
419	In what month and year did you receive the last tetanus injection before this pregnancy?	MONTH . . . ☐☐ DK MONTH . . . . . 98 YEAR ☐☐☐☐ (SKIP TO 421) DK YEAR 9998		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
420	How many years ago did you receive that tetanus injection?	YEARS AGO ..... [ ][ ]		
421	During this pregnancy, were you given or did you buy any iron tablets? SHOW TABLETS.	YES .... 1 NO .... 2 (SKIP TO 423) DON'T KNOW 8		
422	During the whole pregnancy, how many days did you take the tablets? TRY TO GET A NUMBER	DAYS . [ ][ ][ ] DON'T KNOW ... 998		
423	During this pregnancy, did you take any worm medicine?	YES .... 1 NO .... 2 DON'T KNOW 8		
426	During this pregnancy, did you take any medicine to **keep** you from getting malaria?	YES .... 1 NO .... 2 (SKIP TO 432) DON'T KNOW 8		
427	What medicine did you take? RECORD ALL MENTIONED.	SP/FANSIDAR ..... A CHLOROQUINE ... B OTHER ________ X (SPECIFY) DON'T KNOW ...... Z		
432	When (NAME) was born, was he/she big, normal, or small? IF BIG: Was he/she bigger than normal or very big? IF SMALL: Was he/she smaller than normal or very small?	VERY BIG .... 1 BIGGER THAN NORMAL .... 2 NORMAL .... 3 SMALLER THAN NORMAL .... 4 VERY SMALL ..... 5 DON'T KNOW 8	VERY BIG .... 1 BIGGER THAN NORMAL .... 2 NORMAL .... 3 SMALLER THAN NORMAL .... 4 VERY SMALL ..... 5 DON'T KNOW 8	VERY BIG .... 1 BIGGER THAN NORMAL .... 2 NORMAL .... 3 SMALLER THAN NORMAL .... 4 VERY SMALL ..... 5 DON'T KNOW 8
433	Was (NAME) weighed at birth?	YES .... 1 NO .... 2 (SKIP TO 435) DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 435) DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 435) DON'T KNOW 8
434	How much did (NAME) weigh? RECORD IN KILOGRAMS FROM HEALTH CARD, IF AVAILABLE	KG FROM CARD 1 [ ] . [ ][ ][ ] KG FROM RECALL 2 [ ] . [ ][ ][ ] DON'T KNOW . 99.998	KG FROM CARD 1 [ ] . [ ][ ][ ] KG FROM RECALL 2 [ ] . [ ][ ][ ] DON'T KNOW . 99.998	KG FROM CARD 1 [ ] . [ ][ ][ ] KG FROM RECALL 2 [ ] . [ ][ ][ ] DON'T KNOW . 99.998
435	Who delivered you? Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND CIRCLE ALL MENTIONED. IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO FIND OUT IF ANY ADULTS WERE PRESENT AT THE DELIVERY.	HEALTH PERSONNEL DOCTOR ..... A NURSE/MIDWIFE . B PHYSICIAN ASSIST C OTHER PERSON TRADITIONAL MIDWIFE .. D RELATIVE/FRIEND E OTHER ________ X (SPECIFY) NO ONE .... Y	HEALTH PERSONNEL DOCTOR ..... A NURSE/MIDWIFE . B PHYSICIAN ASSIST. C OTHER PERSON TRADITIONAL MIDWIFE .. D RELATIVE/FRIEND . E OTHER ________ X (SPECIFY) NO ONE .... Y	HEALTH PERSONNEL DOCTOR ..... A NURSE/MIDWIFE . B PHYSICIAN ASSIST C OTHER PERSON TRADITIONAL MIDWIFE .. D RELATIVE/FRIEND E OTHER ________ X (SPECIFY) NO ONE .... Y

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
436	Where did you deliver (NAME)? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE) CHURCH FACILITIES ARE CONSIDERED PRIVATE.	HOME YOUR HOME . . . 11 (SKIP TO 443) OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 GOVT. HEALTH CENTER . . . . . 22 GOVT. HEALTH CLINIC . . . . . 23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 OTHER PRIVATE MED. _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 443)	HOME YOUR HOME . . . 11 (SKIP TO 444) OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 GOVT. HEALTH CENTER . . . . . 22 GOVT. HEALTH POST . . . . . 23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 OTHER PRIVATE MED. _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 444)	HOME YOUR HOME . . . 11 (SKIP TO 444) OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 GOVT. HEALTH CENTER . . . . . 22 GOVT. HEALTH POST . . . . . 23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 OTHER PRIVATE MED. _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 444)
437	How long after (NAME) was delivered did you stay there? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . 998	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998
438	Was (NAME) delivered by C-section?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
439	After (NAME) was born but before you left the health facility, did any health worker check on your health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 442)	YES . . . . . 1 (SKIP TO 455) NO 2	YES . . . . . 1 (SKIP TO 455) NO 2
440	How long after delivery did he/she first check you? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998		
441	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	HEALTH PERSONNEL DOCTOR . . . . . 11 NURSE/MIDWIFE 12 PHYSICIAN ASSISTANT . . . 13 TRADITIONAL MIDWIFE . . . . . 21 OTHER _____ 96 (SPECIFY) (SKIP TO 453)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
442	After you left the facility, did any health care provider or traditional midwife check on your health?	YES . . . . . 1 (SKIP TO 445) NO . . . . . 2 (SKIP TO 453)	YES . . . . . 1 (SKIP TO 455) NO 2	YES . . . . . 1 (SKIP TO 455) NO 2
443	Why didn't you deliver in a health facility? PROBE: Any other reason? RECORD ALL MENTIONED.	COST TOO MUCH . . A FACILITY NOT OPEN . B TOO FAR/ NO TRANS- PORTATION . . . C DON'T TRUST FACILITY/POOR QUALITY SERVICE D NO FEMALE PROVID- ER AT FACILITY . . E HUSBAND/FAMILY DID NOT ALLOW . . F NOT NECESSARY . . G NOT CUSTOMARY . . H OTHER _____ (SPECIFY) X		
444	After (NAME) was born, did any health worker or traditional midwife check on your health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 449)	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
445	How long after delivery did he/she first check you? IF LESS THAN 1 DAY, WRITE HOURS. IF LESS THAN 1 WEEK, WRITE DAYS.	HOURS 1 DAYS 2 WEEKS 3 DON'T KNOW . . . 998		
446	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	HEALTH PERSONNEL DOCTOR . . . . . 11 NURSE/MIDWIFE 12 PHYSICIAN ASST. 13 TRADITIONAL MIDWIFE . 21 OTHER _____ 96 (SPECIFY)		
447	Where did this first check take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME YOUR HOME . . . 11 OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 GOVT. HEALTH CENTER . . . . . 22 GOVT. HEALTH CLINIC . . . . . 23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 OTHER PRIVATE MED. _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
448	CHECK 442:	YES → (SKIP TO 453) NOT ASKED →		
449	During the first two months after (NAME) was born, did any health worker or traditional midwife check on the baby's health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 453) ← DON'T KNOW 8		
450	How many hours, days or weeks after (NAME) was born, did he/she first receive a checkup? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS AFTER BIRTH . . 1 ☐☐ DAYS AFTER BIRTH . . 2 ☐☐ WEEKS AFTER BIRTH . . 3 ☐☐ DON'T KNOW . . . 998		
451	Who checked on (NAME)'s health at that time? PROBE FOR MOST QUALIFIED PERSON.	HEALTH PERSONNEL DOCTOR . . . . . 11 NURSE/MIDWIFE 12 PHYSICIAN ASST. 13 TRADITIONAL MIDWIFE . 21 OTHER_____ 96 (SPECIFY)		
452	Where did this first check of (NAME) take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME YOUR HOME . . . 11 OTHER HOME . . . 12 PUBLIC SECTOR GOVT. HOSPITAL 21 GOVT. HEALTH CENTER . . . . . 22 GOVT. HEALTH CLINIC . . . . . 23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 31 OTHER PRIVATE MED._____ 36 (SPECIFY) OTHER_____ 96 (SPECIFY)		
453	During the first two months after (NAME) was born, did you receive a vitamin A dose like this? SHOW CAPSULES.	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
454	Has your period returned since the birth of (NAME)?	YES . . . . . 1 (SKIP TO 456) NO . . . . . 2 (SKIP TO 457)		
455	Did you receive your period between the birth of (NAME) and your next pregnancy?		YES . . . . . 1 NO . . . . . 2 (SKIP TO 459)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 459)
456	For how many months after the birth of (NAME) did you not have your period?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
457	CHECK 226: IS RESPONDENT PREGNANT?	NOT PREG-NANT ☐ PREGNANT OR UNSURE ☐ (SKIP TO 459)		
458	Have you started men business again since the birth of (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 460)		
459	For how many months after the birth of (NAME) did you not do men business?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
460	Did you ever give titi to (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 467)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 467)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 467)
461	How long after you delivered did you first give (NAME) the titi? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . 000 HOURS 1 ☐☐ DAYS 2 ☐☐		
462	In the first three days after delivery, did anyone give (NAME) anything to drink besides titi?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 464)		
463	What was (NAME) given to drink? Anything else? RECORD ALL LIQUIDS MENTIONED.	MILK (OTHER THAN BREAST MILK) . A PLAIN WATER . . . B SUGAR OR GLUCOSE WATER . . . C GRIPE WATER . . . D SUGAR-SALT-WATER SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA . G TEA/INFUSIONS . . . H HONEY . . . . . I OTHER _____ X (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
464	CHECK 404: IS CHILD LIVING?	LIVING ☐ DEAD ☐ (SKIP TO 466)		
465	Are you still giving titi to (NAME)?	YES . . . . . 1 (SKIP TO 468) NO 2		
466	For how many months did you give titi to (NAME)?	MONTHS . . . ☐☐ DON'T KNOW . . . 98	MONTHS . . . ☐☐ STILL BF . . . . . 95 DON'T KNOW . . . 98	MONTHS . . . ☐☐ STILL BF . . . . . 95 DON'T KNOW . . . 98
467	CHECK 404: IS CHILD LIVING?	LIVING ☐ DEAD ☐ (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501) (SKIP TO 470)	LIVING ☐ DEAD ☐ (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501) (SKIP TO 470)	LIVING ☐ DEAD ☐ (GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501) (SKIP TO 470)
468	How many times did you give titi last night? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS . ☐☐		
469	How many times did you give titi yesterday during the daytime? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS . ☐☐		
470	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
471		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501.

SECTION 5. CHILD IMMUNIZATION AND HEALTH AND CHILD AND WOMAN'S NUTRITION

		LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
501	ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2001 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES).			
502	LINE NUMBER FROM 212	LINE NUMBER	LINE NUMBER	LINE NUMBER . . . . .
503	FROM 212 AND 216	NAME LIVING ☐ DEAD ☐ (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 573)	NAME LIVING ☐ DEAD ☐ (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 573)	NAME LIVING ☐ DEAD ☐ (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE, OR IF NO MORE BIRTHS, GO TO 573)
504	Do you have a vaccination card for (NAME)? IF YES: May I see it please?	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 508) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 508) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 508) NO CARD 3
505	Did you ever have a vaccination card for (NAME)?	YES . . . . . 1 (SKIP TO 508) NO 2	YES . . . . . 1 (SKIP TO 508) NO 2	YES . . . . . 1 (SKIP TO 508) NO 2

506 (1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. **(2)**
(2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.
(3) IF MORE THAN 2 VITAMIN 'A' DOSES, WRITE DATES FOR MOST RECENT AND SECOND MOST RECENT DOSES.

	LAST BIRTH MONTH DAY YEAR	NEXT-TO-LAST BIRTH MONTH DAY YEAR	SECOND-FROM-LAST BIRTH MONTH DAY YEAR
DATE OF BIRTH		BIRTH	BIRTH
BCG		BCG	BCG
WHOOPING COUGH, TETANUS AND DIPTHERIA — DPT 1		D1	D1
DPT 2		D2	D2
DPT 3		D3	D3
POLIO 1st DOSE (0)		P0	P0
POLIO 2nd DOSE (1)		P1	P1
POLIO 3rd DOSE (2)		P2	P2
POLIO 4th DOSE (3)		P3	P3
MEASLES		MEA	MEA
VITAMIN A (MOST RECENT)		VIT A	VIT A
VITAMIN A (2nd MOST RECENT)		VIT A	VIT A

506A	CHECK 506:	BCG TO MEASLES ALL RECORDED ☐ (GO TO 510) OTHER ☐	BCG TO MEASLES ALL RECORDED ☐ (GO TO 510) OTHER ☐	BCG TO MEASLES ALL RECORDED ☐ (GO TO 510) OTHER ☐

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-TO-LAST BIRTH NAME ________
507	Has (NAME) received any vaccinations that are not written on this card, including vaccinations received in a national immunization day campaign? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 0-3, DPT 1-3, AND/OR MEASLES VACCINES.	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 510) NO . . . . 2 (SKIP TO 510) DON'T KNOW 8	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 510) NO . . . . 2 (SKIP TO 510) DON'T KNOW 8	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 510) NO . . . . 2 (SKIP TO 510) DON'T KNOW 8
508	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization campaign?	YES . . . . 1 NO . . . . 2 (SKIP TO 512) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 512) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 512) DON'T KNOW 8
509	Did (NAME) ever get:			
509A	A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually leaves a mark?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
509B	Polio vaccine, that is, drops in the mouth?	YES . . . . 1 NO . . . . 2 (SKIP TO 509E) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509E) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509E) DON'T KNOW 8
509C	The first time (NAME) got the polio vaccine, was it in the first two weeks after he/she was born or later?	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2
509D	How many times did (NAME) get the polio vaccine?	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]
509E	A DPT vaccination, that is, an injection given in the thigh, sometimes at the same time as polio drops?	YES . . . . 1 NO . . . . 2 (SKIP TO 509G) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509G) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 509G) DON'T KNOW 8
509F	How many times did (NAME) get a DPT vaccination?	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]
509G	A measles injection - that is a shot in the arm at about age 9 months or older- to prevent him/her from getting measles?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
510	Were any of the vaccinations (NAME) received during the last two years given as part of a national immunization day campaign?	YES . . . . 1 NO . . . . 2 NO VACCINATION IN THE LAST 2 YRS. 3 DON'T KNOW . . . 8	YES . . . . 1 NO . . . . 2 NO VACCINATION IN THE LAST 2 YRS. 3 DON'T KNOW . . . 8	YES . . . . 1 NO . . . . 2 NO VACCINATION IN THE LAST 2 YRS. 3 DON'T KNOW . . . 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-TO-LAST BIRTH NAME ________
512	CHECK 506: DATE SHOWN FOR VITAMIN A DOSE	DATE FOR MOST RECENT VITAMIN A DOSE ↓ NO CARD/ CODE '44' FOR MOST RECENT VITAMIN A DOSE (GO TO 514)	DATE FOR MOST RECENT VITAMIN A DOSE ↓ NO CARD/ CODE '44' FOR MOST RECENT VITAMIN A DOSE (GO TO 514)	DATE FOR MOST RECENT VITAMIN A DOSE ↓ NO CARD/ CODE '44' FOR MOST RECENT VITAMIN A DOSE (GO TO 514)
513	According to (NAME)'s health card, he/she received a vitamin A dose like this (SHOW CAPSULE) in (DATE OF MOST RECENT DOSE FROM CARD). Has (NAME) received another vitamin A dose since then?	YES . . . . 1 (SKIP TO 515) NO . . . . 2 (SKIP TO 516) DON'T KNOW 8	YES . . . . 1 (SKIP TO 515) NO . . . . 2 (SKIP TO 516) DON'T KNOW 8	YES . . . . 1 (SKIP TO 515) NO . . . . 2 (SKIP TO 516) DON'T KNOW 8
514	HAS (NAME) ever received a vitamin A dose like this? SHOW CAPSULE	YES . . . . 1 NO . . . . 2 (SKIP TO 516) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 516) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 516) DON'T KNOW 8
515	Did (NAME) receive a vitamin A dose during the last six months?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
516	During the last 7 days, did (NAME) take iron tablets pills like these? SHOW IRON TABLETS	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
517	Has (NAME) taken any worm medicine in the last six months?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
518	Has (NAME) had running stomach in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 533) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 533) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 533) DON'T KNOW 8
519	Was there any blood in the stool?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
520	When (NAME) had running stomach, was he/she given less than usual to **drink**, about the same amount, or more than usual to drink, including titi? IF LESS, ASK: Was it much less than usual to drink or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8
521	When (NAME) had running stomach, was he/she given less than usual to **eat**, about the same amount, more than usual, or nothing to eat? IF LESS, ASK: Was it much less than usual to eat or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8
522	Did you get treatment for the running stomach from anywhere?	YES . . . . 1 NO . . . . 2 (SKIP TO 527)	YES . . . . 1 NO . . . . 2 (SKIP TO 527)	YES . . . . 1 NO . . . . 2 (SKIP TO 527)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-TO-LAST BIRTH NAME _____
523	Where did you get treatment from? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT HOSPITAL A GOVT HEALTH CENTER . . . . . B GOVT HEALTH CLINIC . . . . . C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . E PHARMACY . . . F PVT DOCTOR . . . G MOBILE CLINIC . H OTHER PRIVATE MED. _____ I (SPECIFY) OTHER SOURCE SHOP . . . . . M TRADITIONAL PRACTITIONER N OTHER _____ X (SPECIFY)	PUBLIC SECTOR GOVT HOSPITAL A GOVT HEALTH CENTER . . . . . B GOVT HEALTH POST . . . . . C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . E PHARMACY . . . F PVT DOCTOR . . . G MOBILE CLINIC . H OTHER PRIVATE MED. _____ I (SPECIFY) OTHER SOURCE SHOP . . . . . M TRADITIONAL PRACTITIONER N OTHER _____ X (SPECIFY)	PUBLIC SECTOR GOVT HOSPITAL A GOVT HEALTH CENTER . . . . . B GOVT HEALTH POST . . . . . C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/ CLINIC . . . . . E PHARMACY . . . F PVT DOCTOR . . . G MOBILE CLINIC . H OTHER PRIVATE MED. _____ I (SPECIFY) OTHER SOURCE SHOP . . . . . M TRADITIONAL PRACTITIONER N OTHER _____ X (SPECIFY)
524	CHECK 523:	TWO OR MORE CODES CIRCLED / ONLY ONE CODE CIRCLED (SKIP TO 526)	TWO OR MORE CODES CIRCLED / ONLY ONE CODE CIRCLED (SKIP TO 526)	TWO OR MORE CODES CIRCLED / ONLY ONE CODE CIRCLED (SKIP TO 526)
525	Where did you go first for treatment? USE LETTER CODE FROM 523.	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐
526	How many days after the running stomach began did you first go for treatment for (NAME)? IF THE SAME DAY, RECORD '00'.	DAYS . . . . . ☐☐	DAYS . . . . . ☐☐	DAYS . . . . . ☐☐
527	Does (NAME) still have running stomach?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
528	Since the running stomach began, did anyone give (NAME): a) ORS? b) A homemade sugar-salt drink?	YES NO DK ORS . . 1 2 8 HOMEMADE DRINK . . . 1 2 8	YES NO DK ORS . . 1 2 8 HOMEMADE DRINK . . . 1 2 8	YES NO DK ORS . . 1 2 8 HOMEMADE DRINK . . . 1 2 8
529	Was anything (else) given to treat the running stomach?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 533) DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 533) DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 533) DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ______________	NEXT-TO-LAST BIRTH NAME ______________	SECOND-TO-LAST BIRTH NAME ______________
530	What (else) was given to treat the running stomach? Anything else? RECORD ALL TREATMENTS GIVEN.	PILL OR SYRUP ANTIBIOTIC . . . . . A FLAGYL . . . . B ZINC . . . . C OTHER PILL . . . D UNKNOWN PILL OR SYRUP . . . E INJECTION ANTIBIOTIC . . . . . F NON-ANTIBIOTIC . G UNKNOWN INJECTION . . . H (IV) INTRAVENOUS . I HOME REMEDY/ HERBAL MEDICINE J OTHER ________ X (SPECIFY)	PILL OR SYRUP ANTIBIOTIC . . . . . A FLAGYL . . . . B ZINC . . . . C OTHER PILL . . . D UNKNOWN PILL OR SYRUP . . . E INJECTION ANTIBIOTIC . . . . . F NON-ANTIBIOTIC . G UNKNOWN INJECTION . . . H (IV) INTRAVENOUS . I HOME REMEDY/ HERBAL MEDICINE J OTHER ________ X (SPECIFY)	PILL OR SYRUP ANTIBIOTIC . . . . . A FLAGYL . . . . B ZINC . . . . C OTHER PILL . . . D UNKNOWN PILL OR SYRUP . . . E INJECTION ANTIBIOTIC . . . . . F NON-ANTIBIOTIC . G UNKNOWN INJECTION . . . H (IV) INTRAVENOUS . I HOME REMEDY/ HERBAL MEDICINE J OTHER ________ X (SPECIFY)
533	Has (NAME) had **fever** in the last 2 weeks?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
534	Has (NAME) had a **cough** in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 537) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 537) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 537) DON'T KNOW 8
535	When (NAME) had a cough, did he/she breathe faster than usual with short, rapid breaths or have a hard time breathing?	YES . . . . 1 NO . . . . 2 (SKIP TO 538) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 538) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 538) DON'T KNOW 8
536	Was the fast or hard time breathing due to a problem in the chest or to a blocked or runny nose?	CHEST ONLY . . . 1 NOSE ONLY . . . . . 2 BOTH . . . . 3 OTHER ________ 6 (SPECIFY) DON'T KNOW . . . . . 8 (SKIP TO 538)	CHEST ONLY . . . 1 NOSE ONLY . . . . . 2 BOTH . . . . 3 OTHER ________ 6 (SPECIFY) DON'T KNOW . . . . . 8 (SKIP TO 538)	CHEST ONLY . . . 1 NOSE ONLY . . . . . 2 BOTH . . . . 3 OTHER ________ 6 (SPECIFY) DON'T KNOW . . . . . 8 (SKIP TO 538)
537	CHECK 533: HAD FEVER?	YES ☐ NO OR DK ☐ (GO BACK TO 503 IN NEXT COLUMN; OR IF NO MORE BIRTHS, GO TO 573)	YES ☐ NO OR DK ☐ (GO BACK TO 503 IN NEXT COLUMN; OR IF NO MORE BIRTHS, GO TO 573)	YES ☐ NO OR DK ☐ (GO BACK TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR IF NO MORE BIRTHS, GO TO 573)
538	When (NAME) had (fever/cough), was he/she given less than usual to **drink**, about the same amount, or more than usual to drink, including titi? IF LESS, ASK: Was it much less than usual to drink or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ______________	NEXT-TO-LAST BIRTH NAME ______________	SECOND-TO-LAST BIRTH NAME ______________
539	When (NAME) had a (fever/cough), was he/she given less than usual to **eat**, about the same amount, more than usual, or nothing to eat? IF LESS, ASK: Was it much less than usual to eat or somewhat less?	MUCH LESS ..... 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE .... 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS ..... 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE .... 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS ..... 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE .... 4 STOPPED FOOD . 5 NEVER GAVE FOOD 6 DON'T KNOW 8
540	Did you get treatment for the fever/cough from anywhere?	YES .... 1 NO .... 2 (SKIP TO 545)	YES .... 1 NO .... 2 (SKIP TO 545)	YES .... 1 NO .... 2 (SKIP TO 545)
541	Where did you get treatment from? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE THE NAME OF THE PLACE. ______________________ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT HOSPITAL A GOVT HEALTH CENTER ..... B GOVT HEALTH CLINIC .... C OTHER PUBLIC ____________ D (SPECIFY) PRIVATE MEDICAL SECT. PVT. HOSPITAL/ CLINIC .... E PHARMACY ... F PVT DOCTOR ... G MOBILE CLINIC . H OTHER PRIVATE MED. ________ I (SPECIFY) OTHER SOURCE SHOP .... M TRADITIONAL PRACTITIONER N OTHER ________ X (SPECIFY)	PUBLIC SECTOR GOVT HOSPITAL A GOVT HEALTH CENTER ..... B GOVT HEALTH POST .... C OTHER PUBLIC ____________ D (SPECIFY) PRIVATE MEDICAL SECT. PVT. HOSPITAL/ CLINIC .... E PHARMACY ... F PVT DOCTOR ... G MOBILE CLINIC . H OTHER PRIVATE MED. ________ I (SPECIFY) OTHER SOURCE SHOP .... M TRADITIONAL PRACTITIONER N OTHER ________ X (SPECIFY)	PUBLIC SECTOR GOVT HOSPITAL A GOVT HEALTH CENTER ..... B GOVT HEALTH POST .... C OTHER PUBLIC ____________ D (SPECIFY) PRIVATE MEDICAL SECT. PVT. HOSPITAL/ CLINIC .... E PHARMACY ... F PVT DOCTOR ... G MOBILE CLINIC . H OTHER PRIVATE MED. ________ I (SPECIFY) OTHER SOURCE SHOP .... M TRADITIONAL PRACTITIONER N OTHER ________ X (SPECIFY)
542	CHECK 541:	TWO OR MORE CODES CIRCLED ☐ / ONLY ONE CODE CIRCLED ☐ (SKIP TO 544)	TWO OR MORE CODES CIRCLED ☐ / ONLY ONE CODE CIRCLED ☐ (SKIP TO 544)	TWO OR MORE CODES CIRCLED ☐ / ONLY ONE CODE CIRCLED ☐ (SKIP TO 544)
543	Where did you go first for treatment? USE LETTER CODE FROM 541.	FIRST PLACE ... ☐	FIRST PLACE ... ☐	FIRST PLACE ... ☐
544	How many days after the illness began did you first go for treatment for (NAME)? IF THE SAME DAY, RECORD '00'.	DAYS ..... ☐☐	DAYS ..... ☐☐	DAYS ..... ☐☐
545	Does (NAME) still have (fever cough)?	FEVER ONLY ..... 1 COUGH ONLY ... 2 BOTH FEVER AND COUGH .... 3 NO, NEITHER ..... 4 DON'T KNOW ... 8	FEVER ONLY ..... 1 COUGH ONLY ... 2 BOTH FEVER AND COUGH .... 3 NO, NEITHER ..... 4 DON'T KNOW ... 8	FEVER ONLY ..... 1 COUGH ONLY ... 2 BOTH FEVER AND COUGH .... 3 NO, NEITHER ..... 4 DON'T KNOW ... 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME __________	NEXT-TO-LAST BIRTH NAME __________	SECOND-TO-LAST BIRTH NAME __________
546	During the sickness, did (NAME) take any medicine?	YES . . . . 1 NO . . . . 2 (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, TO 573) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, TO 573) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (GO TO 503 IN NEXT-TO-LAST COL. OF NEW QUEST.; OR IF NO MORE BIRTHS, TO 573) DON'T KNOW 8
547	What type of medicine did (NAME) **take?** Any other drugs? RECORD ALL MENTIONED. NEW MALARIA TABLET= ARTEMISININ COMBINATION	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE . B AMODIAQUINE . C QUININE . . . . D NEW MALARIA TABLET . . . . . E OTHER ANTI-MALARIAL ________ . G SPECIFY ANTIBIOTIC DRUGS PILL/SYRUP . . . H INJECTION . . . I OTHER DRUGS ASA . . . . J PARACETEMOL . K OTHER ______ X (SPECIFY) DON'T KNOW . . . . . Z	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE . B AMODIAQUINE . C QUININE . . . . D NEW MALARIA TABLET . . . . . E OTHER ANTI-MALARIAL ________ . G SPECIFY ANTIBIOTIC DRUGS PILL/SYRUP . . . H INJECTION . . . I OTHER DRUGS ASA . . . . J PARACETEMOL . K OTHER ______ X (SPECIFY) DON'T KNOW . . . . . Z	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE . B AMODIAQUINE . C QUININE . . . . D NEW MALARIA TABLET . . . . . E OTHER ANTI-MALARIAL ________ . G SPECIFY ANTIBIOTIC DRUGS PILL/SYRUP . . . H INJECTION . . . I OTHER DRUGS ASA . . . . J PARACETEMOL . K OTHER ______ X (SPECIFY) DON'T KNOW . . . . . Z
548	CHECK 547: ANY CODE A-H CIRCLED?	YES ☐ NO ☐ (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 573)	YES ☐ NO ☐ (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 573)	YES ☐ NO ☐ (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 573)
549	Did you already have (NAME OF MEDICINE FROM 547) at home when the child got sick? ASK SEPARATELY FOR EACH OF THE DRUGS 'A' THROUGH 'H' THE CHILD IS RECORDED AS HAVING TAKEN IN 547 IF YES FOR ANY DRUG, CIRCLE CODE FOR THAT DRUG. IF NO FOR ALL DRUGS, CIRCLE 'Y'	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE . B AMODIAQUINE . . . C QUININE . . . . D NEW MALARIA TABLET . . . . . E OTHER ANTI-MALARIAL . . . G ANTIBIOTIC PILL/ SYRUP . . . . H NO DRUG AT HOME . Y	ANTIMALARIAL DRUGS SP/FANSIDAR . . A CHLOROQUINE . B AMODIAQUINE . . . C QUININE . . . . D NEW MALARIA TABLET . . . . . E OTHER ANTI-MALARIAL . . . G ANTIBIOTIC PILL/ SYRUP . . . . H NO DRUG AT HOME . Y	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE . B AMODIAQUINE . . . C QUININE . . . . D NEW MALARIA TABLET . . . . . E OTHER ANTI-MALARIAL . . . G ANTIBIOTIC PILL/ SYRUP . . . . H NO DRUG AT HOME . Y
572		GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 573.	GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 573.	GO TO 503 IN NEXT-TO LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 573.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
573	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN **2001 OR LATER** LIVING WITH THE RESPONDENT ONE OR MORE ☐ NONE ☐ → 576 RECORD NAME OF YOUNGEST CHILD LIVING WITH HER (AND CONTINUE WITH 574) _____ (NAME)		
574	The last time (NAME FROM 573) passed stool, what did you do with the stool?	CHILD USED TOILET OR LATRINE . . . 01 PUT/RINSED INTO TOILET OR LATRINE . . . . . 02 PUT/RINSED INTO DRAIN OR DITCH . . . . . 03 THROWN INTO GARBAGE . . . . . 04 BURIED . . . . . 05 LEFT IN THE OPEN . . . . . 06 OTHER _____ 96 (SPECIFY)	
575	CHECK 528(a), ALL COLUMNS: NO CHILD RECEIVED FLUID FROM ORS PACKET ☐ ANY CHILD RECEIVED FLUID FROM ORS PACKET ☐ → 577		
576	Have you ever heard of ORS or oral rehydration salts, a medicine for running stomach?	YES . . . . . 1 NO 2	
577	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN **2003 OR LATER** LIVING WITH THE RESPONDENT ONE OR MORE ☐ NONE ☐ → 601 RECORD NAME OF YOUNGEST CHILD LIVING WITH HER (AND CONTINUE WITH 578) _____ (NAME)		
578	Yesterday, during the day or night, did (NAME FROM 577) drink: Plain water? Infant milk? Any porridge?	YES NO DK PLAIN WATER . . . . . 1 2 8 FORMULA . . . . . 1 2 8 PORRIDGE 1 2 8	

NO.	QUESTIONS AND FILTERS		CODING CATEGORIES		SKIP
579	Now I would like to ask you about (other) liquids or foods that (NAME FROM 577)/you may have had yesterday during the day or at night. I am interested in whether your child/you had the item even if it was combined with other foods. Did (NAME FROM 577)/you drink (eat):		CHILD YES NO DK	MOTHER YES NO DK	
	a) Milk such as powdered or fresh animal milk?	**a**	1 2 8	1 2 8	
	b) Tea or coffee?	**b**	1 2 8	1 2 8	
	c) Any other liquids?	**c**	1 2 8	1 2 8	
	d) Rice, bread, cereal, or other foods made from grains?	**d**	1 2 8	1 2 8	
	e) Pumpkin or sweet potatoes that are yellow-orange inside?	**e**	1 2 8	1 2 8	
	f) Cassava, eddoes, white potatoes, yams, or any other foods made from roots?	**f**	1 2 8	1 2 8	
	g) Potato greens, bitter leaf or any dark green, leafy vegetables?	**g**	1 2 8	1 2 8	
	h) Ripe mangoes or pawpaws?	**h**	1 2 8	1 2 8	
	i) Any other fruits or vegetables?	**i**	1 2 8	1 2 8	
	j) Liver, kidney, heart or other organ meats?	**j**	1 2 8	1 2 8	
	k) Any meat, like beef, pork, lamb, goat, chicken or duck?	**k**	1 2 8	1 2 8	
	l) Eggs?	**l**	1 2 8	1 2 8	
	m) Fresh, tinned or dried fish or crawfish, crab, or kissmeat?	**m**	1 2 8	1 2 8	
	n) Any foods made from beans, peas, lentils, or nuts?	**n**	1 2 8	1 2 8	
	o) Cheese, yogurt or other milk products?	**o**	1 2 8	1 2 8	
	p) Palm butter, red palm soup, anything cooked with palm oil?	**p**	1 2 8	1 2 8	
	q) Any other oil, fat, or butter, or food made with oil?	**q**	1 2 8	1 2 8	
	r) Any sugary foods like sweets, candies, cakes or biscuits?	**r**	1 2 8	1 2 8	
	s) Any other solid or semi-solid food?	**s**	1 2 8	1 2 8	
580	CHECK 578 (LAST CATEGORY:PORRIDGE) AND 579 (CATEGORIES d THROUGH s FOR CHILD): AT LEAST ONE "YES' ☐ NOT A SINGLE "YES" ☐ → 601				
581	How many times did (NAME FROM 577) eat any food yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.		NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8		

SECTION 6. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Are you currently married or living together with a man as if married?	YES, CURRENTLY MARRIED . . . . . 1 YES, LIVING WITH A MAN . . . . . 2 NO, NOT IN UNION 3	→ 604
602	Have you ever been married or lived together with a man as if married?	YES, FORMERLY MARRIED . . . . . 1 YES, LIVED WITH A MAN . . . . . 2 NO 3	→ 617
603	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . . 1 DIVORCED . . . . . 2 SEPARATED 3	→ 609
604	Is your husband/partner living with you now or is he staying somewhere else?	LIVING WITH HER . . . . . 1 STAYING ELSEWHERE 2	
605	RECORD THE HUSBAND'S/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO.	
606	Does your husband/partner have other wives or does he live with other women as if married?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 609
607	Including yourself, in total, how many wives or partners does your husband live with now as if married?	TOTAL NUMBER OF WIVES AND LIVE-IN PARTNERS . . . . . DON'T KNOW 98	
608	Are you the first, second, ... wife?	RANK	
609	Have you been married or lived with a man only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	
615	CHECK 609: MARRIED/ LIVED WITH A MAN ONLY ONCE → In what month and year did you start living with your husband/partner? MARRIED/ LIVED WITH A MAN MORE THAN ONCE → Now I would like to ask about when you started living with your first husband/partner. In what month and year was that?	MONTH . . . . . DON'T KNOW MONTH . . . . . 98 YEAR . . . . . DON'T KNOW YEAR 9998	→ 617
616	How old were you when you first started living with him?	AGE	
617	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
618	Now I need to ask you some questions about men business. How old were you when you did men business for the first time?	NEVER HAD SEX . . . . . 00 AGE IN YEARS . . . . . → 621 FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER 95	→ 621

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
619	CHECK 107: AGE 15-24 ☐ ↓ AGE 25-49 ☐ →		641
620	Do you plan to wait until you get married to do men business?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/UNSURE 8	→ 641
621	CHECK 107: AGE 15-24 ☐ ↓ AGE 25-49 ☐ →		626
622	The first time you did men business, did you use a condom?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/DON'T REMEMBER . . . 8	
623	How old was the man you first did men business with?	AGE OF PARTNER . . . . . ☐☐ DON'T KNOW 98	→ 626
624	Was he older than you, younger than you, or about the same age as you?	OLDER . . . . . 1 YOUNGER . . . . . 2 ABOUT THE SAME AGE . . . . . 3 DON'T KNOW/DON'T REMEMBER . . . 8	→ 626
625	Would you say he was ten or more years older than you or less than ten years older than you?	TEN OR MORE YEARS OLDER . . . . . 1 LESS THAN TEN YEARS OLDER . . . 2 OLDER, UNSURE HOW MUCH 3	
626	When was the last time you did men business? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO . . . . . 1 ☐☐ WEEKS AGO . . . . . 2 ☐☐ MONTHS AGO . . . . . 3 ☐☐ YEARS AGO . . . . . 4 ☐☐	→ 640

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
626A	Now I want to ask you some questions about your recent sexual activity. Let me assure you again that your answers are completely confidential and will not be told to anyone. If I ask you any question that you don't want to answer, just let me know and we will go to the next question. → SKIP TO 628			
627	When was the last time you did men business with this man?		DAYS . 1 WEEKS 2 MONTHS 3	DAYS . 1 WEEKS 2 MONTHS 3
628	The last time you did men business with this (second/third) man, did he use a condom?	YES . . . . 1 NO . . . . 2 (SKIP TO 630)	YES . . . . 1 NO . . . . 2 (SKIP TO 630)	YES . . . . 1 NO . . . . 2 (SKIP TO 630)
629	Did he use a condom every time you did men business with him in the last 12 months?	YES . . . . 1 NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2
630	What was your relationship to this man? IF BOYFRIEND: Were you living together as if married? IF YES, CIRCLE '2'. IF NO, CIRCLE '3'.	HUSBAND . . . . 1 (SKIP TO 636) LIVE-IN PARTNER . . . . 2 BOYFRIEND NOT LIVING WITH RESPONDENT . . . . 3 CASUAL ACQUAINTANCE . . . 4 PROSTITUTE . . . . 5 OTHER ____________ 6 (SPECIFY)	HUSBAND . . . . 1 (SKIP TO 636) LIVE-IN PARTNER . . . . 2 BOYFRIEND NOT LIVING WITH RESPONDENT . . . . 3 CASUAL ACQUAINTANCE . . . 4 PROSTITUTE . . . . 5 OTHER ____________ 6 (SPECIFY)	HUSBAND . . . . 1 (SKIP TO 636) LIVE-IN PARTNER . . . . 2 BOYFRIEND NOT LIVING WITH RESPONDENT . . . . 3 CASUAL ACQUAINTANCE . . . 4 PROSTITUTE . . . . 5 OTHER ____________ 6 (SPECIFY)
631	How long (have you done/did you do) men business with him? IF ONLY HAD SEX WITH THIS PERSON ONCE, RECORD '01' DAYS.	DAYS . 1 MONTHS 2 YEARS 3	DAYS . 1 MONTHS 2 YEARS 3	DAYS . 1 MONTHS 2 YEARS 3
632	CHECK 107:	AGE 15-24 / AGE 25-49 (SKIP TO 636)	AGE 15-24 / AGE 25-49 (SKIP TO 636)	AGE 15-24 / AGE 25-49 (SKIP TO 636)
633	How old is this man?	AGE OF PARTNER (SKIP TO 636) DON'T KNOW 98	AGE OF PARTNER (SKIP TO 636) DON'T KNOW 98	AGE OF PARTNER (SKIP TO 636) DON'T KNOW 98
634	Is he older than you, younger than you, or about the same age?	OLDER . . . . 1 YOUNGER . . . . . 2 SAME AGE . . . . . 3 DON'T KNOW . . . 8 (SKIP TO 636)	OLDER . . . . 1 YOUNGER . . . . . 2 SAME AGE . . . . . 3 DON'T KNOW . . . 8 (SKIP TO 636)	OLDER . . . . 1 YOUNGER . . . . . 2 SAME AGE . . . . . 3 DON'T KNOW . . . 8 (SKIP TO 636)
635	Would you say he is ten or more years older than you or less than ten years older than you?	TEN OR MORE YEARS OLDER . 1 LESS THAN TEN YEARS OLDER . 2 OLDER, UNSURE HOW MUCH . . . 3	TEN OR MORE YEARS OLDER . 1 LESS THAN TEN YEARS OLDER . 2 OLDER, UNSURE HOW MUCH . . . 3	TEN OR MORE YEARS OLDER . 1 LESS THAN TEN YEARS OLDER . 2 OLDER, UNSURE HOW MUCH . . . 3
636	The last time you did men business with this person, did you or he drink alcohol?	YES . . . . 1 NO . . . . 2 (SKIP TO 638)	YES . . . . 1 NO . . . . 2 (SKIP TO 638)	YES . . . . 1 NO . . . . 2 (SKIP TO 639)

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
637	Were you or your partner drunk at that time? IF YES: Who was drunk?	RESPONDENT ONLY 1 PARTNER ONLY . . . 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4	RESPONDENT ONLY 1 PARTNER ONLY . . . 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4	RESPONDENT ONLY 1 PARTNER ONLY . . . 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4
638	Apart from [this person/these two people], did you do men business with any other person in the last 12 months?	YES . . . . . 1 (GO BACK TO 627 IN NEXT COLUMN) NO . . . . . 2 (SKIP TO 639A)	YES . . . . . 1 (GO BACK TO 627 IN NEXT COLUMN) NO . . . . . 2 (SKIP TO 639A)	
639	In the last 12 months, how many men have you done men business with? PROBE TO GET AN ESTIMATE. IF MORE THAN 96, WRITE '95'.			NUMBER OF PARTNERS LAST 12 MONTHS . . . ☐☐ DON'T KNOW . . . 98

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
639A	In the last 12 months, did you ever give or receive money, gifts or favors in return for doing men business?	YES . . . . . 1 NO 2	
640	In your whole life, how many men have you done men business with? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF MORE THAN 95, WRITE '95'.	NUMBER OF PARTNERS IN LIFETIME . . . . . ☐☐ DON'T KNOW 98	
641	Do you know of a place where a person can get condoms?	YES . . . . . 1 NO 2	→ 701
642	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT. HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC . . . . . C NACP . . . . . D OTHER PUBLIC _____ E (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . F PHARMACY . . . . . G PRIVATE DOCTOR . . . . . H FAMILY PLANNING ASSN. LIBERIA I MOBILE CLINIC . . . . . J OTHER PRIVATE MEDICAL _____ K (SPECIFY) OTHER SOURCE SHOP . . . . . L CHURCH . . . . . M FRIEND/RELATIVE . . . . . N OTHER _____ X (SPECIFY)	
643	If you wanted to, could you yourself get a condom?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/UNSURE 8	

SECTION 7. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 311/311A: NEITHER STERILIZED ↓ / HE OR SHE STERILIZED → 713		
702	CHECK 226: NOT PREGNANT OR UNSURE ↓ / PREGNANT ↓ Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 SAYS SHE CAN'T GET PREGNANT . 3 UNDECIDED/DON'T KNOW AND PREGNANT . . . . . 4 UNDECIDED/DON'T KNOW AND NOT PREGNANT OR UNSURE 5	→ 704 → 713 → 709 → 708
703	CHECK 226: NOT PREGNANT OR UNSURE ↓ / PREGNANT ↓ How long would you like to wait from now before the birth of (a/another) child? After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 SAYS SHE CAN'T GET PREGNANT 994 AFTER MARRIAGE . . . . . 995 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	→ 708 → 713 → 708
704	CHECK 226: NOT PREGNANT OR UNSURE ↓ / PREGNANT → 709		
705	CHECK 310: USING A CONTRACEPTIVE METHOD? NOT ASKED ↓ / NOT CURRENTLY USING ↓ / CURRENTLY USING → 713		
706	CHECK 703: NOT ASKED ↓ / 24 OR MORE MONTHS OR 02 OR MORE YEARS ↓ / 00-23 MONTHS OR 00-01 YEAR → 709		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
707	CHECK 702: WANTS TO HAVE A/ANOTHER CHILD → You said you don't want (a/another) child soon, but you're not using any method to avoid pregnancy. WANTS NO MORE/ NONE → You said you don't want any (more) children, but you are not using any method to avoid pregnancy. Can you tell me why you are not using a method? Any other reason? RECORD ALL REASONS MENTIONED.	NOT MARRIED . . . . . A FERTILITY-RELATED REASONS NOT HAVING SEX . . . . . B INFREQUENT SEX . . . . . C MENOPAUSAL/HYSTERECTOMY . D SUBFECUND/INFECUND . . . . . E POSTPARTUM AMENORRHEIC . . . F BREASTFEEDING . . . . . G FATALISTIC . . . . . H OPPOSITION TO USE RESPONDENT OPPOSED . . . . . I HUSBAND/PARTNER OPPOSED . J OTHERS OPPOSED . . . . . K RELIGIOUS PROHIBITION . . . . . L LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . M KNOWS NO SOURCE . . . . . N METHOD-RELATED REASONS HEALTH CONCERNS . . . . . O FEAR OF SIDE EFFECTS . . . . . P LACK OF ACCESS/TOO FAR . . . . . Q COSTS TOO MUCH . . . . . R INCONVENIENT TO USE . . . . . S INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . T OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
708	CHECK 310: USING A CONTRACEPTIVE METHOD? NOT ASKED → NO, NOT CURRENTLY USING → YES, CURRENTLY USING		→ 713
709	Do you think you will use family planning any time in the future?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 711 → 713
710	Which method would you prefer to use?	FEMALE STERILIZATION . . . . . 01 MALE STERILIZATION . . . . . 02 PILL . . . . . 03 IUD . . . . . 04 INJECTABLES . . . . . 05 IMPLANTS . . . . . 06 CONDOM . . . . . 07 FEMALE CONDOM . . . . . 08 RHYTHM METHOD . . . . . 09 WITHDRAWAL . . . . . 10 OTHER _____ 96 (SPECIFY) UNSURE 98	→ 713

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
711	Why do you think you will not use a family planning method any time in the future?	NOT MARRIED . . . . . 11 FERTILITY-RELATED REASONS INFREQUENT SEX/NO SEX . . . 22 MENOPAUSAL/HYSTERECTOMY 23 SUBFECUND/INFECUND . . . . . 24 WANTS AS MANY CHILDREN AS POSSIBLE . . . . . 26 OPPOSITION TO USE RESPONDENT OPPOSED . . . . . 31 HUSBAND/PARTNER OPPOSED 32 OTHERS OPPOSED . . . . . 33 RELIGIOUS PROHIBITION . . . . . 34 LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . 41 KNOWS NO SOURCE . . . . . 42 METHOD-RELATED REASONS HEALTH CONCERNS . . . . . 51 FEAR OF SIDE EFFECTS . . . . . 52 LACK OF ACCESS/TOO FAR . . . 53 COSTS TOO MUCH . . . . . 54 INCONVENIENT TO USE . . . . . 55 INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . 56 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	→ 713
712	Would you ever use a family planning method if you were married?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
713	CHECK 216: HAS LIVING CHILDREN ☐ → If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN ☐ → If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 NUMBER . . . . . ☐☐ OTHER _____ 96 (SPECIFY)	→ 715 → 715
714	How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	
715	In the last few months, have you: Heard about family planning on the radio? Heard about family planning on the television? Read about family planning in a newspaper or magazine?	YES NO RADIO . . . . . 1 2 TELEVISION . . . . . 1 2 NEWSPAPER OR MAGAZINE . . . 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
717	CHECK 601: YES, CURRENTLY MARRIED YES, LIVING WITH A MAN NO, NOT IN UNION → 801		
718	CHECK 311/311A: CODE B, G, OR J CIRCLED → 720 NO CODE CIRCLED → 722 OTHER		
719	Does your husband/partner know that you are using a method of family planning?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
720	Would you say that using family planning is mainly your decision, mainly your husband's/partner's decision, or did you both decide together?	MAINLY RESPONDENT . . . . . 1 MAINLY HUSBAND/PARTNER . . . . . 2 JOINT DECISION . . . . . 3 OTHER _____ 6 (SPECIFY)	
721	CHECK 311/311A: NEITHER STERILIZED HE OR SHE STERILIZED → 801		
722	Does your husband/partner want the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER . . . . . 1 MORE CHILDREN . . . . . 2 FEWER CHILDREN . . . . . 3 DON'T KNOW 8	

SECTION 8. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	CHECK 601 AND 602: CURRENTLY MARRIED/ LIVING WITH A MAN FORMERLY MARRIED/ LIVED WITH A MAN → 803 NEVER MARRIED AND NEVER LIVED WITH A MAN → 807		
802	How old is/was your husband/partner?	AGE IN COMPLETED YEARS ☐☐	
803	Did your (last) husband/partner ever go to school?	YES . . . . . 1 NO 2	→ 806
804	What was the highest level of school he attended: primary, secondary, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 HIGHER . . . . . 3 DON'T KNOW 8	→ 806
805	What was the highest grade he completed at that level?	GRADE . . . . . ☐☐ DON'T KNOW 98	
806	CHECK 801: CURRENTLY MARRIED/ LIVING WITH A MAN: What is your husband's/ partner's occupation? That is, what kind of work does he mainly do? FORMERLY MARRIED/ LIVED WITH A MAN: What was your (last) husband's/ partner's occupation? That is, what kind of work did he mainly do?	_____ ☐☐ _____ _____	
807	Aside from your own housework, have you done any work in the last seven days?	YES . . . . . 1 NO 2	→ 811
808	As you know, some women do jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. In the last seven days, have you done any of these things or any other work?	YES . . . . . 1 NO 2	→ 811
809	Do you have any job or business from which you were absent for leave, illness, vacation, maternity leave or any other such reason?	YES . . . . . 1 NO 2	→ 811
810	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 818
811	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
812	CHECK 811: WORKS IN AGRICULTURE DOES NOT WORK IN AGRICULTURE → 814		
813	Do you work mainly on your own land or on family land, or do you work on land that you rent from someone else, or do you work on someone else's land?	OWN LAND . . . . . 1 FAMILY LAND . . . . . 2 RENTED LAND . . . . . 3 SOMEONE ELSE'S LAND . . . . . 4 COMMUNAL LAND 5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
814	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER . . . . . 1 FOR SOMEONE ELSE . . . . . 2 SELF-EMPLOYED 3	
815	Do you usually work at home or away from home?	HOME . . . . . 1 AWAY 2	
816	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	
817	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . . 1 CASH AND KIND . . . . . 2 IN KIND ONLY . . . . . 3 NOT PAID 4	
818	CHECK 601: CURRENTLY MARRIED/LIVING WITH A MAN ☐ NOT IN UNION ☐		→ 827
819	CHECK 817: CODE 1 OR 2 (EARNS CASH) ☐ OTHER ☐		→ 822
820	Who usually decides how the money that you earn will be used: mainly you, mainly your husband/partner, or you and your husband/partner jointly?	RESPONDENT . . . . . 1 HUSBAND/PARTNER . . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 OTHER _____ . . . 6 SPECIFY	
821	Would you say that the money that you earn is more than what your husband/partner earns, less than what he earns, or about the same?	MORE THAN HIM . . . . . 1 LESS THAN HIM . . . . . 2 ABOUT THE SAME . . . . . 3 HUSBAND/PARTNER HAS NO EARNINGS . . . . . 4 DON'T KNOW 8	→ 823
822	Who usually decides how your husband's/partner's earnings will be used: you, your husband/partner, or you and your husband/partner jointly?	RESPONDENT . . . . . 1 HUSBAND/PARTNER . . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 HUSBAND/PARTNER HAS NO EARNINGS . . . . . 4 OTHER _____ . . . 6 SPECIFY	
823	Who usually makes decisions about whether to borrow money and how much?	RESPONDENT = 1 HUSBAND/PARTNER = 2 RESPONDENT & HUSBAND/PARTNER JOINTLY = 3 SOMEONE ELSE = 4 OTHER = 6 1 2 3 4 6	
824	Who usually makes decisions about making major purchases for the household?	1 2 3 4 6	
825	Who usually makes decisions about day-to-day food purchasing and cooking arrangements?	1 2 3 4 6	
826	Who usually makes decisions about visits to your family or relatives?	1 2 3 4 6	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES				SKIP
827	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING, OR NOT PRESENT)		PRES./ LISTEN.	PRES./ NOT LISTEN.	NOT PRES.	
		CHILDREN < 10	1	2	3	
		HUSBAND	1	2	3	
		OTHER MALES	1	2	3	
		OTHER FEMALES . . .	1	2	3	
828	Sometimes a man can get annoyed or angry because of things his wife does. Do you think a husband is justified in hitting or beating his wife in the following situations:		YES	NO	DK	
	If she goes out without telling him?	GOES OUT	1	2	8	
	If she neglects the children?	NEGL. CHILDREN . . .	1	2	8	
	If she argues with him?	ARGUES	1	2	8	
	If she refuses to have sex with him?	REFUSES SEX	1	2	8	
	If she burns the food?	BURNS FOOD	1	2	8	

SECTION 9. HIV/AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	→ 942
902	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
903	Can people get the AIDS virus from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
904	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
905	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906	Can people reduce their chance of getting the AIDS virus by not having sexual intercourse at all?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
907	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
908	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
909	Can the virus that causes AIDS be transmitted from a mother to her baby:	YES NO DK DURING PREG. . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	
	During pregnancy?		
	During delivery?		
	By breastfeeding?		
910	CHECK 909: AT LEAST ONE 'YES' ↓	OTHER →	→ 912
911	Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
912	Have you heard about antiretroviral drugs that people infected with the AIDS virus can get from a doctor or nurse to help them live longer?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
922	I don't want to know the results, but have you ever gone for an AIDS test?	YES . . . . . 1 NO 2	→ 927
923	When was the last time you were tested?	LESS THAN 12 MONTHS AGO . . . . . 1 12 - 23 MONTHS AGO . . . . . 2 2 OR MORE YEARS AGO 3	
924	The last time you had the test, did you ask for the test, was it offered to you and you accepted, or was it required?	ASKED FOR THE TEST . . . . . 1 OFFERED AND ACCEPTED . . . . . 2 REQUIRED 3	
925	I don't want to know the results, but did you get the results of the test?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
926	Where was the test done? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER, VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 GOVT. HEALTH CLINIC . . . . . 13 STAND-ALONE VCT CENTER . . . 14 NACP . . . . . 15 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . 21 PRIVATE DOCTOR . . . . . 22 STAND-ALONE VCT CENTER . . . 23 PHARMACY . . . . . 24 FAMILY PLANNING ASSN.LIBERIA 25 MOBILE CLINIC . . . . . 26 OTHER PRIVATE MEDICAL _____ 27 (SPECIFY) OTHER SOURCE SHOP . . . . . 31 OTHER _____ 96 (SPECIFY)	→ 929
927	Do you know of a place where people can go to get tested for the AIDS virus?	YES . . . . . 1 NO 2	→ 929
928	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC . . . . . C STAND-ALONE VCT CENTER . . . D NACP . . . . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . G PRIVATE DOCTOR . . . . . H STAND-ALONE VCT CENTER . . . I PHARMACY . . . . . J FAMILY PLANNING ASSN.LIBERIA K MOBILE CLINIC . . . . . L OTHER PRIVATE MEDICAL _____ M (SPECIFY) OTHER SOURCE SHOP . . . . . N OTHER _____ X (SPECIFY)	
929	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
930	If a member of your family got infected with the AIDS virus, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
931	If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
932	In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in the school?	SHOULD BE ALLOWED . . . . . 1 SHOULD NOT BE ALLOWED . . . . . 2 DK/NOT SURE/DEPENDS 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
940	Should children age 12-14 be taught about using a condom to avoid getting AIDS?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
941	Should children age 12-14 be taught to wait until they get married to do men business in order to avoid getting AIDS?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
942	CHECK 901: HEARD ABOUT AIDS → Apart from AIDS, have you heard about other infections that can be transmitted through men business? NOT HEARD ABOUT AIDS → Have you heard about infections that can be transmitted through men business?	YES . . . . . 1 NO 2	
943	CHECK 618: HAS HAD SEXUAL INTERCOURSE HAS NOT HAD SEXUAL INTERCOURSE		→ 951
944	CHECK 942: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES NO		→ 946
945	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
946	Sometimes women get a bad smelling fluid coming from their vagina. During the last 12 months, have you had a bad smelling fluid like this?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
947	Sometimes women have a sore on or near their vagina. During the last 12 months, have you had a sore near your vagina?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
948	CHECK 945, 946, AND 947: HAS HAD AN INFECTION (ANY 'YES') HAS NOT HAD AN INFECTION OR DOES NOT KNOW		→ 951
949	The last time you had (PROBLEM FROM 945/946/947), did you go for treatment?	YES . . . . . 1 NO 2	→ 951
950	Where did you go? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC C STAND-ALONE VCT CENTER . . . D OTHER PUBLIC _____ E (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . F PRIVATE DOCTOR . . . . . G STAND-ALONE VCT CENTER . . . H PHARMACY . . . . . I FAMILY PLANNING ASSN.LIBERIA J MOBILE CLINIC . . . . . K OTHER PRIVATE MEDICAL _____ L (SPECIFY) OTHER SOURCE SHOP . . . . . M OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
951	Husbands and wives do not always agree on everything. If a wife knows her husband has a disease that she can get from doing men business, is she justified in refusing to do men business with him?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
952	If a wife knows her husband has a disease that she can get from doing men business, is she justified in asking that they use a condom when they do men business?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
953	Is a wife justified in refusing to do men business with her husband when she is tired or not in the mood?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
954	Is a wife justified in refusing to do men business with her husband when she knows her husband has sex with women other than his wife?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
955	CHECK 601: CURRENTLY MARRIED/ LIVING WITH A PARTNER ☐ ↓ NOT IN UNION ☐ →		→ 958
956	Can you say no to your husband/partner if you do not want to do men business?	YES . . . . . 1 NO . . . . . 2 DEPENDS/NOT SURE 8	
957	Could you ask your husband/partner to use a condom if you wanted him to?	YES . . . . . 1 NO . . . . . 2 DEPENDS/NOT SURE 8	
958	Now I would like to ask you about something else. As you know some women belong to bush societies, like the Sande society. Have you heard of these societies?	YES . . . . . 1 NO 2	→ 1000
959	Are you a member of the Sande society or a woman's bush society?	YES . . . . . 1 NO 2	→ 1000
960	Do you think this should continue or should it stop?	CONTINUE . . . . . 1 STOP . . . . . 2 DOES NOT KNOW/NOT SURE 8	

SECTION 10. DOMESTIC VIOLENCE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1000	CHECK HOUSEHOLD QUESTIONNAIRE, LAST PAGE WOMAN SELECTED FOR THIS SECTION ↓ ☐ WOMAN NOT SELECTED ☐ →		1101
1001	CHECK FOR PRESENCE OF OTHERS: DO NOT CONTINUE UNTIL EFFECTIVE PRIVACY IS ENSURED. PRIVACY OBTAINED . 1 ↓ PRIVACY NOT POSSIBLE . 2 →		1030
	Now I would like to ask you questions about some other important aspects of a woman's life. I know that some of these questions are very personal. However, your answers are important for helping to understand the condition of women in Liberia. Let me assure you that your answers are completely confidential and will not be told to anyone and no one else will know that you were asked these questions.		
1002	CHECK 601 AND 602: CURRENTLY MARRIED/ LIVING WITH A MAN ☐ ↓ FORMERLY MARRIED/ LIVED WITH A MAN **(READ IN PAST TENSE)** ☐ ↓ NEVER MARRIED/ NEVER LIVED WITH A MAN ☐ →		1014
1003	First, I am going to ask you about some situations that happen to some women. Please tell me if these apply to your relationship with your (last) husband/partner?		
	a) He (is/was) jealous or angry if you (talk/talked) to other men?	JEALOUS 1 2 8	
	b) He frequently (accuses/accused) you of being unfaithful?	ACCUSES 1 2 8	
	c) He (does/did) not permit you to meet your female friends?	NOT MEET FRIENDS 1 2 8	
	d) He (tries/tried) to limit your contact with your family?	NO FAMILY 1 2 8	
	e) He (insists/insisted) on knowing where you (are/were) at all times?	WHERE YOU ARE . 1 2 8	
	f) He (does/did) not trust you with any money?	MONEY 1 2 8	
1004	Now I need to ask some more questions about your relationship with your (last) husband/partner. If I ask any question that you do not want to answer, just let me know and we will go on to the next question.		
	A (Does/did) your (last) husband/partner ever:	B CHECK 604: ASK ONLY **IF RESPONDENT IS NOT A WIDOW** How often did this happen during the last 12 months: often, only sometimes, or not at all?	
	a) say or do something to humiliate you in front of others?	YES 1 → / NO 2 ↓ — OFTEN 1 / SOMETIMES 2 / NOT AT ALL 3	
	b) threaten to hurt or harm you or someone close to you?	YES 1 → / NO 2 ↓ — OFTEN 1 / SOMETIMES 2 / NOT AT ALL 3	
	c) insult you or make you feel bad about yourself?	YES 1 → / NO 2 ↓ — OFTEN 1 / SOMETIMES 2 / NOT AT ALL 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1005	A (Does/did) your (last) husband/partner ever do any of the following things to you:	B CHECK 604: ASK ONLY **IF RESPONDENT IS NOT A WIDOW** How often did this happen during the last 12 months: often, only sometimes, or not at all?	

				OFTEN	SOME-TIMES	NOT AT ALL
a)	push you, shake you, or throw something at you?	YES 1 →		1	2	3
		NO 2 ↓				
b)	slap you?	YES 1 →		1	2	3
		NO 2 ↓				
c)	twist your arm or pull your hair?	YES 1 →		1	2	3
		NO 2 ↓				
d)	punch you with his fist or with something that could hurt you?	YES 1 →		1	2	3
		NO 2 ↓				
e)	kick you, drag you or beat you up?	YES 1 →		1	2	3
		NO 2 ↓				
f)	try to choke you or burn you on purpose?	YES 1 →		1	2	3
		NO 2 ↓				
g)	threaten or attack you with a knife, gun, or any other weapon?	YES 1 →		1	2	3
		NO 2 ↓				
h)	physically force you to do men business with him even when you did not want to?	YES 1 →		1	2	3
		NO 2 ↓				
i)	force you to do any sexual acts you did not want to?	YES 1 →		1	2	3
		NO 2 ↓				

1006	CHECK 1005A (a-i): AT LEAST ONE 'YES' ↓	NOT A SINGLE 'YES' →	1009
1007	How long after you first got married to/started living with your (last) husband/partner did (this/any of these things) first happen? IF LESS THAN ONE YEAR, RECORD '00'.	NUMBER OF YEARS . . . . . ☐☐ BEFORE MARRIAGE/BEFORE LIVING TOGETHI 95	
1008	Did the following ever happen as a result of what your (last) husband/partner did to you:		
	a) You had cuts, bruises or aches?	YES . . . . . 1 NO 2	
	b) You had eye injuries, sprains, dislocations, or burns?	YES . . . . . 1 NO 2	
	c) You had deep wounds, broken bones, broken teeth, or any other serious injury?	YES . . . . . 1 NO 2	
1009	Have you ever hit, slapped, kicked, or done anything else to physically hurt your (last) husband/partner at times when he was not already beating or physically hurting you?	YES . . . . . 1 NO . . . . . 2 →	1012
1010	CHECK 604: RESPONDENT IS **NOT** A WIDOW ↓	RESPONDENT IS A WIDOW →	1012

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1011	In the last 12 months, how often have you done this to your husband/partner: often, only sometimes, or not at all?	OFTEN . . . . . 1 SOMETIMES . . . . . 2 NOT AT ALL 3	
1012	Does (did) your husband/partner drink alcohol?	YES . . . . . 1 NO 2	→ 1014
1013	How often does (did) he get drunk: often, only sometimes, or never?	OFTEN . . . . . 1 SOMETIMES . . . . . 2 NEVER 3	
1014	CHECK 601 AND 602: EVER MARRIED/LIVED WITH A MAN: From the time you were 15 years old has anyone other than your (current/last) husband/partner hit, slapped, kicked, or done anything else to hurt you physically? NEVER MARRIED/ NEVER LIVED WITH A MAN: From the time you were 15 years old has anyone ever hit, slapped, kicked, or done anything else to hurt you physically?	YES . . . . . 1 NO . . . . . 2 REFUSED TO ANSWER/ NO ANSWER 3	→ 1020
1015	Who has hurt you in this way? Anyone else? RECORD ALL MENTIONED.	MOTHER/STEP-MOTHER . . . . . A FATHER/STEP-FATHER . . . . . B SISTER/BROTHER . . . . . C DAUGHTER/SON . . . . . D OTHER RELATIVE . . . . . E FORMER HUSBAND/PARTNER . . . . . F CURRENT BOYFRIEND . . . . . G FORMER BOYFRIEND . . . . . H MOTHER-IN-LAW . . . . . I FATHER-IN-LAW . . . . . J OTHER IN-LAW . . . . . K TEACHER . . . . . L EMPLOYER/SOMEONE AT WORK . . . M POLICE/SOLDIER . . . . . N OTHER _____ (SPECIFY) X	
1016	In the last 12 months, how often have you been hit, slapped, kicked, or physically hurt by this/these person(s): often, only sometimes, or not at all?	OFTEN . . . . . 1 SOMETIMES . . . . . 2 NOT AT ALL 3	
1020	CHECK 618: EVER HAD SEX? HAS EVER HAD SEX ↓ NEVER HAD SEX →		→ 1025
1021	The first time you did men business, would you say you did it because you wanted to, or because you were physically forced to do it against your will?	WANTED TO . . . . . 1 FORCED TO . . . . . 2 REFUSED TO ANSWER/ NO ANSWER 3	
1022	CHECK 601 AND 602: EVER MARRIED/LIVED WITH A MAN: In the last 12 months, has anyone other than your (current/last) husband/ partner forced you to do men business against your will? NEVER MARRIED/ NEVER LIVED WITH A MAN: In the last 12 months has anyone forced you to do men business against your will?	YES . . . . . 1 NO . . . . . 2 REFUSED TO ANSWER/ NO ANSWER 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1023	CHECK 1021 AND 1022: 1021 ='1' OR '3' **AND** 1022 ='2' OR '3' ↓ OTHER → 1026		
1024	CHECK 1005(h) and 1005(i): 1005(h) IS NOT '1' **AND** 1005(i) IS NOT '1' ↓ OTHER → 1028		
1025	At any time in your life, as a child or as an adult, has anyone ever physically forced you in any way to do men business or perform any other sexual acts?	YES . . . . . 1 NO . . . . . 2 REFUSED TO ANSWER/ NO ANSWER 3	→ 1028
1026	How old were you the first time you were forced to do men business or perform any other sexual acts?	AGE IN COMPLETED YEAI . . . ☐☐ DON'T KNOW 98	
1027	Who was the person who was forcing you at that time?	CURRENT HUSBAND/PARTNER . 01 FORMER HUSBAND/PARTNER . . . 02 CURRENT/FORMER BOYFRIEND . 03 FATHER . . . . . 04 STEP FATHEF . . . . . 05 OTHER RELATIVE . . . . . 06 IN-LAW . . . . . 07 OWN FRIEND/ACQUAINTANCE . . . 08 FAMILY FRIEND . . . . . 09 TEACHER . . . . . 10 EMPLOYER/SOMEONE AT WORK . 11 POLICE/SOLDIEI . . . . . 12 PRIEST/RELIGIOUS LEADI . . . . . 13 STRANGER . . . . . 14 OTHEF _____ . . . 96 (SPECIFY)	
1028	As far as you know, did your father ever beat your mother?	YES . . . . . 1 NO . . . . . 2 DON'T KNO 8	

THANK THE RESPONDENT FOR HER COOPERATION AND REASSURE HER ABOUT THE CONFIDENTIALITY OF HER ANSWERS. FILL OUT THE QUESTIONS BELOW WITH REFERENCE TO THE DOMESTIC VIOLENCE MODULE ONLY.

1029	DID YOU HAVE TO INTERRUPT THE INTERVIEW BECAUSE SOME ADULT WAS TRYING TO LISTEN, OR CAME INTO THE ROOM, OR INTERFERED IN ANY OTHER WAY?		YES ONCE	YES, MORE THAN ONCE	NO
		HUSBAND	1	2	3
		OTHER MALE ADULT . . .	1	2	3
		FEMALE ADULT	1	2	3
1030	INTERVIEWER'S COMMENTS / EXPLANATION FOR NOT COMPLETING THE DOMESTIC VIOLENCE MODULE				

SECTION 11. OTHER HEALTH ISSUES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1101	Have you ever heard of an illness called tuberculosis or TB?	YES . . . . . 1 NO 2	→ 1105
1102	How does tuberculosis spread from one person to another? PROBE: Any other ways? RECORD ALL MENTIONED.	THROUGH THE AIR WHEN COUGHING OR SNEEZING . . . . . A BY SHARING UTENSILS . . . . . B BY TOUCHING A PERSON WITH TB C THROUGH FOOD . . . . . D THROUGH SEXUAL CONTACT . . . . . E THROUGH MOSQUITO BITES . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
1103	Can tuberculosis be cured?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
1104	If a member of your family got tuberculosis, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS . 8	
1105	Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS GREATER THAN 90, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1109
1106	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS GREATER THAN 90, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1109
1107	The last time you had an injection given to you by a health worker, where did you go to get the injection? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 GOVT. HEALTH CLINIC . . . . . 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIV. HOSPITAL/CLINIC/DOCTOR 21 DENTAL CLINIC/OFFICE . . . . . 22 PHARMACY . . . . . 23 OFFICE OR HOME OF NURSE/ HEALTH WORKER . . . . . 24 MOBILE CLINIC . . . . . 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER PLACE AT HOME . . . . . 31 OTHER _____ 96 (SPECIFY)	
1108	Did the person who gave you that injection take the syringe and needle from a new, unopened package?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1109	Do you currently smoke cigarettes?	YES . . . . . 1 NO 2	→ 1111
1110	In the last 24 hours, how many cigarettes did you smoke?	CIGARETTES . . . . . ☐☐	
1111	Do you currently smoke or use any other type of tobacco?	YES . . . . . 1 NO 2	→ 1113
1112	What (other) type of tobacco do you currently smoke or use? RECORD ALL MENTIONED.	PIPE . . . . . A CHEWING TOBACCO . . . . . B SNUFF . . . . . C OTHER _____ X (SPECIFY)	
1113	Many things can prevent women from getting medical care for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not?		
	Getting permission to go?	PERMISSION TO GO . . . 1 2	
	Getting money needed for treatment?	GETTING MONEY 1 2	
	The distance to the health facility?	DISTANCE 1 2	
	Having to take transport?	TAKING TRANSPORT . . . 1 2	
	Concern that there may not be any health provider?	NO PROVIDER . . . 1 2	
	Concern that there may be no drugs available?	NO DRUGS . . . 1 2	

	BIG PROB-LEM	NOT A BIG PROB-LEM

SECTION 12. YOUNG ADULT ISSUES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1201	CHECK 107: AGE 15-24 ↓ AGE 25-49 →		→ 1301
1202	Are you currently attending school?	YES . . . . . 1 NO 2	→ 1204
1203	Who is helping to pay for most of your school expenses?	RESPONDENT HERSELF . . . . . 01 PARENTS . . . . . 02 RELATIVES . . . . . 03 ON SCHOLARSHIP . . . . . 04 HUSBAND/PARTNER . . . . . 05 BOYFRIEND/LOVER . . . . . 06 OTHER_____ 96	
1204	What advice would you give a female friend of yours if she got pregnant?	HAVE THE BABY . . . . . 1 HAVE AN ABORTION . . . . . 2 GET MARRIED . . . . . 3 DO NOTHING . . . . . 4 DON'T KNOW . . . . . 8 OTHER_____ . . . 6 (SPECIFY)	
1205	What would you do if you got pregnant now? IF CURRENTLY PREGNANT: What do you plan to do now that you are pregnant?	HAVE THE BABY . . . . . 1 HAVE AN ABORTION . . . . . 2 GET MARRIED . . . . . 3 DO NOTHING . . . . . 4 STERILIZED, MENOPAUSAL, SAYS SHE CAN"T GET PREGNANT . . . . . 5 OTHER_____ . . . 6 (SPECIFY) DON'T KNOW 8	
1206	Have you ever had an abortion?	YES . . . . . 1 NO 2	→ 1209
1207	Where was the abortion performed?	CLINIC . . . . . 1 HOSPITAL . . . . . 2 PRIVATE HOME . . . . . 3 OTHER_____ . . . 6 (SPECIFY)	
1208	If you got pregnant again would you abort?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
1209	Do you drink liquor?	YES . . . . . 1 NO 2	
1210	Have you tried any of the following drugs:	YES NO DK	
	a) Marijuana?	MARIJUANA 1 2 8	
	b) Heroin?	HEROIN 1 2 8	
	c) Cocaine?	COCAINE 1 2 8	
	d) Valium (Bubble or 10-10)?	VALIUM 1 2 8	
1211	Do you think parents should discuss sex with their children?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 13. MATERNAL MORTALITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1301	Now I want to ask you about your brothers and sisters, I mean all of the children born to your natural mother, including those who are living and those who have died. How many children did your mother give birth to, including you?	NUMBER OF BIRTHS TO NATURAL MOTHER	
1302	CHECK 1301: TWO OR MORE BIRTHS ☐ ONLY ONE BIRTH (RESPONDENT ONLY) ☐ → 1314		
1303	How many of these births did your mother have before you were born?	NUMBER OF PRECEDING BIRTHS	

		(1)	(2)	(3)	(4)	(5)	(6)
1304	What is/was the name of your oldest (next oldest) brother or sister?	_____	_____	_____	_____	_____	_____
1305	Is (NAME) male or female?	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2
1306	Is (NAME) still alive?	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (2)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (3)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (4)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (5)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (6)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (7)
1307	How old is (NAME)?	☐☐ GO TO (2)	☐☐ GO TO (3)	☐☐ GO TO (4)	☐☐ GO TO (5)	☐☐ GO TO (6)	☐☐ GO TO (7)
1308	How many years ago did (NAME) die?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
1309	How old was (NAME) when he/she died?	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (2)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (3)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (4)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (5)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (6)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (7)
1310	Was (NAME) pregnant when she died?	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2
1311	Did (NAME) die during childbirth?	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2
1312	Did (NAME) die within 2 months after the end of a pregnancy or childbirth?	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2
1313	How many children did (NAME) born (before this pregnancy)?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐

IF NO MORE BROTHERS OR SISTERS, GO TO 1314.

1304	What is/was the name of your oldest (next oldest) brother or sister?	(7) _____	(8) _____	(9) _____	(10) _____	(11) _____	(12) _____
1305	Is (NAME) male or female?	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2
1306	Is (NAME) still alive?	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (8)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (9)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (10)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (11)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (12)	YES . . . 1 NO . . . 2 → GO TO 1308 DK . . . 8 → GO TO (13)
1307	How old is (NAME)?	☐☐ GO TO (8)	☐☐ GO TO (9)	☐☐ GO TO (10)	☐☐ GO TO (11)	☐☐ GO TO (12)	☐☐ GO TO (13)
1308	How many years ago did (NAME) die?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
1309	How old was (NAME) when he/she died?	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (8)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (9)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (10)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (11)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (12)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (13)
1310	Was (NAME) pregnant when she died?	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2
1311	Did (NAME) die during childbirth?	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2	YES . . . 1 → GO TO 1313 NO . . . 2
1312	Did (NAME) die within 2 months after the end of a pregnancy or childbirth?	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2
1313	How many children did (NAME) born (before this pregnancy)?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
IF NO MORE BROTHERS OR SISTERS, GO TO 1314.							
1314	RECORD THE TIME.	HOURS . . . . . ☐☐ MINUTE . . . . . ☐☐					

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

GOVERNMENT OF LIBERIA
LIBERIA INSTITUTE FOR STATISTICS AND GEO-INFORMATION SERVICES
2006 LIBERIA DEMOGRAPHIC AND HEALTH SURVEY

August 31, 2006

QUESTIONNAIRE FOR MEN AGED 15-49

IDENTIFICATION

NAME OF COUNTY _____	.....
NAME OF DISTRICT _____	.....
NAME OF CLAN/TOWNSHIP _____	
NAME OF CITY/TOWN/VILLAGE _____	
LDHS CLUSTER NUMBER	.....
LDHS STRUCTURE NUMBER	.....
HOUSEHOLD NUMBER	.....
URBAN: MONROVIA=1; OTHER URBANS=2; VILLAGE=3	.....
NAME OF HOUSEHOLD HEAD _____	
NAME AND LINE NUMBER OF MAN _____	

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY
				MONTH
				YEAR 2 0 0
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT*
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

Hello. My name is _____ and I am working with the Liberia Institute for Statistics and Geo-Information Services (LISGIS). We are conducting a National Demographic and Health Survey that asks women and men about various health issues. We would very much appreciate your participation in this survey. This information will help the government to plan health services. The survey interview usually takes about 45 minutes. The information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary. If I ask you any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope that you will participate in this survey since your views are important.

Do you want to ask me anything about the survey? May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2→ END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME AT START OF INTERVIEW:	HOUR . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	
102	How long have you been living continuously in (NAME OF CITY, TOWN, VILLAGE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . [ ][ ] ALWAYS . . . . . 95 VISITOR 96	→ 103A
103	Just before you moved here, did you live in a city, in a town, or in a village?	CITY . . . . . 1 TOWN . . . . . 2 VILLAGE 3	
103A	During the war, did you leave your house? IF YES: Where did you go? CIRCLE ALL MENTIONED.	NO, DID NOT LEAVE HOUSE . . . . . A STAYED WITH RELATIVES OR FRIENDS INSIDE LIBERIA . . . . . B WENT TO A CAMP . . . . . C LIVED IN THE BUSH . . . . . D WENT OUTSIDE LIBERIA . . . . . E OTHER _____ X	
104	In the last 12 months, how many times did you travel away from your home and slept away?	NUMBER OF TRIPS . . . . . [ ][ ] NONE 00	→ 106
105	In the last 12 months, have you been away from home for more than one month at a time?	YES . . . . . 1 NO 2	
106	In what month and year were you born?	MONTH . . . . . [ ][ ] DON'T KNOW MONTH . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] DON'T KNOW YEAR 9998	
107	How old are you? COMPARE AND CORRECT 106 AND/OR 107 IF INCONSISTENT.	AGE IN COMPLETED YEARS [ ][ ]	
108	Have you ever been to school?	YES . . . . . 1 NO 2	→ 112
109	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 HIGHER 3	
110	What is the highest grade you completed at that level?	GRADE . . . . . [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
111	CHECK 109: PRIMARY → SECONDARY OR HIGHER	→ 115	
112	Can you read this sentence to me? SHOW SENTENCES TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 CAN READ ONLY PART OF SENTENCE 2 CAN READ WHOLE SENTENCE . . . . . 3 CAN READ, BUT NOT ENGLISH _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
113	Have you ever been to any program besides primary school that teaches you to read and write?	YES . . . . . 1 NO 2	
114	CHECK 112: CODE '2', '3' OR '4' CIRCLED → CODE '1' OR '5' CIRCLED	→ 116	
115	Do you read **newspapers or magazines**? How many times a week do you read them: almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
116	Do you listen to the **radio**? How many times a week do you listen: almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
117	Do you read watch **TV or videos**? How many times a week do you watch TV: almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
118	What is your religion?	CHRISTIAN . . . . . 1 MUSLIM . . . . . 2 TRADITIONAL RELIGION . . . . . 3 NO RELIGION . . . . . 4 OTHER _____ 6 (SPECIFY)	
119	What dialect do you speak (besides English)?	BASSA . . . . . 01 GBANDI . . . . . 02 BELLE . . . . . 03 DEY . . . . . 04 GIO . . . . . 05 GOLA . . . . . 06 GREBO . . . . . 07 KISSI . . . . . 08 KPELLE . . . . . 09 KRAHN . . . . . 10 KRU . . . . . 11 LORMA . . . . . 12 MANDIGO . . . . . 13 MANO . . . . . 14 MENDE . . . . . 15 VAI . . . . . 16 NONE / ONLY ENGLISH . . . . . 17 OTHER 96	

SENTENCES FOR READING (Q.112):

1. The child is reading a book.
2. Farming is hard work.
3. Parents should care for their children.
4. The rains were heavy this year.

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about any children you have had during your life. I am interested in all of the children that are biologically yours, even if they are not legally yours or do not have your last name. Have you ever fathered any children with any woman?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 206
202	Do you have any sons or daughters that you have fathered who are now living with you?	YES . . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . . [ ][ ] DAUGHTERS AT HOME . . . . . [ ][ ]	
204	Do you have any sons or daughters you have fathered who are alive but do not live with you?	YES . . . . . 1 NO 2	→ 206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE . . . . . [ ][ ] DAUGHTERS ELSEWHERE . [ ][ ]	
206	Have you ever fathered a son or daughter who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . . 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . . [ ][ ] GIRLS DEAD . . . . . [ ][ ]	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL . . . . . [ ][ ]	
209	CHECK 208: HAS HAD MORE THAN ONE CHILD ↓ HAS HAD ONLY ONE CHILD → 212 HAS NOT HAD ANY CHILDREN → 301		
210	Did all of the children you have fathered have the same biological mother?	YES . . . . . 1 NO 2	→ 212
211	In all, how many women have you fathered children with?	NUMBER OF WOMEN . . . . . [ ][ ]	
212	How old were you when your (first) child was born?	AGE IN YEARS . . . . . [ ][ ]	

213	CHECK 203 AND 205: AT LEAST ONE LIVING CHILD ☐ ↓ NO LIVING CHILDREN ☐ → 301		
214	How many years old is your (youngest) child?	AGE IN YEARS ..... ☐☐	
215	CHECK 214: (YOUNGEST) CHILD IS AGE 0-3 YEARS ☐ ↓ OTHER ☐ → 301		
216	What is the name of your (youngest) child? WRITE NAME OF (YOUNGEST) CHILD _____ (NAME OF (YOUNGEST) CHILD)		
217	Was (NAME) born in a hospital or health facility?	HOSPITAL/HEALTH FACILITY ..... 1 OTHER 2	→ 219
218	What was the main reason why (NAME)'s mother did not deliver in a hospital or health facility?	COST TOO MUCH ..... 01 FACILITY CLOSED ..... 02 TOO FAR/NO TRANSPORTATION . 03 DON'T TRUST FACILITY/POOR QUALITY SERVICE ..... 04 NO FEMALE PROVIDER ..... 05 NOT THE FIRST CHILD ..... 06 CHILD'S MOTHER DID NOT THINK IT WAS NECESSARY ..... 07 HE DID NOT THINK IT WAS NECESSARY .... 08 FAMILY DID NOT THINK IT WAS NECESSARY ..... 09 OTHER _____ 96 (SPECIFY) DON"T KNOW 98	
219	When a child has running stomach, how much should he or she be given to drink: more than usual, the same amount as usual, less than usual, or should he or she not be given anything to drink at all?	MORE THAN USUAL ..... 1 ABOUT THE SAME ..... 2 LESS THAN USUAL ..... 3 NOTHING TO DRINK ..... 4 DON'T KNOW 8	

SECTION 3. CONTRACEPTION

301	Now I would like to talk about family planning or birth control. Which family planning methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)? CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR METHODS 02, 07, 10, AND 11, ASK 302 IF 301 HAS CODE 1 CIRCLED.		302 Have you ever used (METHOD)?
01	FEMALE STERILIZATION, TUBE TIE, TURNING THE WOMB. Women can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES . . . . . 1 NO . . . . . 2 →	Have you ever had an operation to avoid having any more children? YES . . . . . 1 NO 2
03	PILL Women can take a pill every day to avoid becoming pregnant.	YES . . . . . 1 NO 2	
04	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES . . . . . 1 NO 2	
05	INJECTABLES Women can have an injection by a health their upper provider that stops them from becoming pregnant for one or more months.	YES . . . . . 1 NO 2	
06	IMPLANTS Women can have several small rods placed in arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES . . . . . 1 NO 2	
07	CONDOM, RAINCOAT Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
08	FEMALE CONDOM Women can put a sheath in their vagina before sexual intercourse.	YES . . . . . 1 NO 2	
09	RHYTHM METHOD, CALENDAR A woman can avoid getting pregnant if she doesn't have sex on the days of the month she is most likely to get pregnant.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
10	WITHDRAWAL Men can be careful and pull out before climax.	YES . . . . . 1 NO . . . . . 2 →	YES . . . . . 1 NO 2
11	EMERGENCY CONTRACEPTION After having unprotected sex, women can take special pills at any time within five days to prevent pregnancy.	YES . . . . . 1 NO 2	
12	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES . . . . . 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
303	In the last few months, have you:	YES NO	
	Heard about family planning on the radio?	RADIO 1 2	
	Heard about family planning on the television?	TELEVISION 1 2	
	Read about family planning in a newspaper or magazine?	NEWSPAPER OR MAGAZINE 1 2	
304	In the last few months, have you discussed family planning with a health worker or health professional?	YES . . . . . 1 NO 2	
306	When do you think a woman can get pregnant: just before her period begins, during her period, just after her period ends, or halfway between two periods?	JUST BEFORE HER PERIOD BEGINS 1 DURING HER PERIOD . . . . . 2 JUST AFTER HER PERIOD ENDS . . . 3 HALFWAY BETWEEN TWO PERIODS . . . . . 4 ANY TIME . . . . . 5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
307	Do you think that a woman who is giving titi to her baby can get pregnant?	YES . . . . . 1 NO . . . . . 2 DEPENDS . . . . . 3 DON'T KNOW 8	
308	Please tell me if you agree or disagree. a) Contraception is women's business and a man should not have to worry about it. b) Women who use contraception may become promiscuous.	AGREE / DISAGREE / DK CONTRACEPTION WOMAN'S BUSINESS . 1 2 8 WOMAN MAY BECOME PROMISCUOUS . . . 1 2 8	
309	CHECK 301 (07) KNOWS MALE CONDOM YES ☐ NO ☐ → 401		
310	Do you know of a place where a person can get condoms?	YES . . . . . 1 NO . . . . . 2 → 401	
311	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT. HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC . . . . . C NACP . . . . . D OTHER PUBLIC _____ E (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . F PHARMACY . . . . . G PRIVATE DOCTOR . . . . . H FAMILY PLANNING ASSN. LIBERIA I MOBILE CLINIC . . . . . J OTHER PRIVATE MEDICAL _____ K (SPECIFY) OTHER SOURCE SHOP . . . . . L CHURCH . . . . . M FRIEND/RELATIVE . . . . . N OTHER _____ X (SPECIFY)	
312	If you wanted to, could you yourself get a condom?	YES . . . . . 1 NO 2	

SECTION 4. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	Are you currently married or living together with a woman as if married?	YES, CURRENTLY MARRIED . . . . . 1 YES, LIVING WITH A WOMAN . . . . . 2 NO, NOT IN UNION 3	→ 404
402	Have you ever been married or lived together with a woman as if married?	YES, FORMERLY MARRIED . . . . . 1 YES, LIVED WITH A WOMAN . . . . . 2 NO 3	→ 413
403	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . . 1 DIVORCED . . . . . 2 SEPARATED 3	→ 410
404	Is your wife/partner living with you now or is she staying elsewhere?	LIVING WITH HIM . . . . . 1 STAYING ELSEWHERE 2	
405	Do you have more than one wife or woman you live with as if married?	YES . . . . . 1 NO 2	→ 407
406	Altogether, how many wives do you have or other partners do you live with as if married?	TOTAL NUMBER OF WIVES AND LIVE-IN PARTNERS . . . ☐☐	
407	CHECK 405: ONE WIFE/ PARTNER ☐ → Please tell me the name of your wife (the woman you are living with as if married). MORE THAN ONE WIFE/ PARTNER ☐ → Please tell me the name of each of your current wives (and/or of each woman you are living with as if married). RECORD THE NAME AND THE LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE FOR EACH WIFE AND LIVE-IN PARTNER. IF A WOMAN IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'. ASK 408 FOR EACH PERSON.	NAME _____ LINE NUMBER ☐☐ 408 How old was (NAME) on her last birthday? AGE ☐☐ _____ ☐☐ ☐☐ _____ ☐☐ ☐☐ _____ ☐☐ ☐☐ _____ ☐☐ ☐☐	
409	CHECK 407: ONE WIFE/ PARTNER ☐ MORE THAN ONE WIFE/ PARTNER ☐	→ 411A	
410	Have you been married or lived with a woman only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	→ 411A
411 411A	In what month and year did you start living with your wife (partner)? Now I would like to ask a question about your first wife/partner. In what month and year did you start living with your first wife/ partner?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	→ 413
412	How old were you when you first started living with her?	AGE . . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
413	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
414	Now I would like to ask you some questions about woman business in order to gain a better understanding of some important life issues. How old were you when you did woman business for the first time?	NEVER HAD SEXUAL INTERCOURSE . . . . . 00 AGE IN YEARS . . . . . ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) WIFE/PARTNER 95	→ 417 → 417
415	CHECK 107: AGE 15-24 ☐ ↓ AGE 25-49 ☐		→ 501
416	Do you plan to wait until you get married to do woman business?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/UNSURE 8	→ 501
417	CHECK 107: AGE 15-24 ☐ ↓ AGE 25-49 ☐		→ 419
418	The first time you did woman business, did you use a condom?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/DON'T REMEMBER . . . 8	
419	When was the last time you did woman business? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO . . . . . 1 ☐☐ WEEKS AGO . . . . . 2 ☐☐ MONTHS AGO . . . . . 3 ☐☐ YEARS AGO . . . . . 4 ☐☐	→ 435

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
420	Now I would like to ask you some questions about your recent sexual activity. Let me assure you again that your answers are completely confidential and will not be told to anyone. If I ask any question that you don't want to answer, just let me know and we will go to the next question. → **SKIP TO 422**			
421	When was the last time you did woman business with this person?		DAYS . 1 [ ][ ] WEEKS 2 [ ][ ] MONTHS 3 [ ][ ]	DAYS . 1 [ ][ ] WEEKS 2 [ ][ ] MONTHS 3 [ ][ ]
422	The last time you did woman business (with this second/third person), did you use a condom?	YES . . . . 1 NO . . . . 2 (SKIP TO 424)←	YES . . . . 1 NO . . . . 2 (SKIP TO 424)←	YES . . . . 1 NO . . . . 2 (SKIP TO 424)←
423	Did you use a condom every time you did woman business with this person in the last 12 months?	YES . . . . 1 NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2
424	What was your relationship to this (second/third) person with whom you did woman business? IF GIRLFRIEND: Were you living together as if married? IF YES, CIRCLE '02'. IF NO, CIRCLE '03'.	WIFE . . . . 1 (SKIP TO 426)← LIVE-IN PARTNER . . . . 2 GIRLFRIEND NOT LIVING WITH RESPONDENT . . . . 3 CASUAL ACQUAINTANCE . . . 4 PROSTITUTE . . . . 5 OTHER ____________ 6 (SPECIFY)	WIFE . . . . 1 (SKIP TO 426)← LIVE-IN PARTNER . . . . 2 GIRLFRIEND NOT LIVING WITH RESPONDENT . . . . 3 CASUAL ACQUAINTANCE . . . 4 PROSTITUTE . . . . 5 OTHER ____________ 6 (SPECIFY)	WIFE . . . . 1 (SKIP TO 426)← LIVE-IN PARTNER . . . . 2 GIRLFRIEND NOT LIVING WITH RESPONDENT . . . . 3 CASUAL ACQUAINTANCE . . . 4 PROSTITUTE . . . . 5 OTHER ____________ 6 (SPECIFY)
425	How long (have you done/did you do) woman business with her? IF ONLY HAD SEXUAL RELATIONS WITH THIS PERSON ONCE, RECORD '01' DAYS.	DAYS . 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAYS . 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAYS . 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]
426	The last time you did woman business with this (second/third) person, did you or this person drink alcohol?	YES . . . . 1 NO . . . . 2 (SKIP TO 428)←	YES . . . . 1 NO . . . . 2 (SKIP TO 428)←	YES . . . . 1 NO . . . . 2 (SKIP TO 429)←
427	Were you or your partner drunk at that time? IF YES: Who was drunk?	RESPONDENT ONLY 1 PARTNER ONLY . . . 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4	RESPONDENT ONLY 1 PARTNER ONLY . . . 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4	RESPONDENT ONLY 1 PARTNER ONLY . . . 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4
428	Apart from [this person/these two people], did you do woman business with any other person in the last 12 months?	YES . . . . 1 (GO BACK TO 421 IN NEXT COLUMN)← NO . . . . 2 (SKIP TO 430)←	YES . . . . 1 (GO BACK TO 421 IN NEXT COLUMN)← NO . . . . 2 (SKIP TO 430)←	
429	In the last 12 months, how many women have you done woman business with? PROBE TO GET AN ESTIMATE. IF MORE THAN 96, WRITE '96'.			NUMBER OF PARTNERS LAST 12 MONTHS . . . [ ][ ] DON'T KNOW . . . 98

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
430	CHECK 424 (ALL COLUMNS): AT LEAST ONE PARTNER IS PROSTITUTE ☐ NO PARTNERS ARE PROSTITUTES ☐ → 432		
431	CHECK 424 AND 422 (ALL COLUMNS): CONDOM USED WITH EVERY PROSTITUTE ☐ → 434 OTHER ☐ → 435		
432	In the last 12 months, did you pay anyone in exchange for doing woman business?	YES . . . . . 1 NO . . . . . 2 → 435	
433	The last time you paid someone in exchange for doing woman business, did you use a condom?	YES . . . . . 1 NO . . . . . 2 → 435	
434	Did you use a condom every time you paid someone in exchange for doing woman business in the last 12 months?	YES . . . . . 1 NO . . . . . 2 DK 8	
435	In your whole life, how many women have you done woman business with? PROBE TO GET AN ESTIMATE. IF MORE THAN 96, WRITE '96'.	NUMBER OF PARTNERS IN LIFETIME . . . . . ☐☐ DON'T KNOW 98	
436	CHECK 422, MOST RECENT PARTNER (FIRST COLUMN): CONDOM USED ☐ NO CONDOM USED ☐ → 442		
439	How many condoms did you get the last time?	NUMBER OF CONDOMS . . . . . ☐☐☐ DON'T KNOW 998	
440	The last time you obtained the condoms, how much did you pay in total, including the cost of the condom(s) and any consultation you may have had?	COST . . . . . ☐☐☐ FREE . . . . . 995 DON'T KNOW 998	
441	From where did you obtain the condom the last time? PROBE TO IDENTIFY TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVT. HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 GOVT. HEALTH CLINIC . . . . . 13 NACP . . . . . 14 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . 21 PHARMACY . . . . . 22 PRIVATE DOCTOR . . . . . 23 FAMILY PLANNING ASSN. LIBERIA 24 MOBILE CLINIC . . . . . 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP . . . . . 31 CHURCH . . . . . 32 FRIEND/RELATIVE . . . . . 33 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
442	CHECK 302 (02): RESPONDENT EVER STERILIZED NO ☐ YES ☐ → 501		
443	The last time you did woman business did you or your partner use any family planning method (other than a condom)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 501
444	What method did you or your partner use? PROBE: Did you or your partner use any other method to prevent pregnancy? RECORD ALL MENTIONED.	FEMALE STERILIZATION . . . . . A PILL . . . . . B IUD . . . . . C INJECTABLES . . . . . D IMPLANTS . . . . . E RHYTHM METHOD . . . . . I WITHDRAWAL . . . . . J OTHER _____ X (SPECIFY)	

SECTION 5. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	CHECK 407: ONE OR MORE WIVES/PARTNERS ☐ ↓ QUESTION NOT ASKED ☐ →		508
502	CHECK 302: MAN NOT STERILIZED ☐ ↓ MAN STERILIZED ☐ →		508
503	(Is your wife (partner)/Are any of your wives (partners)) currently pregnant?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
504	CHECK 503: NO WIFE/PARTNER PREGNANT OR DON'T KNOW ☐ ↓ Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? WIFE(WIVES)/ PARTNER(S) PREGNANT ☐ ↓ Now I have some questions about the future. After the child(ren) you and your (wife(wives)/partner(s) are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 COUPLE INFECUND . . . . . 3 WIFE (WIVES)/PARTNER(S) STERILIZED . . . . . 4 UNDECIDED/DON'T KNOW 8	→ 508
506	CHECK 503: WIFE/PARTNER NOT PREGNANT OR DON'T KNOW ☐ ↓ How long would you like to wait from now before the birth of (a/another) child? WIFE/PARTNER PREGNANT ☐ ↓ After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 COUPLE INFECUND . . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	
508	CHECK 203 AND 205: HAS LIVING CHILDREN ☐ ↓ If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN ☐ ↓ If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 → 601 NUMBER . . . . . ☐☐ OTHER _____ 96 → 601 (SPECIFY)	
509	How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	

SECTION 6. EMPLOYMENT AND GENDER ROLES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Have you done any work in the last seven days?	YES . . . . . 1 NO 2	→ 604
602	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, or any other such reason?	YES . . . . . 1 NO 2	→ 604
603	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 613
604	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
605	CHECK 604: WORKS IN AGRICULTURE ☐↓ DOES NOT WORK IN AGRICULTURE ☐ → 607		
606	Do you work mainly on your own land or on family land, or do you work on land that you rent from someone else, or do you work on someone else's land?	OWN LAND . . . . . 1 FAMILY LAND . . . . . 2 RENTED LAND . . . . . 3 SOMEONE ELSE'S LAND . . . . . 4 COMMUNAL LAND 5	
607	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER . . . . . 1 FOR SOMEONE ELSE . . . . . 2 SELF-EMPLOYED 3	
608	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	
609	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . . 1 CASH AND KIND . . . . . 2 IN KIND ONLY . . . . . 3 NOT PAID 4	
610	CHECK 407: ONE OR MORE WIVES/PARTNERS ☐↓ QUESTION NOT ASKED ☐ → 613		
611	CHECK 609: CODE 1 OR 2 CIRCLED ☐↓ OTHER ☐ → 613		
612	Who decides how the money you earn will be used: mainly you, mainly your (wife (wives)/partner(s)), or you and your (wife (wives)/partner(s)) jointly?	RESPONDENT . . . . . 1 WIFE(WIVES)/PARTNER(S) . . . . . 2 RESPONDENT AND WIFE (WIVES)/ PARTNER(S) JOINTLY . . . . . 3 OTHER _____ 6 SPECIFY	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
613	In a couple, who do you think should have the greater say in each of the following decisions: the husband, the wife or both equally: a) making large household purchases? b) making small daily household purchases? c) deciding when to visit the wife's family or relatives? d) deciding what to do with the money she earns for her work? e) deciding how many children to have?	HUS-BAND / WIFE / BOTH EQUALLY / DON'T KNOW/ DEPENDS a) 1 2 3 8 b) 1 2 3 8 c) 1 2 3 8 d) 1 2 3 8 e) 1 2 3 8	
614	I will now read you some statements about pregnancy. Please tell me if you agree or disagree with them. a) Childbearing is a woman's concern and there is no need for the father to get involved. b) It is crucial for the mother's and child's health that a woman have assistance from a doctor or nurse at delivery.	AGREE / DIS-AGREE / DK CHILDBEARING WOMAN'S CONCERN 1 2 8 DOCTOR/NURSE'S ASSISTANCE CRUCIAL 1 2 8	
615	Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses to do men business with him? If she burns the food?	YES / NO / DK GOES OUT . . . . . 1 2 8 NEGL. CHILDREN . . . 1 2 8 ARGUES . . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 BURNS FOOD 1 2 8	
616	Do you think that if a woman refuses to do men business with her husband when he wants her to, he has the right to… a) Get angry and reprimand her? b) Refuse to give her money or other means of support? c) Use force and do woman business with her even if she doesn't want to? d) Go ahead and have sex with another woman?	YES / NO / DON'T KNOW/ DEPENDS a) 1 2 8 b) 1 2 8 c) 1 2 8 d) 1 2 8	

SECTION 7. HIV/AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	→ 733
702	Can people reduce their chances of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
703	Can people get the AIDS virus from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
704	Can people reduce their chance of getting the AIDS virus by using a condom every time they do woman business?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
705	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
706	Can people reduce their chance of getting the AIDS virus by not doing woman business at all?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
707	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
708	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
709	Can the virus that causes AIDS be transmitted from a mother to her baby:	YES NO DK DURING PREG. . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	
	During pregnancy?		
	During delivery?		
	By breastfeeding?		
710	CHECK 709: AT LEAST ONE 'YES' ☐ ↓ OTHER ☐		→ 712
711	Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
712	Have you heard about antiretroviral drugs that people infected with the AIDS virus can get from a doctor or nurse to help them live longer?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
712A	CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
713	I don't want to know the results, but have you ever gone for an AIDS test?	YES . . . . . 1 NO 2	→ 718
714	When was the last time you were tested?	LESS THAN 12 MONTHS AGO . . . . . 1 12 - 23 MONTHS AGO . . . . . 2 2 OR MORE YEARS AGO 3	
715	The last time you had the test, did you ask for the test, was it offered to you and you accepted, or was it required?	ASKED FOR THE TEST . . . . . 1 OFFERED AND ACCEPTED . . . . . 2 REQUIRED 3	
716	I don't want to know the results, but did you get the results of the test?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
717	Where was the test done? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER, VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 GOVT. HEALTH CLINIC . . . . . 13 STAND-ALONE VCT CENTER . . . 14 NACP . . . . . 15 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . 21 PRIVATE DOCTOR . . . . . 22 STAND-ALONE VCT CENTER . . . 23 PHARMACY . . . . . 24 FAMILY PLANNING ASSN.LIBERIA 25 MOBILE CLINIC . . . . . 26 OTHER PRIVATE MEDICAL _____ 27 (SPECIFY) OTHER SOURCE SHOP . . . . . 31 OTHER _____ 96 (SPECIFY) (SPECIFY)	→ 720
718	Do you know of a place where people can go to get tested for the AIDS virus?	YES . . . . . 1 NO 2	→ 720
719	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC . . . . . C STAND-ALONE VCT CENTER . . . D NACP . . . . . E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . G PRIVATE DOCTOR . . . . . H STAND-ALONE VCT CENTER . . . I PHARMACY . . . . . J FAMILY PLANNING ASSN.LIBERIA K MOBILE CLINIC . . . . . L OTHER PRIVATE MEDICAL _____ M (SPECIFY) OTHER SOURCE SHOP . . . . . N OTHER _____ X (SPECIFY)	
720	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
721	If a member of your family got infected with the AIDS virus, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
722	If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
723	In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in the school?	SHOULD BE ALLOWED . . . . . 1 SHOULD NOT BE ALLOWED . . . . . 2 DK/NOT SURE/DEPENDS 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
731	Should children age 12-14 be taught about using a condom to avoid getting AIDS?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
732	Should children age 12-14 be taught to wait until they get married to do woman business in order to avoid getting AIDS?	YES . . . . . 1 NO . . . . . 2 DK/NOT SURE/DEPENDS 8	
733	CHECK 701: HEARD ABOUT AIDS → Apart from AIDS, have you heard about other infections that can be transmitted through woman business? NOT HEARD ABOUT AIDS → Have you heard about infections that can be transmitted through woman business?	YES . . . . . 1 NO 2	
734	CHECK 414: HAS HAD SEXUAL INTERCOURSE HAS NOT HAD SEXUAL INTERCOURSE →		742
735	CHECK 733: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES NO →		737
736	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got from doing woman business?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
737	Sometimes men experience an abnormal discharge from their penis. During the last 12 months, have you had an abnormal discharge from your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
738	Sometimes men have a sore or ulcer near their penis. During the last 12 months, have you had a sore or ulcer near your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
739	CHECK 736, 737, AND 738: HAS HAD AN INFECTION (ANY 'YES') HAS NOT HAD AN INFECTION OR DOES NOT KNOW →		742
740	The last time you had (PROBLEM FROM 736/737/738), did you seek any kind of advice or treatment?	YES . . . . . 1 NO 2	→ 742

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
741	Where did you go? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . A GOVT. HEALTH CENTER . . . . . B GOVT. HEALTH CLINIC C STAND-ALONE VCT CENTER . . . D OTHER PUBLIC _____ E (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . F PRIVATE DOCTOR . . . . . G STAND-ALONE VCT CENTER . . . H PHARMACY . . . . . I FAMILY PLANNING ASSN.LIBERIA J MOBILE CLINIC . . . . . K OTHER PRIVATE MEDICAL _____ L (SPECIFY) OTHER SOURCE SHOP . . . . . M OTHER _____ X (SPECIFY)	
742	Husbands and wives do not always agree in everything. If a wife knows her husband has a disease that she can get from doing men business, is she justified in refusing to do men business with him?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
743	If a wife knows her husband has a disease that she can get from doing men business, is she justified in asking that they use a condom when they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
744	Is a wife justified in refusing to do men business with her husband when she is tired or not in the mood?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
745	Is a wife justified in refusing to do men business with her husband when she knows her husband has sex with other women?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 8. OTHER HEALTH ISSUES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Have you ever heard of an illness called tuberculosis or TB?	YES . . . . . 1 NO 2	→ 805
802	How does tuberculosis spread from one person to another? PROBE: Any other ways? RECORD ALL MENTIONED.	THROUGH THE AIR WHEN COUGHING OR SNEEZING . . . . . A BY SHARING UTENSILS . . . . . B BY TOUCHING A PERSON WITH TB C THROUGH FOOD . . . . . D THROUGH SEXUAL CONTACT . . . . . E THROUGH MOSQUITO BITES . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
803	Can tuberculosis be cured?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
804	If a member of your family got tuberculosis, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/ DEPENDS 8	
805	Some men are circumcised. Are you circumcised?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
806	Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS GREATER THAN 90, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 810
807	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS GREATER THAN 90, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 810
808	The last time you had an injection given to you by a health worker, where did you go to get the injection? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL . . . . . 11 GOVT. HEALTH CENTER . . . . . 12 GOVT. HEALTH CLINIC . . . . . 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIV. HOSPITAL/CLINIC/DOCTOR 21 DENTAL CLINIC/OFFICE . . . . . 22 PHARMACY . . . . . 23 OFFICE OR HOME OF NURSE/ HEALTH WORKER . . . . . 24 MOBILE CLINIC . . . . . 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER PLACE AT HOME . . . . . 31 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
809	Did the person who gave you that injection take the syringe and needle from a new, unopened package?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
810	Do you currently smoke cigarettes?	YES . . . . . 1 NO 2	→ 812
811	In the last 24 hours, how many cigarettes did you smoke?	CIGARETTES . . . . . ☐☐	
812	Do you currently smoke or use any other type of tobacco?	YES . . . . . 1 NO 2	→ 814
813	What (other) type of tobacco do you currently smoke or use? RECORD ALL MENTIONED.	PIPE . . . . . A CHEWING TOBACCO . . . . . B SNUFF . . . . . C OTHER _____ X (SPECIFY)	
814	CHECK 107: AGE 15-24 ☐ ↓ AGE 25-49 ☐ →		820
815	Are you currently attending school?	YES . . . . . 1 NO 2	→ 817
816	Who is helping to pay for most of your school expenses?	RESPONDENT HIMSELF . . . . . 01 PARENTS . . . . . 02 RELATIVES . . . . . 03 ON SCHOLARSHIP . . . . . 04 WIFE/PARTNER . . . . . 05 GIRLFRIEND/LOVER . . . . . 06 OTHER _____ 96	
817	Do you drink liquor?	YES . . . . . 1 NO 2	
820	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____