Ghana

Demographic and Health Survey 1993

Ghana Statistical Service

DHS

Demographic and Health Surveys
Macro International Inc.

Ghana Demographic and Health Survey 1993

Ghana Statistical Service
Accra, Ghana

Demographic and Health Surveys
Macro International Inc.
Calverton, Maryland USA

December 1994

This report presents the findings of the 1993 Ghana Demographic and Health Survey (1993 GDHS) conducted by the Ghana Statistical Service. Funding was provided by the Ghana Government and the U.S. Agency for International Development. Technical assistance to the project was provided by Macro International Inc. The survey is part of the worldwide Demographic and Health Surveys Programme, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on the GDHS can be obtained from the Government Statistician, Ghana Statistical Service, P.O. Box 1098, Accra, Ghana (Telephone 663578; Fax 667069). Additional information about the DHS Programme can be obtained by writing to DHS, Macro International Inc., 11785 Beltsville Drive, Calverton, MD 20705, USA (Telephone 301-572-0200; Fax: 301-572-0999).

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PREFACE

The 1993 Ghana Demographic and Health Survey (GDHS) is designed to furnish policymakers, planners and programme managers with factual, reliable and up-to-date information on fertility, family planning and the status of maternal and child health care in the country. The survey, which was carried out by the Ghana Statistical Service (GSS), marks Ghana's second participation in the worldwide Demographic and Health Surveys (DHS) programme.

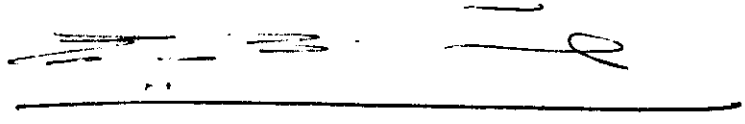
Results of the first survey in 1988 and of other national sample surveys formed a basis for evolving comprehensive policies and programmes aimed at the alleviation of poverty in the country. The current survey is expected to assist in the poverty alleviation efforts.

The wealth of demographic and health data that the present survey provides is also essential in monitoring and evaluating the performance of the Family Planning and Health programmes.

In recognition of the vital role that men play in decision-making on Family Planning, an innovation was introduced in the current survey to include the interviewing of a subsample of all men age 15-59 years, not only husbands of women respondents as was done in the previous survey. Another feature in this report is the introduction of an appendix that contains an evaluation of nonsampling errors that can vitiate the quality of the data generated by the survey. Finally, questions were asked on the deadly disease Acquired Immune Deficiency Syndrome (AIDS) and analysis of the results presented in an entire chapter of the report.

Due to the relentless effort and devotion to duty by the project personnel, the Preliminary Report of the survey was published in April 1994, less than eight weeks after the completion of fieldwork in February 1994.

Ghana Statistical Service is grateful to all collaborating agencies, institutions, organisations and individuals both local and international for their invaluable assistance towards the successful completion of the 1993 GDHS programme. In particular, the Service is thankful to Macro International Inc. in Calverton, Maryland, for providing technical support and to USAID for funding the survey.



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December 1994

Ghana Statistical Service, Accra

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EXECUTIVE SUMMARY

The 1993 Ghana Demographic and Health Survey (GDHS) is a nationally representative survey of 4,562 women age 15-49 and 1,302 men age 15-59. The survey was conducted by the Ghana Statistical Service with technical assistance provided by Macro International Inc., through a contract with the United States Agency for International Development. The fieldwork for the survey was carried out between September 1993 and February 1994.

The primary objective of the survey is to provide policy makers and planners with reliable current information on many key indicators of social development: reproductive intentions of men and women, fertility levels and trends, knowledge and use of contraceptives, maternal and child health indicators, child morbidity and mortality, and AIDS knowledge and behaviour. Such information is also in great demand by academic researchers and population experts.

Fertility: The fertility level of a country is the principal determinant of its rate of population growth. The total fertility rate (TFR) is the best indicator of the level of fertility; it represents the number of children that a woman would give birth to in her lifetime if current age-specific fertility rates prevailed indefinitely. The current GDHS results indicate an overall total fertility rate of 5.5. The corresponding figure for the 1988 GDHS was 6.4. This implies a drop in fertility of almost 1 child per woman. There are considerable differences in fertility by place of residence and education. Rural women have a TFR of 6.4 children compared to 4 children for urban women, a difference of more than 2 children. Also, women with no education have a TFR of 6.7 children compared to only 2.9 for women with at least a secondary education, a difference of nearly 4 children.

Marriage: In comparing the 1988 and 1993 GDHS surveys, we find no noticeable change in the proportion of women, 15-49 years, who never married, i.e., 20 percent in both 1988 and 1993. The proportions widowed, divorced and not living together have also not changed. However, the proportion legally married has dropped from 65 percent in 1988 to 59 percent in 1993, a difference of 6 percentage points. In contrast, the proportion living together in informal unions doubled between the two surveys, i.e., from 6 percent in 1988 to 12 percent in 1993. These overall trends are also observed within specific age groups of women. The median age at first marriage has increased from 18.3 years in 1988 to 18.9 years in 1993. These changes indicate a general tendency to delay the onset of exposure to the risk of pregnancy, and could partially account for the noticeable drop in fertility.

Fertility Preferences: In the 1988 GDHS, 69 percent of currently married women said they intended to have another child in the future. The corresponding figure for the 1993 GDHS is 56 percent. In 1988 only 23 percent of currently married women did not want any more children. In the current survey this number has increased to 34 percent. The desire for more children declines with increasing education. For example, for women with three surviving children, 59 percent of those with secondary education want no more children compared to only 16 percent of those with no education. The average ideal family size for currently married women has dropped from 5.5 children in the 1988 GDHS to 4.7 children in the current survey. There are substantial differentials by various socioeconomic characteristics.

Family Planning: Three of every five currently married women need or use family planning services, either for spacing or for not having more children. Only 34 percent of the total demand for family planning is satisfied. Although 20 percent of currently married women are using contraception, nearly 39 percent have unmet need: 25 percent for spacing and 13 percent for limiting birth.

More than one-fifth (22 percent) of teenage girls age 15-19 had started childbearing by the time of the survey. Five percent of 19-year-olds have already given birth to two or more children. The percentage of teenagers who have already had their first child is higher in the rural areas (26 percent) than in the urban areas (16 percent). Those with no education are five times as likely to have started childbearing as those with secondary/higher education, 33 percent as compared to 6 percent.

More than 90 percent of currently married men and women know of at least one modern method of contraception. Also, 80 percent of the men and 74 percent of the women know a source for modern methods. Urban women are more likely to know of a modern method (98 percent) and a source (86 percent) than are rural women (88 percent and 68 percent, respectively). Nineteen percent of all women are currently using a contraceptive method: 9 percent use a modern method and 10 percent use a traditional method. Among married women, 20 percent use some method of contraception and 10 percent use a modern method. Among married men, the corresponding figures are 34 and 20 percent, respectively.

The pill, condom and injectables are the modern methods most commonly used by married women. However, the single most widely used method among married women is periodic abstinence (8 percent). Among married men the condom is the most popular method (10 percent). Current use of both modern and traditional methods varies by level of education. Currently married women with secondary education are 7 times more likely to use modern methods and 5 times more likely to use traditional methods than those with no education.

Antenatal and Delivery Care Services: Eighty-seven percent of mothers of children born in the last three years received antenatal care, and 77 percent received at least one tetanus toxoid injection during pregnancy. Mothers in urban areas are more likely to be immunised than those in rural areas.

More than half (57 percent) of the children born in the three years preceding the survey were delivered at home, with only 42 percent being born in a health facility. Mothers in the Northern, Upper East and Upper West regions, those with no education and those who had made no antenatal visit were the most likely to deliver at home. The deliveries of less than 60 percent of the mothers were supervised by trained medical personnel or trained traditional birth attendants (TBAs). Mothers living in urban areas are twice as likely to have a supervised delivery as those in rural areas. Ninety percent of mothers with secondary education were delivered by trained persons compared to only 39 percent of those with no education.

Infant and Child Mortality: For the five-year period preceding the survey, 66 of every 1000 babies born died during their first year of life. This is a decline of 14 percent, which is a significant drop from the 1988 figure of 77 per 1000 live births. The under-five mortality rate was 119 per 1000 live births. This also represents a significant improvement over the corresponding figure of 155 per 1000 live births obtained in the 1988 GDHS.

Differentials in mortality were examined by looking at the mortality experience of children born during the ten years preceding the survey. There are considerable mortality differentials by residence, region and maternal education. Infant mortality is 50 percent higher in the rural areas (82 per 1000 live births) than in the urban areas (55 per 1000). Under-five mortality is also higher in the rural areas (149 per 1000) than in the urban areas (90 per 1000). Infant mortality varies from 49 infant deaths per 1000 live births in Brong-Ahafo to 114 per 1000 in Northern Region. Similarly, under-five mortality ranges from 93 deaths per 1000 live births in Eastern Region to 237 per 1000 in Northern Region. Children of uneducated mothers are twice as likely to die before their fifth birthday as those of mothers with middle/JSS education and are four times as likely to die as children born to mothers with at least secondary school education.

Childhood Immunisation, Nutrition and Health: Only 15 percent of children age 12-23 months have not been vaccinated at all, and nearly 55 percent have received full immunisation. Less than half of children age 12-23 months in Western, Central, Northern and Upper West regions are fully immunised. Children born to mothers with no education are least likely to be immunised. Less than half (43 percent) of the children received all the recommended vaccines by their first birthday.

Infant feeding in Ghana has both positive and negative aspects. On the one hand, prolonged breastfeeding is almost universal in Ghana. Ninety-seven percent of all children born in the three years before the survey were breastfed. By age 12-13 months, 96 percent of children are still breastfeeding. On the other hand, by age 36 months, 10 percent are still breastfeeding. The median duration of breastfeeding is 21 months.

Food supplementation starts very early. Only twelve percent of babies under 2 months of age are on exclusive breastfeeding. More than half (53 percent) are also given water and 35 percent receive other supplements. By age 2-3 months, only 5 percent receive breast milk exclusively, and 45 percent receive supplements other than water.

Twenty-six percent of children under three years are too short for their age, i.e., they are stunted. Eleven percent of children under three are wasted, i.e., they are below their expected weight relative to their height. All together, about 27 percent of children under three years are underweight, i.e., they are below their expected weight relative to their age. Children born within two years of a preceding birth are nearly twice as likely to be stunted as those born four years or more after. Sixth-order or higher births are also twice as likely to be wasted as first-order births. Prevalence of both stunting and wasting are higher in the rural than in the urban setting. Children of uneducated mothers are more likely to be stunted or wasted than those of educated ones. Children in the northern half of the country are more likely to be affected than those in the southern half.

Only 10 percent of children under three years had symptoms of acute lower respiratory infection (cough accompanied by fast breathing) in the two weeks preceding the interview. Only 40 percent of those with respiratory symptoms were sent to a health facility for treatment, and more than 15 percent received no treatment at all. Of those who were treated, more than half (54 percent) were treated with cough syrup, 14 percent with antibiotics and 12 percent with a home remedy.

During the two weeks preceding the interview, 28 percent of children under three years had fever. About 45 percent were sent to a health facility. Most of the children were treated with antimalarial medicines (65 percent), antibiotics (23 percent) and injected medications (12 percent). Only 7 percent were given home remedies.

Nine percent of children under three years had diarrhoea in the 24 hours before the interview. In the two weeks before the interview, 20 percent had diarrhoea, of which 4 percent was bloody diarrhoea. Among those who had diarrhoea in the two weeks prior to the interview, only 29 percent were treated with pre-packaged rehydration solution, and 14 percent with the recommended home-made rehydration solution. In contrast, 15 percent of diarrhoeal children received no treatment whatsoever. Nearly 22 percent of mothers increased the amount of fluid they gave the child during a diarrhoea episode. However, more than 48 percent of the children received no special solutions or increased fluids. Moreover, sixteen percent of the children were breastfed less frequently, one percent were refused breast milk altogether, and nearly 21 percent of the children were given less fluids during their bout of diarrhoea.

AIDS Knowledge and Attitude: The overall level of AIDS awareness is high among both men and women, but higher among men than women. More than 90 percent of both men and women believe sexual intercourse is the main means of AIDS transmission. More than 80 percent also believe condom use is an effective way of preventing AIDS.

These impressive figures are, however, overshadowed by a corresponding high level of ignorance. More than half of the men and women interviewed believed kissing can result in HIV transmission. The corresponding figure among those with secondary school education is 46 percent for both men and women. More troubling, though, is the relatively large percentage (40 percent of the women and 36 percent of the men) who believe sharing utensils can result in HIV transmission. Among those with secondary education, the corresponding figures are 22 percent for men and 24 percent for women.

The above-cited figures have serious implications for the ability to avoid AIDS and the care of individuals with AIDS. There is little doubt that the Government alone cannot provide nursing homes for those afflicted with the disease. There is, therefore, a very important role for immediate family members. Their readiness to provide the needed care will depend greatly on their beliefs and perception of risk. This is further aggravated by the significant proportion of individuals advocating abandonment, isolation and elimination of people with AIDS.

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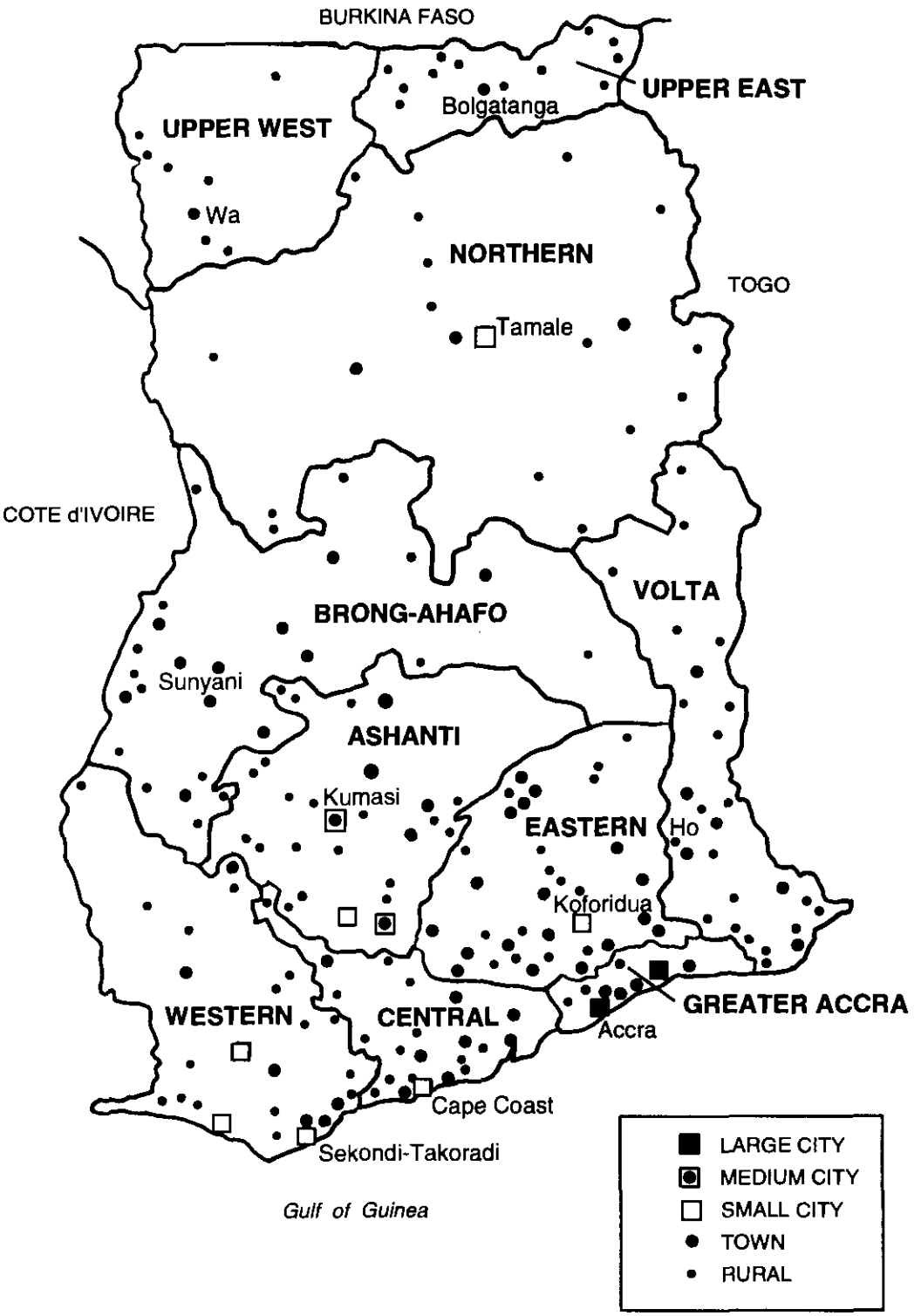

BURKINA FASO
UPPER EAST
Bolgatanga
UPPER WEST
Wa
NORTHERN
TOGO
Tamale
COTE d'IVOIRE
VOLTA
BRONG-AHAFO
Sunyani
ASHANTI
Kumasi
EASTERN
Ho
Koforidua
GREATER ACCRA
Accra
WESTERN
CENTRAL
Cape Coast
Sekondi-Takoradi
Gulf of Guinea
LARGE CITY
MEDIUM CITY
SMALL CITY
TOWN
RURAL

CHAPTER 1

INTRODUCTION

1.1 Geography, History and Economy

Geography

On the West Coast of Africa lies the Republic of Ghana with a land area of 238,537 square kilometres. The country is bounded on the west by Cote d'Ivoire, on the north by Burkina Faso, on the east by the Republic of Togo, and on the south by the Atlantic Ocean, which washes a 560-kilometre stretch of coastline. The country can be roughly divided into three vegetation zones, namely: coastal savannah characterised by shrubs and mangrove swamps, and a forest belt that gradually thins out into a dry savannah as one moves northwards.

Ghana has ten administrative regions, which are further divided into 110 districts; these form the basic units of political administration.

History

Almost four decades ago, Ghana attained political independence from Great Britain and on 1st July, 1960 she became a republic within the British Commonwealth. The country's fourth republican constitution came into force in January 1993.

The Ghanaian population is made up of many ethnic groups. The largest, the Akans, accounts for 44 percent of the population. Other major ethnic groups are the Mole-Dagbani (16 percent), Ewes (13 percent), Ga-Adangbe (8 percent), Gruma (4 percent), and Grussi (2 percent); a number of smaller ethnic groups make up the remainder.

Evidence from the third Ghana Living Standards Survey (GLSS-3) indicates that nearly two-thirds (64 percent) of the heads of household are Christians, 14 percent are Muslims, 18 percent are practitioners of traditional religion or animists and 4 percent are adherents of various smaller religious entities.

Economy

The economy of Ghana is mixed, consisting mainly of a small, capital intensive, modern sector involving mining and a few manufacturing establishments, a growing informal sector of small businessmen, artisans and technicians, and a large, traditional agricultural sector made up mostly of small-scale peasant farmers. The agricultural sector alone absorbs three-fifths of the country's labour force and accounts for more than half (51 percent) of the Gross Domestic Product (GDP).

In the decade preceding 1983, the economy was at its worst since independence, with the GDP growing at a rate of -0.5 percent between 1975 and 1982. The pre-1983 economy was characterised by very low agricultural production, poor industrial output, which principally resulted from lack of raw materials and use of obsolete plant and equipment, poor management of both fiscal and monetary policies, high levels of inflation, declining per capita income, rising unemployment, political instability and virtually no savings and investment.

To reverse this dismal economic trend, the Ghana Government introduced the Economic Recovery Programme (ERP) to halt the deterioration of the economy and to stabilise the macroeconomic framework so as to create conditions conducive to sustainable economic growth and improvement in the living standards of the people. The measures of economic recovery and structural adjustment yielded encouraging results as the economy dramatically turned round and once more showed signs of positive growth. Specifically, inflation declined from 123 percent in 1983 to 40 percent in 1987 to 18 percent in 1991. On the whole, the GDP grew at an average annual rate of 5 percent between 1987 and 1991, but dropped to 4.4 percent between 1991 and 1993. The relatively modest performance in GDP since 1991 has been attributed to, among other factors, government expenditure exceeding revenue.

Educational Reform

The duration of basic education has been reduced from 10-15 years to 9 years. This includes 6 years of primary education and 3 years of junior secondary education (JSS). JSS is followed by an optional additional three years of senior secondary education. These reforms seek to do several things, including: improve access to education for all children, increase the proportion of females in school, and increase the proportion that completes a given level of education.

Both the quantity and quality of teachers are to be significantly improved. The aim is to replace poorly trained teachers with more highly skilled ones and to increase the yearly output of trained teachers to 4,500.

In the case of tertiary education, two new institutions of higher learning have recently been established, the University College of Education in Winneba and the University of Development Studies in Tamale. In addition, many of the courses offered at the polytechnic institutions have been upgraded to meet university-level criteria. These changes are in line with the overall goal of making higher education more relevant to the social and economic needs of the country.

Despite great progress made in raising the educational level of the population since independence, high levels of adult illiteracy still exist. Evidence from the 1986 GLSS indicates that only 26 percent of females could read compared to 46 percent of males. To increase the level of literacy, especially among the adult population, resources and efforts are being directed at making about one million adults functionally literate through the Non-Formal Education Programme (NFEP) of the Ministry of Education.

To improve access to education, reduce the drop-out rate and increase functional literacy among the adult population, the budgetary allocation for education has been increased from 20 percent in the 1970s to nearly 26 percent in 1991.

1.2 Demographic Profile

Ghana's population was 6.7 million in 1960, 8.6 million in 1970 and 12.3 million in 1984. The country's mid-year population for 1994 is estimated at slightly over 16 million, indicating a near doubling of the population between 1970 and 1994. The rate of population growth is estimated to lie within the 2.8-3.0 percent range per annum.

The young age structure of the population (48 percent of the population is less than 15 years old and only 3.5 percent is 65 years old or more) reflects its high rate of growth (see Chapter 2). Until recently, fertility has been persistently high, while mortality has consistently declined in the past three decades, resulting in a population that is growing rapidly and has a median age of only 16 years.

In 1960, less than a quarter of the population lived in urban areas, but by 1984 the proportion had increased to nearly a third. Rural-urban migration is an important feature of the internal migration process. The influx of rural dwellers to the urban centres continues to pose great problems to city/municipal authorities as well as to town and country planners as the existing facilities and services in these urban centres turn out to be not only inadequate but also overburdened. In the past two and a half decades, Ghana has gradually changed from being a country of immigration to one of emigration with tens of thousands of Ghanaians living outside the country's borders.

1.3 Population Policy

Ghana enunciated a comprehensive national population policy in the late 1960s to address population problems identified as having adverse effects on rapid and sustained socio-economic development. In the early sixties, rapid population growth was singled out as having deleterious effects on efforts to quickly improve the quality of life of Ghanaians. This realisation provided the impetus for the formulation of a document, the 1969 Population Policy, that sought to ensure progress and prosperity for all. The policy aims, among other things, to reduce the rapid rate of population growth by lowering the prevailing high fertility level through voluntary but widespread use of modern contraceptive methods, to reduce the unacceptably high infant and maternal mortality rates, and to ensure a more balanced spatial development of all regions of the country. However, implementation of the policy fell short of expectation.

Failure to realise most of the basic goals of the 1969 Population Policy after two decades provided the *raison d'être* to have the policy reviewed and reformulated to incorporate emerging new issues. Clause 4 of Article 37 of the country's Fourth Republican Constitution requires the Government to maintain a population policy that is consistent with the aspirations of the people and in line with the developmental needs and goals of the country. The implementation of the revised population policy will ensure the integration of population variables in the nation's development plans and programmes, both at the national and sub-national levels.

In general, the revised policy seeks to:

- Ensure systematic integration of population and family planning issues in all aspects of development planning and programming,
- Provide information and education on the value of a small family size and responsible parenthood,
- Provide accessibility to, and ensure affordability of, family planning services for all couples and individuals desirous of regulating their fertility,
- Reduce further the high rates of morbidity and mortality and promote the health and welfare of mothers and children,
- Improve demographic data collection, processing, analysis, dissemination and research on population and development on a regular basis,
- Achieve a more balanced distribution of the population between rural and urban areas as well as between regions,
- Promote sound environmental management, and

- Address the needs of women, the youth, the aged, persons with disabilities and other vulnerable groups so as to enhance their full integration into all aspects of national life.

In pursuit of these goals, Parliament passed an act establishing the National Population Council (NPC) in December 1994. The main function of the NPC is to advise the Ghanaian government on population issues. Its mandate includes coordinating, monitoring and evaluating all population programmes and activities in the country; ensuring the effective implementation of the revised population policy; and integrating a comprehensive population programme into the overall national development plan.

1.4 Health Policy and Programmes

Government is committed to the goal of providing health care for all by the year 2000 through a decentralised Primary Health Care (PHC) delivery system. Health management and delivery are decentralised to ensure widespread access to promotive and preventive services as well as emergency curative services for all. The strategy in attaining the goals of the PHC is to concentrate efforts in key priority areas, namely:

- Maternal and Child Care
- Family Planning
- Nutrition
- Control of Diarrhoeal Diseases
- Malarial Control
- Immunisation Programme
- Health Education
- Sexually Transmitted Diseases and HIV/AIDS.

Some of the health objectives set by the Ministry of Health to be realised by the year 2000 include the following:

- Increase prevalence of family planning methods by 25 percent
- Increase coverage of antenatal care to 90 percent
- Intensify breastfeeding campaign
- Reduce incidence of immunisable diseases by 50 percent
- Eradicate guinea worm disease
- Reduce mortality attributable to communicable diseases, e.g., malaria, diarrhoeal diseases, tuberculosis, acute respiratory infections and sexually transmitted diseases
- Intensify health education for disease prevention
- Promote development of traditional medicine
- Increase awareness of the dangers of teenage pregnancy
- Expand school health services
- Intensify education on AIDS prevention.

Achievement of these health objectives requires multidisciplinary cooperation from all sectors and segments of the Ghanaian population. Good health depends not only on the availability of health facilities but also on the environment, the quantity and quality of the water, the food and the level of education, among others.

1.5 Objectives of the Survey

The principal objective of the 1993 GDHS is to generate reliable and current information on fertility, mortality, contraception and maternal and child health indicators. Such data are necessary for effective policy formulation as well as programme design, monitoring and evaluation. The 1993 GDHS is, in large measure,

an update to the 1988 GDHS. Together, the two surveys provide comparable information for two points in time, thus allowing assessment of changes and trends in various demographic and health indicators over time.

Long-term objectives of the survey include (i) strengthening the capacity of the Ghana Statistical Service to plan, conduct, process and analyse data from a complex, large-scale survey such as the Demographic and Health Survey, and (ii) contributing to the ever-expanding international database on demographic and health-related variables.

1.6 Organisation of the Survey

The 1993 Ghana Demographic and Health Survey (1993 GDHS) is part of the worldwide Demographic and Health Surveys programme funded by the United States Agency for International Development (USAID), with technical assistance provided by Macro International Inc. of Calverton, Maryland. Ghana first participated in the global survey programme in 1988; thus, the present survey is a sequel to the earlier one. The 1993 survey was carried out between September 1993 and February 1994.

The Ghanaian Government's contribution to the survey covered salaries of survey personnel, office accommodations and vehicles. Funds from USAID were used to purchase computers and accessories, anthropometric equipment and two cross-country vehicles. USAID funds were also used for allowances of survey personnel, printing of questionnaires, publication of reports, and running and maintenance of vehicles.

Sample Design

The 1993 GDHS is a stratified, self-weighting, nationally representative sample of households chosen from 400 Enumeration Areas (EAs). The 1984 Population Census EAs constituted the sampling frame. The frame was first stratified into three ecological zones, namely coastal, forest and savannah, and then into urban and rural EAs. The EAs were selected with probability proportional to the number of households. Households within selected EAs were subsequently listed and a systematic sample of households was selected for the survey. The survey was designed to yield a sample of 5,400 women age 15-49 and a subsample of males age 15-59 systematically selected from one-third of the 400 EAs. For details of the sample design see Appendix A.

1.7 Questionnaires

Survey instruments used to elicit information for the 1993 GDHS are

- Household Schedule
- Women's Questionnaire and
- Men's Questionnaire.

The questionnaires were structured based on the Demographic and Health Survey Model B Questionnaire designed for countries with low levels of contraceptive use. The final version of the questionnaires evolved out of a series of meetings with personnel of relevant ministries, institutions and organisations engaged in activities relating to fertility and family planning, health and nutrition and rehabilitation of persons with disabilities.

Some of the ministries and organisations that actively participated in the consultative meetings included the Ministry of Health, Social Sector Policy Unit of the Ministry of Finance and Economic Planning, National Commission on Children, National Council on Women and Development, Department of Social

Welfare, the United Nations Regional Institute for Population Studies and the Institute of Statistical, Social and Economic Research.

The questionnaires were first developed in English and later translated and printed in five major local languages, namely: Akan, Dagbani, Ewe, Ga, and Hausa. In the selected households, all usual members and visitors were listed in the household schedule. Background information, such as age, sex, relationship to head of household, marital status and level of education, was collected on each listed person. Questions on economic activity, occupation, industry, employment status, number of days worked in the past week and number of hours worked per day were asked of all persons age seven years and over. Those who did not work during the reference period were asked whether or not they actively looked for work.

Information on the health and disability status of all persons was also collected in the household schedule. Migration history was elicited from all persons age 15 years and over, as well as information on the survival status and residence of natural parents of all children less than 15 years in the household.

Data on source of water supply, type of toilet facility, number of sleeping rooms available to the household, material of floor and ownership of specified durable consumer goods were also elicited.

Finally, the household schedule was the instrument used to identify eligible women and men from whom detailed information was collected during the individual interview.

The women's questionnaire was used to collect information on eligible women identified in the household schedule. Eligible women were defined as those age 15-49 years who are usual members of the household and visitors who spent the night before the interview with the household. Questions asked in the questionnaire were on the following topics:

- Background Characteristics
- Reproductive History
- Contraceptive Knowledge and Use
- Pregnancy and Breastfeeding
- Immunisation and Health
- Marriage
- Fertility Preferences
- Maternal Mortality
- Husband's Background and Women's Work
- Knowledge of AIDS and Other Sexually Transmitted Diseases (STDs).

All female respondents with at least one live birth since January 1990 and their children born since 1st January 1990 had their height and weight taken.

The men's questionnaire was administered to men in sample households in a third of selected EAs. An eligible man was 15-59 years old who is either a usual household member or a visitor who spent the night preceding the day of interview with the household.

Topics enquired about in the men's questionnaire included the following:

- Background Characteristics
- Reproductive History
- Contraceptive Knowledge and Use
- Marriage

- Fertility Preferences
- Knowledge of AIDS and Other STDs.

1.8 Training and Field Work

The questionnaires were pre-tested by staff of the Ghana Statistical Service, mainly professional staff and senior technical officers who were expected to become field supervisors and editors during the actual survey. A four-week training session was held from 9th August to 4th September, 1993 for the field personnel. It involved both classroom instruction and field practice. A majority of the interviewers were sixth formers who had completed their National Service; the rest were nurses from the Ministry of Health and junior technical staff of the Statistical Service. Training was done using the English version of the questionnaires, after which trainees conducted practice interviews using the local language versions of the questionnaires.

Interviewers were selected for the field work based on three criteria: performance in a written examination taken at the end of the training session, performance during field practice interviews and general attitude towards work.

A one-week training course was organised for field supervisors and editors after the interviewers' training to ensure that they were conversant with their duties. A written examination was conducted at the end of the training to test their understanding of the data collection procedures.

Personnel selected for the field work (primarily male) were grouped into ten interviewing teams each consisting of seven persons: a supervisor, an editor, 4 interviewers and a driver. Each team was assigned to one of the ten survey regions into which the country was zoned.

Field work began on 27th September, 1993. Interviews were conducted at an average rate of four households a day. Editors monitored the interviews and checked all completed questionnaires for errors. They also took anthropometric measurements of women and children. Supervisors made random spot checks of households already interviewed to ensure that what the interviewers recorded was correct and genuine. They also verified samples of questionnaires edited by the field editors and observed at least one interview per interviewer per week to make sure that the interviewers were asking the questions correctly and recording the right responses.

During the field work, four supervisory visits were paid to each of the teams to check the quality of the data being collected, ascertain whether the right procedures were being followed and assist in resolving any problems that a team might be encountering. Field work was completed on 4th February, 1994.

1.9 Data Processing

Questionnaires from the field were sent to the secretariat at the Head Office for checking and office editing. The office editing, which was undertaken by two officers, involved correcting inconsistencies in the questionnaire responses and coding open-ended questions. The questionnaires were then forwarded to the data processing unit for data entry. Data capture and verification were undertaken by four data entry operators. Nearly 20 percent of the questionnaires were verified. This phase of the survey covered four and a half months—that is, from mid-October, 1993 to the end of February, 1994.

After the data entry, three professional staff members performed the secondary editing of questionnaires that were flagged either because entries were inconsistent or values of specific variables were out of range or missing. The secondary editing was completed on 17th March, 1994 and the tables for the preliminary report were generated on 18th March, 1994. The software package used for the data processing was the Integrated System for Survey Analysis (ISSA).

1.10 Response Rates

A sample of 6,161 households was selected, from which 5,919 households were contacted for interview. Table 1.1 shows the response rates of both the household and the individual interviews. Interviews were successfully completed in 5,822 households, indicating a household response rate of 98 percent. About 3 percent of selected households were absent during the interviewing period, and are excluded from the calculations of the response rate.

Even though the sample was designed to yield interviews with nearly 5,400 women age 15-49 only 4,700 women were identified as eligible for the individual interview. Individual interviews were successfully completed for 4,562 eligible women, giving a response rate of 97 percent. Similarly, instead of the expected 1,700 eligible men being identified in the households only 1,354 eligible men were found and 1,302 of these were successfully interviewed, with a response rate of 96 percent.

The principal reason for non-response among eligible women and men was not finding them at home despite repeated visits to the households. However, refusal rates for both eligible women and men were low, 0.3 percent and 0.2 percent, respectively.

Table 1.1 Household and de facto individual sample results

Result	Number	Percent
Household sample		
Households selected	6161	100.0
Households completed	5822	94.5
No competent respondent	74	1.2
Household absent	175	2.8
Household refused	14	0.2
Dwelling vacant/Not a dwelling	58	0.9
Dwelling destroyed	9	0.1
Dwelling not found	9	0.1
Households located	5919	100.0
Households interviewed	5822	98.4
Households not interviewed	97	1.6
Sample of women		
Eligible women	4700	100.0
Completed	4562	97.1
Not at home	72	1.5
Postponed	3	0.1
Refused	12	0.3
Partly completed	10	0.2
Incapacitated	41	0.9
Sample of men		
Eligible men	1354	100.0
Completed	1302	96.2
Not at home	37	2.7
Postponed	1	0.1
Refused	3	0.2
Partly completed	3	0.2
Incapacitated	8	0.6

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

Presented in this chapter are the background characteristics of the sample households and the respondents to the survey. Information on the characteristics of households and respondents is deemed important in the interpretation of the survey results. The behaviour of women and men concerning demographic phenomena is known to be influenced by their characteristics and their environment. Also, analysis of the reported characteristics of the sample households and the respondents can serve to indicate how representative the sample is and to evaluate the quality of the data collected in the survey.

The chapter is divided into three parts. The first part deals with the characteristics of the household population in terms of age-sex composition, household size and distribution, and the fostering of children, as well as the educational background of respondents. The second part covers the housing environment in which the respondents live. The characteristics of the individual male and female respondents are discussed in the third part of the chapter.

2.1 Demographic Characteristics of Households

Age and Sex

The age distribution of the de-facto household population based on those who slept in the dwelling unit the night preceding the interview is highlighted in Table 2.1. In all there were 21,413 household members, 52 percent of whom are females. The sex distribution gives a sex ratio of 93 males to 100 females. However, there is a remarkable difference across localities, 88 and 96 males per 100 females in urban and rural localities, respectively.

Table 2.1 Household population by age, residence and sex

Percent distribution of the de facto household population by five-year age groups, according to urban-rural residence and sex, Ghana 1993

	Urban			Rural			Total		
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	16.2	13.3	14.6	19.1	18.1	18.6	18.2	16.5	17.4
5-9	16.7	13.2	14.8	18.1	17.0	17.5	17.6	15.7	16.6
10-14	14.1	14.6	14.3	15.7	12.7	14.2	15.2	13.4	14.2
15-19	9.8	10.3	10.1	8.9	6.2	7.5	9.2	7.6	8.5
20-24	7.6	9.2	8.5	5.5	7.1	6.3	6.2	7.8	7.0
25-29	7.6	8.9	8.3	5.3	7.3	6.3	6.0	7.9	7.0
30-34	6.0	7.1	6.6	4.9	6.7	5.8	5.2	6.8	6.0
35-39	4.9	6.0	5.5	5.0	5.2	5.1	5.0	5.4	5.2
40-44	4.0	3.9	4.0	3.4	3.9	3.6	3.6	3.9	3.7
45-49	3.3	2.6	2.9	3.0	3.2	3.1	3.1	3.0	3.1
50-54	3.2	3.3	3.3	2.6	4.3	3.5	2.8	4.0	3.4
55-59	1.6	2.2	1.9	2.0	2.4	2.2	1.9	2.3	2.1
60-64	2.1	1.8	1.9	2.4	2.2	2.3	2.3	2.0	2.2
65-69	0.9	1.1	1.0	1.5	1.4	1.5	1.3	1.3	1.3
70-74	0.8	1.1	0.9	1.5	1.0	1.2	1.2	1.0	1.1
75-79	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.5
80 +	0.5	0.8	0.7	0.6	0.7	0.6	0.6	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	3249	3680	6929	7086	7398	14484	10335	11078	21413

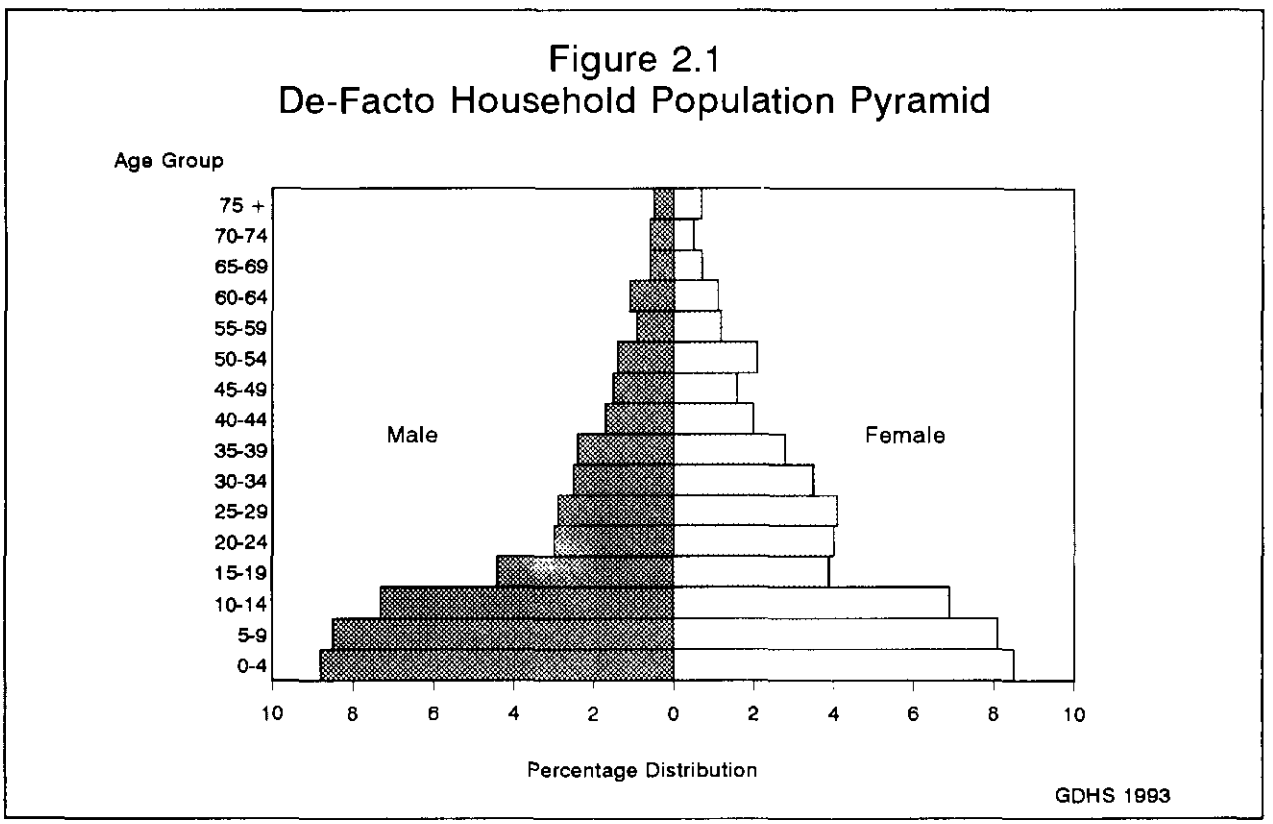
As mentioned in Chapter 1, households tend to have a relatively high proportion of children under 15 (48 percent), the majority of whom are boys. In urban areas, there are more boys under age 15 than girls. With the exception of some age misreporting and misstatements, particularly among female and male rural dwellers, the age distribution of the household population steadily declines in number with increasing age. But contrary to the overall trend of decline, there are increasing numbers of women going from the 15-19 age group to the 25-29 age group and from the 45-49 age group to the 50-54 age group. For the males the numbers increased from the 55-59 age group to the 60-64 age group. These exceptions are probably due to age displacement by some interviewers, who were attempting to reduce their workloads.

Table 2.2 and Figure 2.1 show that Ghana has a pyramidal population structure due to the large number of children under 15 (nearly 50 percent). This is a feature of populations with high fertility levels. Such a population structure results in high dependency ratios, i.e., the ratio of non-productive persons (persons age 0-14 and those age 65 and over) to persons age 15 to 64.

Table 2.2 The de facto population by age from other sources

Percent distribution of the population by age group at different dates, Ghana

Age group	1984 census	1988 GDHS	1991/92 GLSS-3	1993 GDHS
Less than 15	45.0	48.4	46.9	48.2
15-64	51.0	47.8	49.2	48.2
65+	4.0	3.8	3.9	3.6
Total	100.0	100.0	100.0	100.0
Median age	17.5	15.7	16.0	16.0



The dependency ratio is 107 dependents to every 100 productive population. This means that each adult person has himself and slightly more than one additional person to care for. However, the 1993 figure indicates increased pressure on the working-age group when compared with a dependency ratio of 96 recorded in the 1984 population census. The table also shows that half the population is over 16 years, i.e., a median age of 16 years. This is a significant decline compared to the median age of 17.5 years recorded in the 1984 population census. However, it is consistent with the median age of 16 years obtained for the third phase of the GLSS-3 conducted over the period 1991 to 1992.

2.2 Size of Households and Relationship Structure

Table 2.3 shows that households in Ghana are predominantly male-headed, 63 percent compared to 37 percent female-headed households. The proportion of female-headed households is very low in the northern half of the country (that is Upper West, Upper East and Northern regions). A greater proportion of

Table 2.3 Household composition

Percent distribution of households by sex of head of household, household size, kinship structure, and presence of foster children, according to urban-rural residence, Ghana 1993

	Residence		Region										
Characteristic	Urban	Rural	West-ern	Central	Greater Accra	Volta	East-ern	Ashanti	Brong-Ahafo	North-ern	Upper West	Upper East	Total
Household headship													
Male	58.3	65.4	57.4	55.2	63.0	57.4	63.3	52.0	59.7	87.6	88.5	89.0	62.9
Female	41.7	34.6	42.6	44.8	37.0	42.6	36.7	48.0	40.3	12.4	11.5	11.0	37.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of usual members													
1	28.0	22.2	28.8	25.1	27.2	16.2	28.3	28.2	25.8	18.4	11.5	11.3	24.3
2	15.9	12.1	12.8	16.6	14.3	9.2	14.4	16.0	13.5	10.3	9.8	8.7	13.5
3	14.7	14.3	13.9	15.1	12.9	13.5	14.9	17.4	12.6	11.1	17.2	14.5	14.4
4	12.1	15.0	13.0	13.4	13.0	15.0	13.5	14.0	15.5	13.0	12.1	18.1	14.0
5	10.7	12.0	12.7	10.3	12.0	12.7	11.8	9.2	11.1	10.3	17.2	15.8	11.5
6	7.9	9.3	7.9	9.6	10.2	12.3	6.6	6.9	7.3	9.8	12.6	11.3	8.8
7	4.7	5.9	4.6	4.9	5.0	7.3	4.1	3.8	7.3	6.8	9.2	7.7	5.5
8	2.5	3.0	3.1	2.4	1.9	4.4	2.5	1.8	2.4	5.1	3.4	4.8	2.9
9+	3.2	6.1	3.1	2.7	3.0	9.2	3.9	2.6	4.3	15.2	6.9	7.7	5.0
Mean size	3.4	4.0	3.5	3.4	3.5	4.6	3.4	3.2	3.7	4.9	4.7	4.7	3.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Relationship structure													
One adult	47.1	41.1	47.3	50.3	41.8	27.9	47.9	56.0	50.3	25.6	20.7	19.4	43.2
Two related adults:													
Of opposite sex	23.6	31.8	29.2	26.7	24.2	24.7	29.1	26.0	27.0	34.0	43.7	46.8	28.8
Of same sex	6.7	4.4	6.1	6.7	6.4	8.9	4.3	5.1	5.6	1.7	2.3	1.3	5.3
Three or more related adults	19.5	21.5	14.7	15.4	23.5	36.2	17.5	11.2	15.9	37.4	32.2	30.6	20.8
Other	2.8	1.2	2.8	0.9	3.6	2.3	1.2	1.5	0.9	1.3	1.1	1.9	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Foster children[1]	15.7	16.4	15.0	19.4	16.2	22.7	15.9	15.2	14.5	17.3	6.9	10.6	16.2

Note: Table is based on *de jure* members, i.e., usual residents.
[1]Foster children are those under age 15 living in households with neither their mother nor their father present.

urban than rural households are female-headed. The overall average household size is 3.8. Households in the northern part of the country are larger than those in the southern part; for example, the average household size is 4.9 for the Northern Region, compared to 3.2 for the Ashanti Region. Rural households tend to be larger than urban ones.

The table shows that over 50 percent of households have two or more related adults in them, whereas 43 percent have only one adult. Specifically, 34 percent have two related adults and 21 percent have three or more related adults.

On the whole, 16 percent of households have foster children living with them. Although there is no significant difference in fostering between rural and urban households, there appears to be some regional variation. For example, fostering is relatively higher in the Volta and Central regions.

Table 2.4 shows that only half of the children under 15 in Ghana live with both parents. Over a quarter live in the same household as their mother even though their father is alive. Twelve percent of children are living with others even though both parents are alive. Nationally, 15 percent of all children are not living with either of their parents, i.e., they are fostered children. There is an apparent positive correlation between fostering and age of the child. Generally, children age eight years and over are more likely to be fostered. Of significance is the fact that 27 percent of children age 13 years are fostered.

Table 2.4 Fostering of children by age

Percent distribution of children under age 15 by fostering status, according to age in years, Ghana 1993

Fostering status	Child's age in years															Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Lives with both parents	58.2	58.7	57.1	59.7	52.7	53.1	51.0	50.6	46.3	44.5	45.6	41.7	43.8	37.8	40.2	49.9
Lives w/mother, father alive	38.3	35.4	35.0	25.2	29.7	23.2	24.3	22.5	22.5	22.7	22.0	23.8	17.7	20.1	20.2	25.8
Lives w/mother, father dead	1.2	1.7	1.5	3.2	2.2	2.9	2.5	2.2	3.1	4.2	3.7	3.8	4.1	4.5	5.0	3.0
Lives w/father, mother alive	0.5	0.5	1.3	1.9	3.5	4.1	5.4	5.9	6.7	7.1	6.1	7.5	7.6	7.2	7.2	4.7
Lives w/father, mother dead	0.1	0.2	0.3	0.3	0.5	0.6	1.3	1.4	1.2	1.5	1.7	1.7	1.7	2.0	1.9	1.0
Lives w/other, parents alive	0.4	1.8	3.2	7.4	8.6	13.1	11.9	14.1	15.4	15.5	16.3	16.6	19.2	19.0	16.8	11.6
Lives w/other, father alive, mother dead	0.0	0.5	0.0	0.2	0.4	0.3	0.6	0.4	1.2	1.0	0.8	1.3	1.2	1.7	1.0	0.7
Lives w/other, father dead, mother alive	0.0	0.3	0.0	0.8	0.8	1.5	0.8	1.1	1.8	1.6	1.9	1.5	0.8	4.0	2.4	1.2
Lives w/other, both parents dead	0.1	0.0	0.3	0.3	0.8	0.3	1.2	1.2	0.9	1.3	0.8	1.1	2.3	2.0	2.6	1.0
Situation not ascertained	1.2	1.1	1.4	1.1	0.7	0.8	1.0	0.5	0.9	0.6	1.2	0.9	1.5	1.8	2.7	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of children under 15	771	659	718	647	953	723	773	729	766	618	774	530	603	601	584	10449

Fostering is more common in the southern half of the country, particularly in the Central Region, where 20 percent of the children live with people other than their parents (Table 2.5). On the other hand over 70 percent of children in the northern half of the country live with both parents in the same household. A small proportion live with their mothers only. This is in sharp contrast with what prevails in the southern half of the country. For example, in Greater Accra 47 percent of children are living with both parents, while 30 percent live with their mothers only.

In terms of rural-urban residence, Table 2.5 shows that children in rural areas are more likely to live with their parents than do their urban counterparts. Urban children are more likely than rural children to live only with their mothers. In general, however, fostering is only slightly more common in urban than rural localities (16 percent and 14 percent, respectively).

Table 2.5 Fostering of children by urban-rural residence and region

Percent distribution of children under age 15 by fostering status, according to area and region of residence, Ghana 1993

Fostering status	Residence		Region										
	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong-Ahafo	Northern	Upper West	Upper East	Total
Lives with both parents	43.0	52.7	41.1	37.9	47.4	43.8	44.4	40.1	44.3	76.2	77.6	76.2	49.9
Lives w/mother, father alive	30.8	23.8	34.6	31.4	27.3	28.9	27.5	36.1	32.4	5.1	8.1	4.8	25.8
Lives w/mother, father dead	3.3	2.8	2.4	1.8	2.7	3.7	2.9	3.5	3.0	3.2	2.5	3.4	3.0
Lives w/father, mother alive	4.7	4.7	5.3	7.5	3.9	5.0	5.4	3.6	4.7	2.6	3.7	5.1	4.7
Lives w/father, mother dead	0.8	1.1	0.4	0.6	1.2	0.8	0.5	0.2	1.3	1.9	2.7	2.9	1.0
Lives w/other, parents alive	13.3	10.9	11.8	16.9	13.3	14.2	13.7	12.1	11.2	6.8	4.2	4.8	11.6
Lives w/other, father alive, mother dead	0.6	0.7	0.8	0.9	1.1	0.5	0.6	0.6	0.8	0.6	0.2	0.1	0.7
Lives w/other, father dead, mother alive	1.2	1.3	2.0	1.3	2.2	1.9	0.9	1.2	0.4	1.0	0.5	0.8	1.2
Lives w/other, both parents dead	0.9	1.0	0.9	0.8	0.6	0.6	1.1	1.4	0.3	1.5	0.0	1.6	1.0
Situation not ascertained	1.4	1.0	0.8	0.9	0.2	0.5	2.9	1.3	1.7	1.2	0.5	0.3	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of children under 15	3064	7385	893	1131	988	1109	1233	1736	1090	1130	407	732	10449

2.3 Educational Level of Household Members

Information on education was sought on household members age 6 years and over. Table 2.6 shows that of the male population, more than 26 percent have never been to school, 33 percent have had only primary education, about 30 percent have attended middle school, and only 11 percent attended secondary school. There is a correlation between education and place of residence. Urban males are more likely to be educated than rural males. For example, 12 percent of urban males have no education, compared to 33 percent of rural males. The percentage of urban males with at least some secondary schooling (21 percent) is over three times that of rural males (6 percent).

Table 2.6 Educational level of the male household population

Percent distribution of the de facto male household population age six and over by highest level of education attended, according to selected background characteristics, Ghana 1993

Background characteristic	Highest level of education				Total	Number	Median years
	None	Primary	Middle/ JSS	Second-ary/ Higher			
Age							
6-9	23.9	75.9	0.1	0.0	100.0	1479	1.0
10-14	12.8	65.3	21.6	0.3	100.0	1572	4.5
15-19	13.7	15.9	58.7	11.7	100.0	950	8.2
20-24	16.4	12.7	49.0	21.9	100.0	639	9.9
25-29	22.8	11.1	43.1	23.1	100.0	624	10.1
30-34	24.4	11.5	43.3	20.9	100.0	541	10.2
35-39	28.5	9.7	41.7	20.0	100.0	515	10.1
40-44	31.2	6.5	36.3	26.0	100.0	369	10.2
45-49	37.4	8.8	35.2	18.6	100.0	318	8.4
50-54	42.1	9.0	30.3	18.6	100.0	290	6.5
55-59	52.0	7.1	26.0	14.8	100.0	196	1.0
60-64	64.5	9.9	18.2	7.4	100.0	242	0.8
65+	79.4	6.9	10.8	2.9	100.0	378	0.6
Residence							
Urban	12.2	31.3	35.0	21.4	100.0	2621	7.8
Rural	32.9	34.3	27.0	5.8	100.0	5493	3.2
Region							
Western	17.8	35.6	35.5	11.1	100.0	657	5.7
Central	18.5	34.9	37.8	8.8	100.0	837	6.2
Greater Accra	9.8	28.1	34.3	27.7	100.0	924	8.9
Volta	20.8	36.4	30.7	12.1	100.0	901	5.4
Eastern	16.9	34.0	37.3	11.7	100.0	996	6.4
Ashanti	17.4	38.4	37.0	7.2	100.0	1198	5.6
Brong-Ahafo	21.7	36.8	33.0	8.5	100.0	825	4.3
Northern	62.0	25.7	7.5	4.8	100.0	861	0.7
Upper West	56.9	27.1	11.5	4.4	100.0	339	0.8
Upper East	50.9	30.2	11.5	7.1	100.0	576	0.9
Total	26.2	33.3	29.6	10.9	100.0	8114	4.5

As much as 24 percent of boys age 6-9 have not attended school. Generally, the proportion of males without any education increases with rising age.

The northern half of the country stands out as the most disadvantaged. More than 50 percent of the male population have never been to school. In contrast, only 10 percent of the males in Greater Accra have never been to school. Also 28 percent of males resident in Greater Accra have had some secondary

education, a figure more than double the proportions in the Western, Volta and Eastern regions. With the exception of the Northern, Upper East and Upper West regions, the majority of males in all the regions have either primary or middle level education.

On the whole, 38 percent of the women have never been to school; 31 percent have only primary education and 25 percent have middle/JSS education (Table 2.7). Only 6 percent have had more than 10 years of formal schooling. Across the regions, it is observed that females in the northern half of the country are seriously disadvantaged because over 65 percent of them have never been to school, compared with only 19 percent in Greater Accra.

The educational background of female household members also suggests considerable deprivation among rural women (Table 2.7). About 47 percent of women in rural areas have no education compared with one out of every four in urban areas. With regard to secondary education, the urban-rural differential is remarkable: 13 percent of women aged 6 years and over in urban areas have had secondary/higher education in comparison to only 2 percent in rural areas.

Table 2.7 Educational level of the female household population

Percent distribution of the de facto female household population age six and over by highest level of education attended, according to selected background characteristics, Ghana 1993

Background characteristic	Highest level of education				Total	Number	Median years
	None	Primary	Middle/ JSS	Second-ary/ Higher			
Age							
6-9	25.6	74.1	0.2	0.0	100.0	1372	1.0
10-14	18.2	59.2	22.2	0.4	100.0	1479	4.4
15-19	19.0	15.9	53.4	11.6	100.0	842	8.3
20-24	26.1	19.5	43.2	11.1	100.0	861	7.5
25-29	34.3	15.9	39.2	10.6	100.0	872	6.8
30-34	39.1	17.1	34.0	9.8	100.0	754	5.3
35-39	38.9	15.1	34.8	11.1	100.0	601	5.7
40-44	49.9	12.7	29.1	8.3	100.0	433	1.0
45-49	67.4	11.3	15.7	5.6	100.0	337	0.7
50-54	78.2	6.8	12.2	2.9	100.0	444	0.6
55-59	81.7	6.2	9.7	2.3	100.0	257	0.6
60-64	87.7	6.6	5.3	0.4	100.0	227	0.6
65+	91.5	4.0	4.5	0.0	100.0	399	0.5
Residence							
Urban	22.3	30.3	34.5	12.9	100.0	3096	6.1
Rural	46.8	30.8	20.4	1.9	100.0	5784	1.0
Region							
Western	34.1	34.4	25.8	5.7	100.0	786	2.8
Central	35.6	33.9	26.9	3.6	100.0	990	2.9
Greater Accra	19.4	28.9	34.0	17.8	100.0	1080	6.6
Volta	34.3	34.5	27.4	3.7	100.0	973	2.9
Eastern	27.1	34.2	33.1	5.6	100.0	1086	4.6
Ashanti	33.0	33.7	28.8	4.5	100.0	1429	3.2
Brong-Ahafo	30.8	34.8	30.7	3.7	100.0	847	3.8
Northern	75.9	16.5	6.1	1.6	100.0	874	0.6
Upper West	67.9	22.9	7.5	1.7	100.0	293	0.7
Upper East	66.5	21.1	7.7	4.6	100.0	522	0.7
Total	38.3	30.7	25.3	5.7	100.0	8880	2.5

When comparing the educational status of women to that of men, women are seen to be less educated. A higher proportion of females have never been to school (26% for males versus 38% for females), and fewer of them have secondary/higher education (6 percent versus 11 percent for males).

In conclusion, it appears that males have more access to education and are better educated. At the same time there is a wide gap in educational attainment not only between the sexes but also between the northern and southern half of the country, as well as between urban and rural areas.

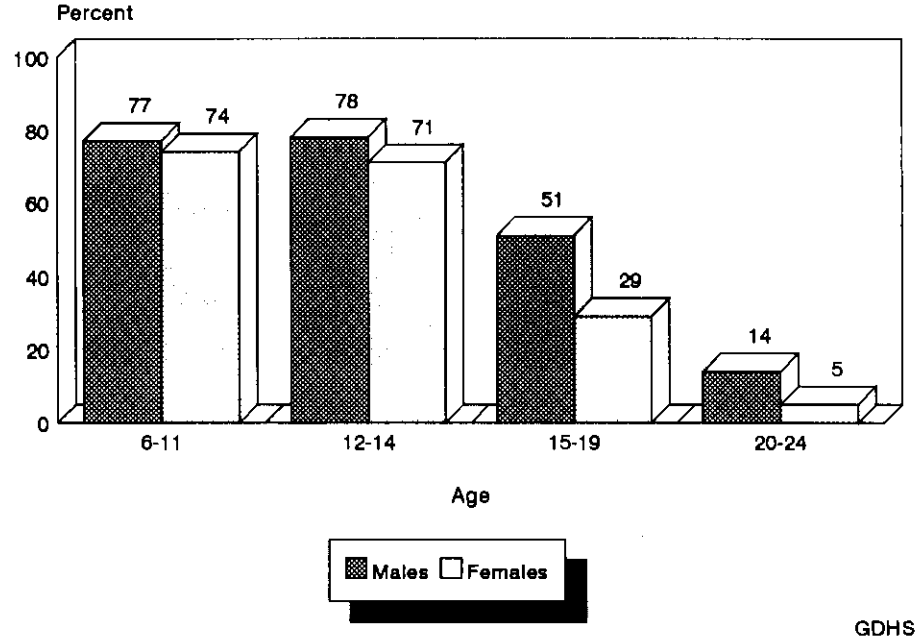
Attendance figures presented in Table 2.8 show that only 76 percent of children age 6-11 years are currently attending school. At this age level, which roughly corresponds to the primary level, there is little difference between the proportion of boys and girls in school (77 and 74 percent, respectively) (see Figure 2.2).

Table 2.8 School enrollment

Percentage of the de facto household population age 6-24 years enrolled in school, by age group, sex, and urban-rural residence, Ghana 1993

	Male			Female			Total		
Age group	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-11	88.3	71.5	76.5	87.3	69.0	74.3	87.8	70.3	75.5
12-14	85.2	75.2	78.0	75.9	67.0	70.6	79.8	71.6	74.4
6-14	87.4	72.6	77.0	83.0	68.5	73.2	85.2	70.7	75.1
15-19	54.9	48.5	50.6	30.0	28.1	29.0	41.3	39.9	40.5
20-24	14.5	12.8	13.5	7.4	4.0	5.3	10.4	7.8	8.8

Figure 2.2
Percentage of Children Attending School, by Age and Sex



The overall attendance for the household population age 12-14, which corresponds roughly to middle/JSS level, is 74 percent: 78 percent for boys versus 71 percent for girls.

There is a significant difference in attendance between the sexes in the 15-19 age group: 51 percent for males and only 29 percent for females. Attendance at all ages is higher in urban than rural areas. For example, 30 percent of children age 6-11 years in rural areas are not attending school relative to about 12 percent in urban areas.

2.4 Economic and Environmental Characteristics of Households

Table 2.9 shows that 35 percent of the households use piped water as their main source of water, while 31 percent depend on well water (including boreholes). Nearly 27 percent of households obtain their water from springs, river, stream and rainwater.

Piped water is available to 76 percent of urban households compared to 13 percent of rural ones. More than 36 percent of rural households obtain their drinking water from rivers and streams. Another important source of water for rural households is well water (40 percent).

At the regional level, boreholes are the major source of water for households in the Upper East and Upper West regions, whereas the Greater Accra and Central regions are largely dependent on pipe-borne water. The remaining regions depend basically on water from rivers.

In terms of sanitation facilities, only 6 percent of households have flush toilets. The majority use pit latrines. About 23 percent have no toilet facility. Sanitation appears to be better in urban than rural areas. As much as 31 percent of rural households (i.e., about 4 times the proportion of households in urban areas) have no toilet facility. With the exception of the three northernmost regions, the pit latrine is the most common toilet facility in other regions. In the three northern regions, most people (75-89%) have no access to any form of toilet facility, either private or public.

The main flooring material in housing units is cement in all localities except in the Upper West Region. In the urban areas the second most important flooring material is vinyl/linoleum in contrast to earth and dung floors in rural areas. Of all the regions, only Upper West has over 50 percent of households with natural flooring (that is earth/sand/mud mixed with dung).

Overall there are 2.5 persons to a sleeping room in Ghana. There is no significant difference between rural and urban locations in this regard. Across regions the lowest density is recorded in Upper East (2.0) and the highest in Brong-Ahafo (2.9).

Table 2.9 Housing characteristics

Percent distribution of households by housing characteristics, according to residence and region, Ghana 1993

Characteristic	Residence		Region										
	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong-Ahafo	Northern	Upper West	Upper East	Total
Electricity													
Yes	74.6	6.0	26.4	29.6	80.4	8.5	26.6	38.3	19.1	11.3	10.3	10.3	30.6
No	25.4	94.0	73.6	70.4	19.6	91.5	73.4	61.7	80.9	88.7	89.7	89.7	69.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source of drinking water													
Piped into residence	37.2	2.0	11.7	9.7	51.6	2.7	9.3	17.4	4.1	5.3	2.9	11.0	14.6
Public tap/Neighbour	38.6	10.8	13.6	37.0	37.7	16.6	19.1	21.6	15.0	11.1	3.4	4.2	20.8
Well in residence	2.1	1.4	2.0	0.4	0.7	1.5	1.6	1.1	1.7	3.2	5.7	2.9	1.6
Public well	7.9	12.3	17.4	7.5	2.3	12.5	14.7	6.2	11.8	15.6	8.0	19.7	10.7
Borehole	3.7	26.6	12.7	15.4	1.7	15.2	11.6	20.0	23.9	19.7	52.9	57.4	18.4
Spring	0.5	0.9	0.6	0.1	0.0	1.0	0.9	0.7	1.0	2.1	1.1	0.3	0.7
River/Stream	5.8	36.6	40.9	19.0	0.3	30.3	38.0	30.4	36.9	22.0	16.1	3.2	25.6
Rainwater	0.7	0.9	0.6	1.0	0.6	4.4	0.8	0.1	0.5	0.2	0.0	0.0	0.8
Other	3.2	5.8	0.4	7.3	3.0	8.7	1.6	1.3	4.1	19.9	9.8	1.3	4.8
Missing/Don't know	0.3	2.8	0.2	2.5	2.1	7.1	2.3	1.1	1.0	0.9	0.0	0.0	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sanitation facility													
Own flush toilet	10.3	0.5	2.2	1.8	18.8	0.6	2.6	2.3	0.7	0.4	1.7	7.1	4.0
Shared flush toilet	5.3	0.4	4.8	0.6	7.4	0.0	1.4	2.5	0.9	0.0	0.0	0.0	2.1
Traditional pit latrine	29.2	59.5	59.3	60.6	31.9	57.6	61.7	60.1	63.0	13.5	11.5	1.0	48.6
Vent. imp. pit latrine	27.8	7.2	12.5	9.1	20.2	12.7	17.3	21.7	18.1	3.0	11.5	1.3	14.6
Bucket/Pan	19.2	1.7	6.1	8.7	12.5	4.8	11.9	8.0	10.8	3.2	0.6	1.9	8.0
No facility/Bush	8.3	30.6	15.2	19.3	9.2	24.3	5.0	5.4	6.7	79.9	74.7	88.7	22.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Floor material													
Earth/Dung floor	0.8	22.1	19.8	11.9	1.1	21.4	13.5	9.3	14.7	15.4	51.7	27.1	14.5
Wood planks/Bamboo	0.6	0.1	0.6	0.6	0.4	0.8	0.1	0.1	0.0	0.0	0.0	0.3	0.3
Parquet/Polished wood	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Vinyl/Linoleum/Asphalt	31.7	3.0	11.2	8.4	31.9	0.6	10.6	22.8	13.3	3.6	0.6	1.9	13.3
Ceramic tiles	1.9	0.1	0.4	0.1	3.7	0.4	0.3	0.6	0.3	0.4	0.0	0.0	0.8
Cement	58.8	73.6	62.6	78.2	51.7	75.5	74.0	64.5	71.3	79.9	47.1	69.7	68.3
Other	6.0	1.0	5.5	0.7	10.7	1.2	1.4	2.6	0.3	0.4	0.0	1.0	2.8
Missing/Don't know	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.2	0.6	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons per sleeping room													
1-2	60.0	60.4	57.1	55.1	61.7	61.5	62.0	55.1	52.6	70.5	66.7	80.3	60.2
3-4	27.1	27.5	27.3	28.2	26.5	27.4	27.4	30.6	30.2	24.4	27.0	16.1	27.4
5-6	10.1	9.5	12.7	13.3	10.0	8.5	8.7	11.5	11.1	3.4	6.3	2.9	9.7
7 +	2.5	2.5	2.9	3.3	1.7	2.3	1.8	2.8	5.6	0.9	0.0	0.3	2.5
Missing/Don't know	0.3	0.2	0.0	0.1	0.0	0.4	0.1	0.1	0.5	0.9	0.0	0.3	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean persons per room	2.5	2.6	2.6	2.8	2.4	2.6	2.4	2.7	2.9	2.3	2.3	2.0	2.5
Number of households	2089	3733	545	670	698	519	773	1079	586	468	174	310	5822

2.5 Household Durable Goods

The distribution of households by ownership of durable goods is presented in Table 2.10. There is a positive relationship between socio-economic status and possession of durable goods.

In general, about 41 percent of the households own a radio, with 54 percent and 34 percent in the urban and rural areas, respectively. Television is less popular in the rural areas (4 percent) than in the urban areas (30 percent). The percentage of households having refrigerators in the urban areas is much higher (23 percent) than those in the rural areas (1 percent). Nationwide, only 9 percent of the households own refrigerators.

Concerning transport, it is evident that the bicycle is the predominant vehicle in the rural areas, and especially in the Upper West (70 percent), Northern (57 percent), and Upper East (39 percent), as well as the Brong-Ahafo Region (23 percent).

Ownership of motor vehicles is limited: less than 3 percent of households own motor vehicles. A higher proportion of urban than rural households have motor vehicles, and ownership reaches a high of 10 percent in the Greater Accra Region.

Table 2.10 Household durable goods

Percentage of households possessing various durable consumer goods, by urban-rural residence and region, Ghana 1993

Characteristic	Residence		Region										
	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong-Ahafo	Northern	Upper West	Upper East	Total
Radio	54.3	33.5	36.3	36.3	61.7	33.5	45.5	35.0	44.9	34.0	39.1	37.7	40.9
Television	30.0	3.5	10.3	10.7	38.8	4.4	11.8	12.6	8.2	4.9	4.6	10.0	13.0
Video	5.6	0.3	2.2	0.4	10.0	1.0	1.3	1.9	0.2	0.6	1.1	1.3	2.3
Refrigerator	23.4	1.2	8.8	4.9	34.4	1.5	6.9	9.3	3.6	2.6	1.7	4.5	9.1
Bicycle	10.3	19.4	5.9	4.5	7.3	15.8	6.5	4.8	22.7	57.1	70.1	39.0	16.1
Motorcycle	1.6	0.9	1.3	0.0	1.0	1.2	0.1	0.3	0.3	2.1	3.4	7.4	1.1
Motor vehicle	5.4	1.1	1.7	1.0	10.0	1.3	1.7	1.7	2.9	0.9	0.6	2.3	2.6
Tractor	0.1	0.2	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.6	0.6	0.6	0.2
Horse/Cart	0.0	0.4	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.2	0.6	3.2	0.3
Number of households	2089	3733	545	670	698	519	773	1079	586	468	174	310	5822

2.6 Characteristics of Survey Respondents

In this survey the number of males age 15-59 years interviewed was 1,302 (Table 2.11). Of the total, 17.2 percent belonged to the 15-19 age group, compared to 15 percent in the 25-29 age group—the next highest percentage.

Of all the male respondents, 58 percent are in union while over a third (36 percent) are single. Most of the men (65 percent) reside in rural locations. Twenty-five percent of male respondents have never been to school versus 35 percent of female respondents. Further, 44 percent of the males have had middle/JSS education and 21 percent have had secondary or higher education. The proportion of males who have secondary or higher education is double the female figure.

Table 2.11 Background characteristics of respondents

Percent distribution of respondents by selected background characteristics, Ghana 1993

Background characteristic	Percent of women	Number of women	Percent of men	Number of men
Age				
15-19	17.6	803	17.2	224
20-24	18.2	829	14.0	182
25-29	18.5	845	15.4	200
30-34	16.3	743	12.8	167
35-39	12.7	581	13.1	171
40-44	9.3	425	8.3	108
45-49	7.4	336	6.7	87
50-54	-	-	7.2	94
55-59	-	-	5.3	69
Marital status				
Single	19.5	890	35.6	463
Married	58.7	2676	49.4	643
Living together	11.6	528	8.1	106
Widowed	1.7	79	0.8	10
Divorced	5.6	256	3.8	49
Separated	2.9	133	2.4	31
Education				
No education	35.0	1597	24.7	321
Primary	16.0	729	10.4	135
Middle/JSS	38.8	1768	44.0	573
Secondary/Higher	10.3	468	21.0	273
Residence				
Urban	37.7	1720	35.3	460
Rural	62.3	2842	64.7	842
Region				
Western	8.7	398	8.8	114
Central	9.6	438	8.9	116
Greater Accra	13.5	618	13.3	173
Volta	10.8	491	13.6	177
Eastern	11.4	519	13.3	173
Ashanti	16.4	750	13.6	177
Brong-Ahafo	10.3	469	9.4	123
Northern	9.7	444	10.6	138
Upper West	3.5	159	3.7	48
Upper East	6.0	276	4.8	63
Religion				
Catholic	18.0	821	16.7	217
Protestant/Other Christian	54.1	2470	47.5	618
Muslim	11.6	531	17.1	223
Traditional	0.0	0	5.9	77
No religion	11.8	538	12.7	166
Other	4.4	202	0.1	1
Ethnicity				
Asante	16.2	741	11.1	144
Akwapim	3.2	147	3.1	41
Fanti	12.1	553	11.1	145
Other Akan	18.1	827	19.0	247
Ga/Adangbe	8.0	364	8.8	115
Ewe	14.9	679	16.6	216
Guan	2.2	99	3.5	46
Mole-Dagbani	15.6	710	16.9	220
Grussi	3.5	161	1.8	24
Gruma	2.3	106	1.6	21
Hausa	0.7	31	1.2	15
Other	3.2	144	5.2	68
Total	100.0	4562	100.0	1302

Between 13 and 14 percent of male respondents live in Greater Accra, Volta, Eastern and Ashanti regions, compared to only 4 percent and 5 percent in the Upper West and Upper East regions, respectively.

Like the female respondents, there are many more Christians (64 percent) than Muslims (17 percent) or people without any religion (13 percent). One out of every two male respondents is a Protestant or other non-Catholic Christian.

Finally, the distribution by ethnic background shows that the Akans (that is, the Asantis, Akwapims, Fantis and other Akans) are the dominant group, accounting for 44 percent of the male sample and 50 percent of the female sample. In comparison the Ewes and Moles-Dagbanis accounted for between 15 and 17 percent of the male and female respondents, respectively.

2.7 Respondents' Level of Education by Background Characteristics

Differences in educational attainment by age, residence and region are presented for male respondents in Table 2.12. Overall, 25 percent of male respondents have never been to school. There are more uneducated males in rural than in urban areas. The proportion with primary and middle school education is higher in the rural than in the urban areas, but the proportion with secondary education is significantly lower, 12 percent as against 38 percent. The proportion of uneducated male respondents increases with increasing age. For example, the proportion of uneducated male respondents 55-59 years old is 64 percent compared to 10 percent for the 15-19 age group.

Table 2.12 Male respondent level of education by background characteristics

Percent distribution of male respondents by highest level of education attended, according to age, residence, and region, Ghana 1993

Background characteristic	Highest level of education				Total	Number of men
	None	Primary	Middle/ JSS	Second-ary/ Higher		
Age						
15-19	10.3	12.9	63.4	13.4	100.0	224
20-24	18.1	11.5	47.3	23.1	100.0	182
25-29	21.0	11.5	44.5	23.0	100.0	200
30-34	25.7	13.8	40.1	20.4	100.0	167
35-39	25.1	10.5	43.9	20.5	100.0	171
40-44	26.9	4.6	42.6	25.9	100.0	108
45-49	36.8	8.0	32.2	23.0	100.0	87
50-54	34.0	6.4	29.8	29.8	100.0	94
55-59	63.8	4.3	17.4	14.5	100.0	69
Residence						
Urban	12.8	6.7	42.6	37.8	100.0	460
Rural	31.1	12.4	44.8	11.8	100.0	842
Region						
Western	20.2	13.2	54.4	12.3	100.0	114
Central	20.7	14.7	47.4	17.2	100.0	116
Greater Accra	2.3	4.0	37.0	56.6	100.0	173
Volta	11.9	13.6	56.5	18.1	100.0	177
Eastern	16.8	9.8	51.4	22.0	100.0	173
Ashanti	20.9	13.0	54.8	11.3	100.0	177
Brong-Ahafo	16.3	4.9	57.7	21.1	100.0	123
Northern	71.0	5.1	11.6	12.3	100.0	138
Upper West	50.0	18.8	22.9	8.3	100.0	48
Upper East	65.1	15.9	12.7	6.3	100.0	63
Total	24.7	10.4	44.0	21.0	100.0	1302

At the regional level Greater Accra has the smallest proportion of uneducated respondents (2 percent). The highest proportion of uneducated male respondents is in the Northern Region (71 percent). Males in the northern part of the country (Northern, Upper East and Upper West regions) tend to have much fewer educational opportunities than their counterparts in the other regions.

Table 2.13 shows that 35 percent of female respondents have no education, 16 percent have primary education, and 39 percent have middle school education. Only 10 percent of females have secondary education. By and large, the data for women show the same pattern of differentials as observed for the men.

Table 2.13 Female respondent level of education by background characteristics

Percent distribution of women respondents by highest level of education attended, according to age, residence, and region, Ghana 1993

Background characteristic	Highest level of education				Total	Number of women
	None	Primary	Middle/ JSS	Second-ary/ Higher		
Age						
15-19	17.9	15.7	54.4	12.0	100.0	803
20-24	26.4	19.2	43.4	11.0	100.0	829
25-29	33.4	15.9	40.2	10.5	100.0	845
30-34	39.3	16.4	34.5	9.8	100.0	743
35-39	37.7	16.5	34.6	11.2	100.0	581
40-44	51.1	12.5	28.2	8.2	100.0	425
45-49	66.7	11.6	16.1	5.7	100.0	336
Residence						
Urban	16.5	14.7	47.6	21.2	100.0	1720
Rural	46.2	16.7	33.4	3.6	100.0	2842
Region						
Western	27.4	19.8	43.2	9.5	100.0	398
Central	30.1	18.9	43.4	7.5	100.0	438
Greater Accra	13.1	13.9	44.8	28.2	100.0	618
Volta	27.9	21.0	44.0	7.1	100.0	491
Eastern	22.4	16.6	50.5	10.6	100.0	519
Ashanti	28.4	17.1	46.8	7.7	100.0	750
Brong-Ahafo	27.9	19.0	46.3	6.8	100.0	469
Northern	81.1	7.2	8.3	3.4	100.0	444
Upper West	74.8	11.3	10.7	3.1	100.0	159
Upper East	72.1	9.1	10.5	8.3	100.0	276
Total	35.0	16.0	38.8	10.3	100.0	4562

CHAPTER 3

FERTILITY

The first comprehensive national data obtained on fertility and mortality were collected in the 1979 Ghana Fertility Survey (GFS). The 1988 Ghana Demographic and Health Survey (GDHS) was the second such survey. One of the objectives of the 1993 GDHS is to update knowledge on fertility levels and trends.

Two types of fertility data were collected in the 1993 GDHS. First, each woman was asked questions about the number of sons and daughters living with her, the number living elsewhere, and the number that had died. Second, a complete live birth history was collected from each respondent covering sex, date of birth and survival status of each child or, if dead, age at death.

In this chapter, current fertility levels, trends and differentials; cumulative fertility; birth intervals; age at first birth; and adolescent fertility are considered.

3.1 Current Fertility Levels and Trends

Table 3.1 presents the current age-specific fertility rates and a series of summary measures. A 5-year reference period has been adopted instead of a 3-year period due to substantial displacement of births from the third year prior to the survey to the fourth, which has the effect of biasing downward the 3-year rate (see Appendix B). For all women, the age-specific fertility rate starts from 119 live births per thousand for the age group 15-19, reaches a peak of 244 at age 25-29, and falls to 29 per thousand for those age 45-49. The same pattern seems to emerge for urban and rural women except that fertility reaches a maximum earlier in rural areas, and is sustained at a level well above 200 per thousand into the mid-30's (see Figure 3.1).

Table 3.1 Current fertility

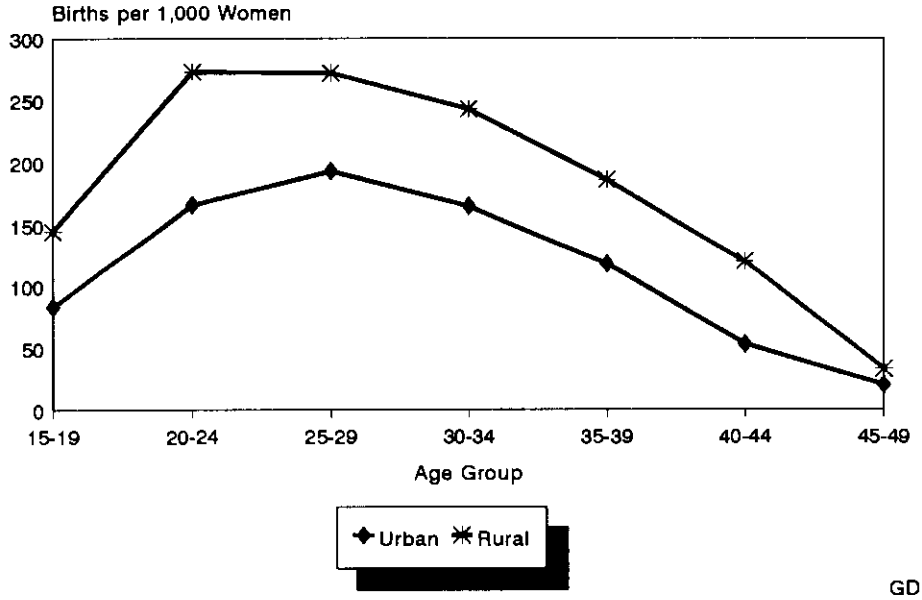
Age-specific and cumulative fertility rates and the crude birth rate for the five years preceding the survey, by urban-rural residence, Ghana 1993

Age group	Residence		Total
	Urban	Rural	
15-19	83	145	119
20-24	166	273	231
25-29	193	272	244
30-34	165	243	215
35-39	118	186	163
40-44	53	120	99
45-49	20	33	29
TFR 15-49	3.99	6.36	5.50
TFR 15-44	3.89	6.20	5.35
GFR	138	218	188
CBR	32.9	40.2	38.0

Note: Rates are for the period 1-60 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation.
TFR: Total fertility rate for ages 15-49, expressed per woman
GFR: General fertility rate (births divided by number of women 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

The total fertility rate for women age 15-49 for the five years preceding the survey is 5.5 children per woman. If studied by place of residence, rural women have about sixty percent more children than their urban counterparts. The fertility rate for rural women is 6.4 children per woman while their urban counterparts have 4 children per woman. Differentials in the general fertility rate (GFR) have been registered as well. For the country the GFR is 188 per thousand women while by place of residence marked variations emerge; 138 per thousand and 218 per thousand for urban and rural women, respectively. The crude birth rate (CBR) for the country is 38 per thousand, which indicates some decline in fertility when compared with the rate of 44 per thousand observed by indirect techniques from the 1984 Census.

Figure 3.1
Age-Specific Fertility Rates
By Urban-Rural Residence



3.2 Fertility Differentials

Table 3.2 shows the total fertility rate (TFR) of women age 15-49 years for the five years preceding the survey and the children ever born (CEB) for women age 40-49 years by selected background characteristics. As regards the regional TFR values, Greater Accra has the lowest fertility rate of 3.6 children per woman followed by Eastern and Volta with 5.1 and 5.4 children per woman, respectively. The region with the highest TFR is Northern Region with 7.4 children per woman. Total fertility rates for other regions are close to 6 children per woman.

The data also show that TFR decreases as the level of education of the woman increases. Women with no education have 6.7 children while those with secondary/higher education average only 2.9 children. For those with primary education, the TFR is 6.1 children, whereas those with middle/JSS education have about 4.7 children per woman (see Figure 3.2).

As a measure of change, the TFRs observed in the survey are compared with the average number of children ever born to women age 40-49, at the end of their childbearing period. The data in Table 3.2 show that there has been a decline of nearly a child. This decline is found in all the regions except the three

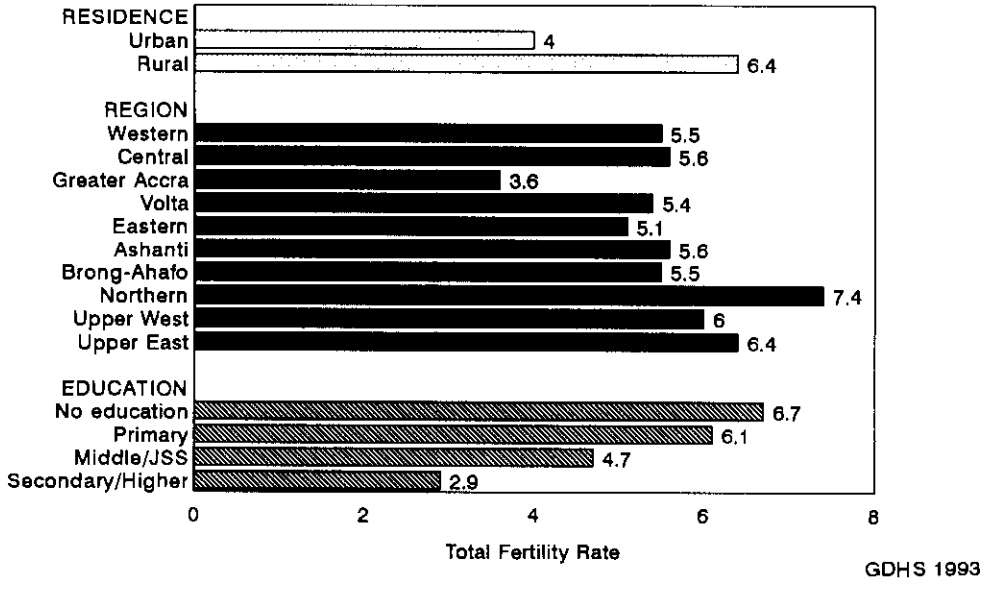
Table 3.2 Fertility by background characteristics

Total fertility rate for the five years preceding the survey and mean number of children ever born to women age 40-49, by selected background characteristics, Ghana 1993

Background characteristic	Total fertility rate[1]	Mean number of children ever born to women age 40-49
Residence		
Urban	3.99	5.35
Rural	6.36	6.55
Region		
Western	5.54	6.12
Central	5.57	6.79
Greater Accra	3.56	4.53
Volta	5.41	5.71
Eastern	5.10	6.19
Ashanti	5.60	6.43
Brong-Ahafo	5.46	6.84
Northern	7.39	7.44
Upper West	6.02	6.11
Upper East	6.44	5.88
Education		
No education	6.67	6.66
Primary	6.10	6.34
Middle/JSS	4.71	5.66
Secondary/Higher	2.90	3.67
Total	5.50	6.18

[1]Rate for women age 15-49 years

Figure 3.2
Total Fertility Rate by Selected Background Characteristics



northernmost regions, that is Northern, Upper West and Upper East. However, there appears to have been little change in fertility levels in rural areas and among women with no education.

3.3 Fertility Trends

The 1960 Post Enumeration Survey (Gil et al., 1971), the 1971 Supplementary Enquiry (CBS, 1971), the Ghana Fertility Survey, 1979-1980 (CBS, 1983) and the Demographic and Health Survey of 1988 (IRD and GSS, 1989) have suggested a TFR of more than 6 children per woman. For a comparison of current fertility rates derived from the 1988 GDHS with those from the 1993 GDHS, see Figure 3.3. The TFR calculated for the 1988 GDHS was 6.4 children per woman, compared to 5.5 derived from the present survey.

Age-specific fertility rates for successive five-year periods preceding the survey are presented in Table 3.3. The trend in fertility up to age 34 is clearly seen. Rates for periods further into the past are, of course, truncated for women at older ages. Evidence from the table suggests that there have been declines in fertility over the last 15 years preceding the survey. For the age group 20-24, the decline in fertility during the two five-year periods prior to the survey is 13 percent. For women age 30-34 years a significant decline of 21 percent is observed over a decade. For women 35-39, the decline is 34 percent. Thus, it is clear that significant declines in fertility have occurred after age 30.

In Table 3.4 the age-specific fertility rates of ever-married women by duration of marriage are displayed for successive five-year periods preceding the survey. The data show declines in fertility at all but the shortest marital duration. The decline over a decade for women married 15-19 years is 32 percent, and for those married 20-24 years, 43 percent.

Figure 3.3
Age-Specific Fertility Rates, GDHS 1988 and GDHS 1993

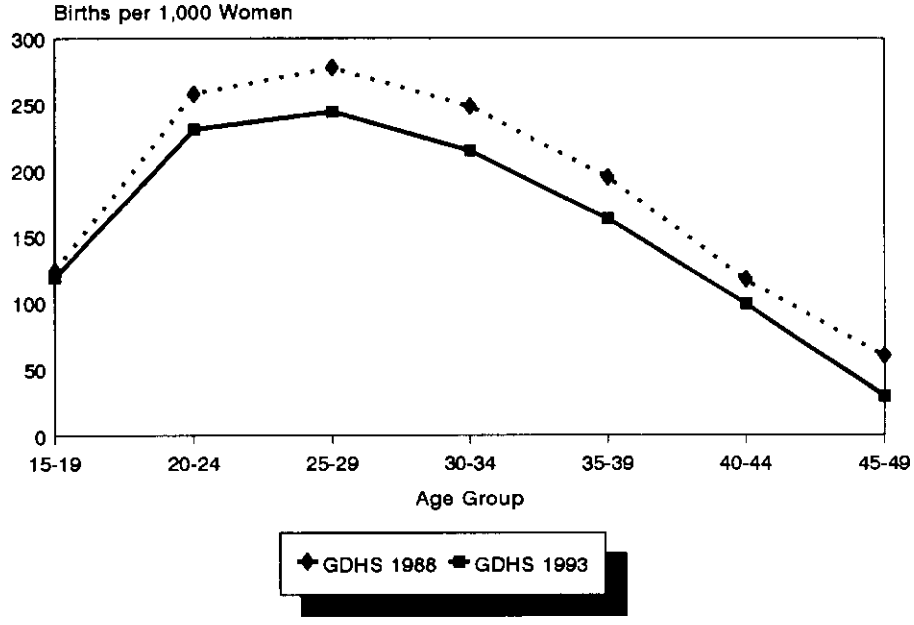


Table 3.3 Fertility trends

Age-specific fertility rates for five-year periods preceding the survey, Ghana 1993

Maternal age at birth	Years preceding survey			
	0-4	5-9	10-14	15-19
15-19	119	113	128	118
20-24	231	248	264	243
25-29	244	266	274	263
30-34	215	236	273	272
35-39	163	197	248	-
40-44	99	139	-	-
45-49	29	-	-	-

Note: Age-specific fertility rates are per 1,000 women.

Table 3.4 Fertility by marital duration

Fertility rates for ever-married women by duration since first marriage in years, for five-year periods preceding the survey, Ghana 1993

Marriage duration at birth	Years preceding survey			
	0-4	5-9	10-14	15-19
0-4	303	300	329	308
5-9	264	277	286	276
10-14	216	255	278	280
15-19	176	209	260	310
20-24	125	154	219	-
25-29	49	96	-	-

Note: Duration-specific fertility rates are per 1,000 women.

3.4 Children Ever Born and Living

The distribution of number of children ever born and those living by age of women is presented in Table 3.5. The table shows that the mean number of children ever born among all women is 2.9. The number of children ever born is a function of age, rising from a low of 0.2 for women age 15-19, to a high of 6.6 for women in the age group 45-49. This suggests that in the past by the time a woman finished childbearing she had 7 children on average. A similar pattern was observed in the GFS of 1979 and the GDHS of 1988, when the CEB value rose from 0.2 to 6.7 and from 0.2 to 7.7 for the same age groups, respectively. The mean

Table 3.5 Children ever born and living

Percent distribution of all women and currently married women by number of children ever born (CEB) and mean number ever born and living, according to five-year age groups, Ghana 1993

Age group	Number of children ever born (CEB)											Total	Number of women	Mean no. of CEB	Mean no. of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	81.4	16.6	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	803	0.21	0.20
20-24	31.0	34.4	25.5	7.1	1.6	0.5	0.0	0.0	0.0	0.0	0.0	100.0	829	1.15	1.02
25-29	10.1	19.9	27.9	21.9	13.3	5.2	1.5	0.2	0.0	0.0	0.0	100.0	845	2.31	2.02
30-34	2.4	6.2	12.7	20.2	24.5	20.1	6.9	4.8	1.7	0.5	0.0	100.0	743	3.84	3.33
35-39	4.0	4.0	7.4	14.6	19.3	17.6	14.3	10.8	5.5	1.4	1.2	100.0	581	4.58	3.91
40-44	2.6	3.5	5.9	8.5	9.6	11.1	15.3	17.2	11.8	8.2	6.4	100.0	425	5.82	4.92
45-49	2.7	1.5	3.3	7.7	7.4	9.8	11.3	15.5	13.4	12.5	14.9	100.0	336	6.64	5.35
Total	23.2	14.8	13.9	11.9	10.6	8.3	5.5	5.0	3.1	2.0	1.8	100.0	4562	2.91	2.49
CURRENTLY MARRIED WOMEN															
15-19	36.0	55.9	6.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	161	0.74	0.70
20-24	13.3	39.1	34.5	10.2	2.2	0.7	0.0	0.0	0.0	0.0	0.0	100.0	550	1.51	1.34
25-29	5.3	18.1	28.9	24.0	15.6	6.0	1.9	0.3	0.0	0.0	0.0	100.0	700	2.53	2.21
30-34	1.2	4.9	12.0	19.7	25.6	21.5	7.3	5.3	1.8	0.6	0.0	100.0	659	3.99	3.45
35-39	3.2	2.8	6.4	15.5	17.9	17.7	15.3	12.3	6.0	1.4	1.4	100.0	497	4.76	4.05
40-44	2.5	2.2	5.3	8.1	9.5	12.0	14.8	18.2	11.5	8.7	7.0	100.0	357	5.96	5.06
45-49	1.8	1.1	2.5	7.5	6.4	10.0	11.4	17.5	14.6	12.5	14.6	100.0	280	6.80	5.47
Total	6.4	15.3	16.8	15.1	13.5	10.8	6.9	6.6	3.9	2.4	2.3	100.0	3204	3.67	3.13

number of living children also increases with age: the value for all women is 2.5 and the number of children ever born is 2.9. The 0.4 difference indicates the effects of mortality. A lower proportion of women age 45-49 had 10 or more children in 1993 than in 1988 (15 percent compared to 22 percent)

With respect to currently married women, the mean number of children ever born is 3.7. This value is slightly higher by almost one child relative to that for all women. Also the number of currently married women who have no child is lower by 17 percentage points than for all women. Even though the mean number of children ever born follows the same pattern as for all women, the value is higher for currently married women, especially in the first three age groups, i.e., ages 15-29.

3.5 Birth Intervals

The timing of births has significant influence on both fertility and mortality. There is evidence that women with closely spaced births have higher fertility than women with longer birth intervals. Similarly, studies in diverse settings consistently show that shorter birth intervals increase the incidence of infant and child mortality.

Table 3.6 shows the percent distribution of births in the five years preceding the survey by length of interval since the previous birth, classified by selected demographic and background characteristics of the women. In general, the median birth interval is slightly over 3 years. About 1 in 4 births occurs four or more years after a previous birth, and one-sixth of the births occur within two years of a previous birth.

Table 3.6 Birth intervals

Percent distribution of births in the five years preceding the survey by number of months since previous birth, according to demographic and background characteristics, Ghana 1993

Characteristic	Number of months since previous birth					Total	Median number of months since previous birth	Number of births
	7-17	18-23	24-35	36-47	48+			
Age of mother								
15-19	*	*	*	*	*	*	*	15
20-29	4.7	13.7	37.6	24.6	19.4	100.0	34.2	1154
30-39	4.5	9.0	30.3	26.4	29.8	100.0	38.2	1371
40+	6.2	8.9	28.5	21.8	34.5	100.0	39.0	417
Birth order								
2-3	3.6	11.2	33.0	23.8	28.5	100.0	36.7	1317
4-6	5.4	10.9	31.8	26.6	25.3	100.0	36.6	1167
7+	7.6	9.7	35.5	24.3	22.8	100.0	35.0	473
Sex of prior birth								
Male	4.3	11.0	34.0	24.3	26.3	100.0	36.2	1526
Female	5.6	10.6	31.7	25.8	26.3	100.0	36.8	1431
Survival of prior birth								
Living	3.5	9.6	33.1	26.0	27.9	100.0	37.1	2542
Dead	13.5	18.6	31.8	19.3	16.9	100.0	30.5	415
Residence								
Urban	3.5	9.4	27.2	21.4	38.5	100.0	41.1	746
Rural	5.4	11.3	34.8	26.2	22.2	100.0	35.6	2211
Region								
Western	6.2	8.5	36.3	23.9	25.1	100.0	35.6	259
Central	5.7	14.9	32.6	27.0	19.9	100.0	35.2	282
Greater Accra	2.6	12.2	28.7	19.1	37.4	100.0	39.2	230
Volta	2.7	9.7	33.1	19.5	35.0	100.0	38.1	329
Eastern	6.6	8.2	29.8	25.2	30.2	100.0	37.5	305
Ashanti	5.2	10.8	33.0	24.7	26.3	100.0	36.3	518
Brong-Ahafo	4.5	13.0	33.6	22.6	26.4	100.0	35.6	292
Northern	5.9	12.5	34.9	29.5	17.3	100.0	35.2	393
Upper West	4.8	8.7	39.7	32.5	14.3	100.0	35.3	126
Upper East	4.5	7.6	29.1	29.6	29.1	100.0	39.4	223
Education								
No education	5.5	12.2	35.0	25.7	21.6	100.0	35.3	1371
Primary	5.1	11.5	32.3	26.3	24.8	100.0	36.3	532
Middle/JSS	4.3	8.7	31.3	24.3	31.3	100.0	38.0	916
Secondary/Higher	2.9	8.7	24.6	18.1	45.7	100.0	44.5	138
Total	4.9	10.8	32.9	25.0	26.3	100.0	36.4	2957

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. An asterisk signifies percentages based on fewer than 25 births, which have been suppressed.

The data show that older women are likely to have longer birth intervals than younger women. The median birth interval for women age 40 or more is 39 months but is only 34 months for those age 20-29 years. The median duration of birth interval increases with age, an indication of decreasing fecundity as women get older.

Birth intervals in relation to birth order or parity of the children are also examined. Apart from the seventh-order and higher children who have a lower median birth interval, there are no important differences in the median length of birth interval by birth order.

Since the death of a child curtails lactation, women who experience child loss are more likely to have a shorter birth interval than those who do not experience child loss. As indicated in the table, there appears to be a reduction of 6.6 months in the birth interval for children whose prior sibling has died. With regard to sex, no marked variations are observed in the median birth interval.

There is a marked difference in birth intervals for women in urban and rural areas. Urban women wait 5.5 months longer than their rural counterparts before having another child.

From the table, it becomes clear that birth intervals vary by region. The regions of Volta, Greater Accra, Eastern, and Upper East have the longest birth interval, ranging between 38 to 39 months. The median length of the birth interval for the others shows no marked differences and averages about 35 to 36 months.

It had been conjectured that women with secondary or higher education have shorter birth intervals due to shorter periods of breastfeeding if they are not using contraception. On the contrary, the GDHS 1993 data demonstrate that women with secondary or higher education have the longest median birth interval, 45 months, followed by those with middle/JSS of 38 months.

3.6 Age at First Birth

Research has suggested that women who have their first birth early tend to have a greater number of children than those who delay their first birth. Table 3.7 gives the percentage distribution of age at first birth by current age of the mother. For the six cohorts with experience up to age 20, there is almost no difference in the percentage who had a birth before age 20. Among women currently age 20-24, 49 percent had given birth by age 20; among those currently age 40-44, 50 percent had given birth before age 20. Furthermore, the median age at first birth shows no tendency toward either a younger or older age at first birth.

Table 3.7 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Ghana 1993

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	81.4	0.7	NA	NA	NA	NA	NA	100.0	803	a
20-24	31.0	2.3	22.2	24.0	NA	NA	NA	100.0	829	a
25-29	10.1	3.0	21.9	22.1	21.1	15.6	NA	100.0	845	20.3
30-34	2.4	4.0	24.1	22.3	21.8	16.3	9.0	100.0	743	20.0
35-39	4.0	3.3	20.3	21.5	19.3	16.7	15.0	100.0	581	20.5
40-44	2.6	5.6	22.8	21.6	17.4	17.9	12.0	100.0	425	20.0
45-49	2.7	2.4	22.6	22.3	18.2	16.1	15.8	100.0	336	20.2

NA = Not applicable
[a]Less than 50 percent of the women in the age group x to $x+4$ have had a birth by age x

Table 3.8 shows the median age at first birth among women age 25-49 years by selected background characteristics. According to the table, the median age at first birth for the women interviewed is 20 years. When considering place of residence, age at first birth for women in urban areas is about a year higher than that observed for their rural counterparts.

Regional variations in the median ages at first birth appear not to be significant, apart from Greater Accra, which has the highest median age at first birth, 21.6 years. The median age at first birth by level of education shows that women with secondary/higher education are more likely to delay childbearing than their counterparts with primary and middle/JSS education. It is also observed that highly educated women on the average have had their first birth at age 24, whereas their counterparts with less education first start giving birth at around 20 years.

Table 3.8 Median age at first birth

Median age at first birth among women age 25-49 years, by current age and selected background characteristics, Ghana 1993

Background characteristic	Current age					Ages 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	21.3	20.6	21.2	20.6	20.4	20.9
Rural	19.8	19.7	20.1	19.7	20.2	19.9
Region						
Western	19.5	19.0	(19.5)	(18.5)	*	19.1
Central	19.4	19.1	20.3	(20.0)	(20.2)	19.7
Greater Accra	22.5	21.4	21.2	21.2	(20.4)	21.6
Volta	19.6	20.3	21.4	18.5	21.3	20.0
Eastern	20.3	20.4	20.5	(20.8)	(19.4)	20.4
Ashanti	20.3	20.0	19.5	18.9	(19.5)	19.9
Brong-Ahafo	20.6	19.2	19.6	(19.0)	(18.8)	19.6
Northern	20.3	21.1	21.0	(21.4)	(20.6)	20.8
Upper West	(20.7)	(21.1)	*	*	*	21.0
Upper East	19.8	(18.4)	(20.9)	(20.9)	(22.5)	20.1
Education						
No education	19.6	19.8	20.6	19.7	20.3	20.0
Primary	19.5	18.7	19.7	19.4	(19.6)	19.3
Middle/JSS	20.3	20.0	19.8	20.0	19.2	20.0
Secondary/Higher	a	23.2	23.1	(24.1)	*	23.8
Total	20.3	20.0	20.5	20.0	20.2	20.2

Note: The medians for cohorts 15-19 and 20-24 could not be determined because half the women have not yet had a birth.
[a]Medians were not calculated for these cohorts because less than 50 percent of women in the age group *x* to *x+4* have had a birth by age *x*. Numbers in parentheses are based on 25-49 women; an asterisk indicates that the figure is based on fewer than 25 women and has been suppressed.

3.7 Adolescent Fertility

Research suggests that teenagers are more likely to suffer from pregnancy-related complications, which could claim their lives, than women age 20-24 or 25-29 years. Furthermore, such pregnancies are risky not only for the adolescent but for the child as well because of socio-economic and health problems,

particularly when these young mothers are not prepared adequately for a child. Table 3.9 shows that about 22 percent of teenage girls have started childbearing. Of this number, about 19 percent are already mothers, and 3 percent are pregnant with their first child. Of those who are 19 years old, 45 percent are mothers or pregnant for the first time.

Marked differentials exist in the background characteristics of teenage girls becoming mothers. In rural areas teenagers are more likely to become mothers earlier than their urban counterparts. Thus, in the rural areas, as many as 26 percent of teenage girls have begun childbearing, but only 16 percent in the urban areas.

Table 3.9 Teenage pregnancy and motherhood

Percentage of teenagers 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Ghana 1993

Background characteristic	Never pregnant	Percentage who are: Mothers	Pregnant with first child	Percentage who have begun child-bearing	Number of teenagers
Age					
15	98.5	1.5	0.0	1.5	133
16	93.3	4.3	2.5	6.7	163
17	87.0	11.7	1.2	13.0	162
18	63.4	31.4	5.2	36.6	194
19	55.0	39.7	5.3	45.0	151
Residence					
Urban	83.6	14.2	2.2	16.4	366
Rural	74.1	22.2	3.7	25.9	437
Region					
Western	73.5	21.7	4.8	26.5	83
Central	66.7	28.4	4.9	33.3	81
Greater Accra	84.3	12.4	3.3	15.7	121
Volta	88.9	8.6	2.5	11.1	81
Eastern	77.8	22.2	0.0	22.2	108
Ashanti	77.5	19.2	3.3	22.5	120
Brong-Ahafo	74.7	22.0	3.3	25.3	91
Northern	78.8	18.2	3.0	21.2	66
Upper West	*	*	*	*	24
Upper East	82.1	17.9	0.0	17.9	28
Education					
No education	66.7	29.2	4.2	33.3	144
Primary	69.8	25.4	4.8	30.2	126
Middle/JSS	81.5	15.8	2.7	18.5	437
Secondary/Higher	93.7	6.3	0.0	6.3	96
Total	78.4	18.6	3.0	21.6	803

Note: An asterisk signifies that the figure is based on fewer than 25 cases, and has been suppressed.

The level of education also has a significant effect on teenage pregnancy. Of those with no education, 33 percent have started childbearing; the corresponding figures for those with primary and middle/JSS are 30 and 19 percent, respectively. Only 6 percent of teenagers with secondary or higher education have started childbearing. Regional variations are also observed in relation to teenage mothers. The highest proportion of teenage childbearing is in the Central Region, 33 percent, followed by Western and Brong-Ahafo regions. The region with the lowest proportion of teenage childbearing is the Volta Region (11 percent).

Table 3.10 presents the distribution of teenagers 15-19 years old by the number of children ever born to them. The mean number of births is 0.2 for all, but rises to 0.5 for girls 19 years old. The most startling finding is that 5 percent of the 19-year-olds have already given birth to two or more children.

Table 3.10 Children born to teenagers

Percent distribution of teenagers 15-19 by number of children ever born (CEB), Ghana 1993

Age	Number of children ever born			Total	Mean number of CEB	Number of teenagers
	0	1	2+			
15	98.5	1.5	0.0	100.0	0.02	133
16	95.7	3.7	0.6	100.0	0.05	163
17	88.3	11.1	0.6	100.0	0.12	162
18	68.6	28.4	3.1	100.0	0.35	194
19	60.3	34.4	5.3	100.0	0.47	151
Total	81.4	16.6	2.0	100.0	0.21	803

CHAPTER 4

FERTILITY REGULATION

Knowledge and availability of contraceptive methods are important to the successful implementation of any family planning programme. Among the objectives of the 1993 GDHS are the determination of the level of knowledge of contraceptive methods and the assessment of the delivery of family planning services taking into account access to such services.

Knowledge or recognition of different contraceptive methods was first asked without prompting the respondent. She was asked to mention, spontaneously, the various ways or methods she had heard about that a couple can use to delay or avoid pregnancy. She was then asked whether she had ever heard about the methods she had not previously mentioned. Eight modern methods—the pill, IUD, injection, vaginal methods (including foam, jelly, diaphragm), condom, female sterilisation, implant and male sterilisation (vasectomy)—were described to the respondent to elicit information on her knowledge, use and source of each of these modern methods.

In addition, the respondent was asked questions on the two main traditional methods, i.e., rhythm/periodic abstinence and withdrawal, as well as other methods not mentioned by the interviewer. With respect to the periodic abstinence/rhythm method, the respondent was asked if she knew where advice on how to use the method could be obtained.

4.1 Knowledge of Methods and Source of Contraceptives

The information on knowledge and source of specific methods is aimed at assessing the availability of contraceptive methods. In other words, it helps determine whether non-use of specific methods is linked, in some way, to non-availability. Table 4.1 presents the results. They indicate that knowledge of at least one method of contraception is high among all women (91 percent), and among those currently married (91 percent). Similar proportions, 91 percent each for all women and currently married women, respectively, reported knowing of at least one modern contraceptive method. In comparison, relatively smaller proportions reported knowing of at least one traditional method (68 percent and 69 percent for all and currently married women, respectively).

The four modern methods most frequently mentioned by all women are the pill (79 percent), injection (75 percent), condom (80 percent), and female sterilisation (67 percent). Corresponding figures for the currently married women are 81, 79, 78 and 69 percent, respectively. Fifty-four percent of all women knew of the diaphragm/foam/jelly method compared to 57 percent for all currently married women. Forty-five percent of all women knew of the IUD compared to 47 percent of all currently married women. Less than 5 percent of all women know about implants. Thus, except for the condom, the proportion of currently married women that know of each modern method is higher than the corresponding figure for all women.

The most commonly mentioned traditional methods are periodic abstinence and withdrawal. For all women, 57 percent know of periodic abstinence and 52 percent know about withdrawal. The corresponding figures for currently married women are 58 percent and 53 percent, respectively. Again, the proportion of currently married women that know about each traditional method is higher than the corresponding figure for all women.

Table 4.1 also shows large disparities between knowing of a contraceptive method and knowing of a place to get it. For instance, 79 percent of all women say they know of the pill but only 56 percent know

Table 4.1 Knowledge of contraceptive methods and source for methods

Percentage of all women and currently married women who know specific contraceptive methods and who know a source (for information or services), by specific methods, Ghana 1993

Contraceptive method	Know method		Know a source[1]	
	All women	Currently married women	All women	Currently married women
Any method	91.1	91.3	72.4	74.0
Any modern method	90.6	90.7	71.9	73.5
Pill	79.4	81.3	55.7	58.2
IUD	44.5	47.3	31.0	33.8
Injection	74.8	79.4	53.1	58.1
Diaphragm/foam/jelly	53.5	56.6	39.0	41.2
Condom	79.5	78.2	54.0	54.5
Female sterilisation	67.3	69.1	49.0	51.4
Male sterilisation	21.4	22.5	16.2	17.0
Implant	4.4	4.7	2.7	2.8
Any traditional method	67.9	68.6	26.0	26.4
Periodic abstinence	57.1	57.5	26.0	26.4
Withdrawal	52.3	53.2	NA	NA
Other traditional methods	6.4	6.8	NA	NA
Number of women	4562	3204	4562	3204

NA = Not applicable
[1]For modern methods, source refers to a place to obtain the method or procedure. For periodic abstinence, source refers to a place or person to obtain advice on practicing this method.

of a source. Using the ratio (know source/know method) for each method, there are no apparent differences between all women and currently married women in the proportion that knows the source of a method. For instance, for all women, 0.7=(55.7/79.4) or 70 percent of those who know of the pill also know the source. The corresponding figure for currently married women is also 0.7 (58.2/81.3). Similar calculations for each method indicates that there are no differences between the two groups of women. For modern methods, the ratios are identical for the two groups of women, i.e., 0.6 for implant, 0.8 for male sterilisation, and 0.7 for all other methods. Less than half of women who know periodic abstinence know a place to get information about it.

Table 4.2 displays the distribution of all men and currently married men according to knowledge of contraceptive method and source. The proportion of all males that knew of at least one family planning method (91 percent) is identical to the corresponding figure for all women (91 percent). As in the case of women, there are disparities between knowledge of source and knowledge of method. However, for each method, the proportion of men that know the source of a method is either higher or equal to the corresponding number for women. For instance, 86 percent (79.7/92.9) of all currently married men who know of at least one modern contraceptive also know of its source. The corresponding figure for all currently married women is 81 percent. Men tend to know more about female sterilisation than male sterilisation. Sixty-four percent of all men report knowledge of female sterilisation compared to 29 percent who report knowledge of male sterilisation. Men generally appear to be more knowledgeable on traditional means of birth control than women and also to know more about the condom and its source than women.

Table 4.2 Knowledge of contraceptive methods and source for methods

Percentage of all men and currently married men who know specific contraceptive methods and who know a source (for information or services), by specific methods, Ghana 1993

Contraceptive method	Know method		Know a source[1]	
	All men	Currently married men	All men	Currently married men
Any method	91.1	94.0	76.0	80.5
Any modern method	90.2	92.9	75.3	79.7
Pill	73.3	79.6	53.5	59.4
IUD	38.1	44.3	25.3	31.5
Injection	64.4	74.2	46.9	54.6
Diaphragm/foam/jelly	54.6	62.1	42.7	49.3
Condom	84.8	86.8	67.8	72.0
Female sterilisation	64.4	70.4	48.5	53.1
Male sterilisation	29.3	32.4	22.4	25.5
Implant	5.1	5.5	3.1	3.5
Any traditional method	71.4	77.7	27.0	31.1
Periodic abstinence	58.1	64.0	27.0	31.1
Withdrawal	59.4	65.4	NA	NA
Other traditional methods	6.6	7.6	NA	NA
Number of men	1302	749	1302	749

NA = Not applicable
[1]For modern methods, source refers to a place to obtain the method or procedure. For periodic abstinence, source refers to a place or person to obtain advice on practicing this method.

4.2 Trends in Knowledge of Methods and Sources

The distribution of all women according to knowledge of selected contraceptive methods and source for two time periods, 1988 and 1993, can be compared in Table 4.3. The percentage of all women that know of any method increased from 76 in 1988 to 91 in 1993, an increase of 15 percentage points. In contrast, the increase in the percentage that knows a source is relatively small (3 percentage points). The corresponding increases for any modern method are 17 percentage points for knowledge of method and 6 percentage points for source. The percentage of all women who know of any traditional methods increased by 19 percentage points from 1988 to 1993 while the percentage that knows a source of advice on the use of periodic abstinence dropped by 9 percentage points in the same period.

In 1988, the two most widely known modern contraceptives were the pill (60 percent) and female sterilisation (54 percent). Condom ranked third (49 percent) followed by injections (43 percent). In 1993, the two most popularly known methods are condom (80 percent) and pill (79 percent). Injections moved from fourth position to become the third most commonly known contraceptive method (75 percent). Female sterilisation moved down to fourth position (67 percent). Overall, for each modern contraceptive method, there is an increase in the proportion of women that know about it. However, if we examine the ratio (know source) to (know method) for each year the picture is different. For instance, in 1988, 90 percent of all women who reported knowing of female sterilisation also knew the source. The corresponding number for 1993 is 73 percent. Similar percentage drops are observed for all the methods, including the traditional.

Table 4.3 Knowledge of contraceptive methods and source for methods

Percentage of all women and currently married women who know specific contraceptive methods and who know a source (for information or services), by specific methods, Ghana 1988 and 1993

Contraceptive method	Know method		Know a source[1]	
	All women 1988	All women 1993	All women 1988	All women 1993
Any method	76.2	91.1	69.8	72.4
Any modern method	73.8	90.6	66.4	71.9
Pill	59.7	79.4	49.1	55.7
IUD	36.7	44.5	29.5	31.0
Injection	42.6	74.8	36.2	53.1
Diaphragm/foam/jelly	36.6	53.5	31.9	39.0
Condom	48.5	79.5	38.3	54.0
Female sterilisation	54.1	67.3	48.8	49.0
Male sterilisation	10.7	21.4	9.0	16.2
Implant	NA	4.4	NA	2.7
Any traditional method	49.2	67.9	35.1	26.0
Periodic abstinence	39.0	57.1	35.1	26.0
Withdrawal	31.0	52.3	NA	NA
Other traditional methods	8.6	6.4	NA	NA
Number of women	4488	4562	4488	4562

NA = Not applicable
[1]For modern methods, source refers to a place to obtain the method or procedure. For periodic abstinence, source refers to a place or person to obtain advice on practicing this method.

4.3 Knowledge of Modern Methods and Sources by Background Characteristics

Table 4.4 presents the distribution of currently married women according to knowledge of at least one modern method of contraception and its source, by various characteristics including age, residence, region and education.

There appears to be no great differences between the distribution of women according to knowledge of any method and knowledge of a modern method. Therefore, subsequent discussion will be limited to knowledge of a modern method and knowledge of a source. The proportion of married women that know of a modern method increases with age up to age 34 and then drops. More than 80 percent of all currently married women in each age group know of at least one modern method. In general, about 80 percent (73.5/90.7) of the women who know of a modern method also know of a source. This ratio does not vary much by age.

There are differentials by residence. Urban married women are more likely to know of a method (98 percent) than rural women (88 percent). Urban women are also more likely to know of a source (86 percent) than rural women (68 percent). The source to knowledge ratio is higher (88 percent) in the urban than the rural area (77 percent).

Table 4.4 Knowledge of modern contraceptive methods and source for methods

Percentage of currently married women who know at least one modern contraceptive method and who know a source (for information or services), by selected background characteristics, Ghana 1993

Background characteristic	Know any method	Know a modern method[1]	Know a source for modern method	Number of women
Age				
15-19	85.7	85.7	62.7	161
20-24	90.9	89.8	74.4	550
25-29	93.6	93.4	76.1	700
30-34	93.6	93.3	75.6	659
35-39	91.3	90.7	76.1	497
40-44	90.8	90.2	70.6	357
45-49	84.6	83.2	65.4	280
Residence				
Urban	98.1	97.7	85.7	1025
Rural	88.1	87.5	67.7	2179
Region				
Western	96.4	96.4	69.2	250
Central	92.0	91.4	65.4	301
Greater Accra	99.4	98.3	91.3	356
Volta	94.0	93.1	80.2	349
Eastern	95.6	95.3	82.9	340
Ashanti	90.4	90.4	67.1	553
Brong-Ahafo	97.4	97.1	87.0	307
Northern	75.0	73.4	48.4	376
Upper West	81.6	80.9	69.9	136
Upper East	88.1	88.1	77.1	236
Education				
No education	82.8	81.8	57.2	1356
Primary	95.9	95.5	75.2	516
Middle/JSS	97.7	97.5	88.5	1092
Secondary/Higher	100.0	100.0	93.8	240
Total	91.3	90.7	73.5	3204

[1]Includes pill, IUD, injection, vaginal methods (foaming tablets/diaphragm/foam/jelly), condom, female sterilisation, male sterilisation, and implant.

The Northern Region is the only region where fewer than 80 percent of the women know of a method and fewer than 60 percent know of a source. In most regions, more than 80 percent of those who know a method also know of a source. The exceptions are Western, Central, Ashanti and Northern, where only about 70 percent of those that know of a method also know of a source.

The more educated the woman the more likely she is to know both a method and a source. The (know source) to (know method) ratio is 70 percent for those with no education, 79 percent for those with primary education, and 91 percent or higher for those with middle/JSS or higher education.

4.4 Ever Use of Contraception

Table 4.5 shows the percentages of all women and currently married women who have ever used specific methods of contraception. Only 30 percent of all women and 32 percent of all currently married women have ever used any modern method. The corresponding figures for any traditional methods are 30 and 31 percent, respectively. The percentage that has used any method, traditional or modern, is 43 percent for all women and 46 percent for all currently married women.

Younger women and women older than 45 years are least likely to have used modern methods, although there are considerable variations by specific methods. The distributions of methods are similar for the two groups of women. In general, all women are more likely to have used the pill, condom and diaphragm/foam/jelly in that order. The least preferred methods are sterilisation (male or female) and implant.

The pattern of use of traditional methods is similar to that of modern methods. Younger women and women over 45 are least likely to use traditional methods. The most commonly used traditional methods are abstinence and withdrawal. Less than three percent of women have used other methods.

Table 4.5 Ever use of contraception

Among all women and currently married women, the percentage who have ever used a contraceptive method, by specific method, according to age, Ghana 1993

		Modern method									Traditional method				
Background characteristic	Any method	Any modern method	Pill	IUD	Injection	Diaphragm/ Foam/ Jelly	Condom	Female sterilisation	Male sterilisation	Implant	Any trad. method	Periodic abstinence	Withdrawal	Other	Number of women
						ALL WOMEN									
15-19	21.5	12.6	3.7	0.5	0.4	2.4	9.6	0.0	0.0	0.0	15.1	9.5	10.0	0.7	803
20-24	46.9	29.3	12.9	1.0	1.8	5.9	17.0	0.2	0.0	0.0	36.2	24.6	21.7	2.5	829
25-29	49.9	33.7	16.9	1.9	3.1	11.2	16.8	0.1	0.0	0.0	37.3	27.0	21.4	3.6	845
30-34	48.6	36.1	22.2	3.0	5.1	14.3	11.8	0.5	0.1	0.1	30.7	23.7	13.9	2.6	743
35-39	52.0	37.3	18.9	4.5	5.7	12.0	12.6	1.9	0.0	0.0	34.4	25.5	18.6	3.6	581
40-44	48.0	36.2	20.9	3.8	8.2	10.6	11.3	2.6	0.0	0.0	30.1	22.6	14.8	3.5	425
45-49	33.9	22.6	13.4	3.0	5.1	5.4	6.5	2.4	0.3	0.0	21.1	16.7	9.8	1.5	336
Total	43.1	29.5	15.1	2.2	3.7	8.8	13.0	0.8	0.0	0.0	29.9	21.6	16.4	2.6	4562
						CURRENTLY MARRIED WOMEN									
15-19	32.3	20.5	6.2	1.2	1.2	7.5	14.9	0.0	0.0	0.0	19.9	11.2	12.4	0.6	161
20-24	45.5	28.2	15.3	1.1	2.0	5.5	13.8	0.2	0.0	0.0	35.1	23.8	21.3	2.5	550
25-29	49.0	32.7	17.7	1.7	3.0	10.4	15.3	0.1	0.0	0.0	36.0	25.3	20.1	3.9	700
30-34	46.7	34.7	21.2	2.9	5.3	13.4	10.9	0.5	0.2	0.2	28.7	22.5	12.4	2.3	659
35-39	50.7	35.2	17.3	4.2	5.8	11.7	12.5	1.8	0.0	0.0	34.6	26.0	17.9	3.6	497
40-44	47.6	35.9	19.9	3.4	7.8	10.4	12.3	3.1	0.0	0.0	29.7	22.7	13.4	3.9	357
45-49	32.9	21.8	13.2	2.5	5.4	5.4	6.4	1.8	0.4	0.0	20.7	16.4	9.3	1.8	280
Total	45.8	31.5	17.2	2.5	4.4	9.8	12.6	0.9	0.1	0.0	31.3	22.8	16.3	2.9	3204

4.5 Current Use of Contraceptive Methods

Information on current use of contraceptives is useful primarily for determining estimates of current contraceptive prevalence rates by method. Table 4.6 presents the distribution of current contraceptive use for all women (upper panel), for currently married women (middle panel) and for currently married men (lower panel). The age patterns of current use for all women and for currently married women are similar to those for ever use, with younger and older women being less likely to use either modern or traditional methods. As observed in the case of ever use, there are no remarkable differences in the distributions for all women and those for currently married women. For currently married men, there is no clear relation between age and current use of either any method or any modern method.

Table 4.6 Current use of contraception

Percent distribution of all women, of currently married women, and of currently married men by contraceptive method currently used, according to age, Ghana 1993

		Modern method								Traditional method						
Background characteristic	Any method	Any modern method	Pill	IUD	Injection	Diaphragm/ Foam/ Jelly	Condom	Female sterilisation	Implant	Any trad. method	Periodic abstinence	Withdrawal	Other	Not currently using	Total	Number of women
ALL WOMEN																
15-19	11.3	5.0	1.1	0.2	0.0	0.6	3.0	0.0	0.0	6.4	4.4	2.0	0.0	88.7	100.0	803
20-24	19.2	8.3	3.3	0.5	0.2	0.4	3.7	0.2	0.0	10.9	8.0	2.4	0.5	80.8	100.0	829
25-29	21.2	10.2	3.8	0.5	1.3	1.3	3.2	0.1	0.0	11.0	8.3	2.2	0.5	78.8	100.0	845
30-34	20.9	10.5	3.5	1.1	1.6	1.7	1.9	0.5	0.1	10.4	8.3	1.3	0.7	79.1	100.0	743
35-39	24.3	13.3	4.0	1.5	1.5	1.5	2.8	1.9	0.0	11.0	8.3	1.9	0.9	75.7	100.0	581
40-44	22.1	11.8	2.6	0.7	2.8	1.9	1.2	2.6	0.0	10.4	7.8	2.1	0.5	77.9	100.0	425
45-49	13.1	6.8	0.6	0.3	3.0	0.0	0.6	2.4	0.0	6.3	5.4	0.6	0.3	86.9	100.0	336
Total	18.9	9.3	2.8	0.7	1.2	1.1	2.6	0.8	0.0	9.6	7.3	1.9	0.5	81.1	100.0	4562
CURRENTLY MARRIED WOMEN																
15-19	13.0	8.1	1.9	0.6	0.0	1.9	3.7	0.0	0.0	5.0	3.1	1.9	0.0	87.0	100.0	161
20-24	16.9	7.5	3.6	0.5	0.4	0.0	2.7	0.2	0.0	9.5	6.2	2.9	0.4	83.1	100.0	550
25-29	21.1	10.1	4.0	0.6	1.3	1.4	2.7	0.1	0.0	11.0	7.9	2.6	0.6	78.9	100.0	700
30-34	20.5	10.6	3.5	1.2	1.8	1.8	1.7	0.5	0.2	9.9	7.7	1.5	0.6	79.5	100.0	659
35-39	26.0	13.9	4.2	1.8	1.6	1.4	3.0	1.8	0.0	12.1	9.5	1.8	0.8	74.0	100.0	497
40-44	23.2	11.5	2.0	0.6	2.8	2.0	1.1	3.1	0.0	11.8	8.7	2.5	0.6	76.8	100.0	357
45-49	14.3	6.8	0.4	0.4	3.6	0.0	0.7	1.8	0.0	7.5	6.4	0.7	0.4	85.7	100.0	280
Total	20.3	10.1	3.2	0.9	1.6	1.2	2.2	0.9	0.0	10.1	7.5	2.1	0.5	79.7	100.0	3204
CURRENTLY MARRIED MEN																
15-24[1]	36.2	27.7	6.4	2.1	0.0	0.0	19.1	0.0	0.0	8.5	2.1	6.4	0.0	63.8	100.0	47
25-29	39.1	26.4	4.5	1.8	0.9	2.7	16.4	0.0	0.0	12.7	5.5	6.4	0.9	60.9	100.0	110
30-34	31.7	16.5	5.0	0.0	1.4	0.7	9.4	0.0	0.0	15.1	7.9	5.8	1.4	68.3	100.0	139
35-39	30.6	21.5	6.9	0.7	0.7	2.1	11.1	0.0	0.0	9.0	7.6	1.4	0.0	69.4	100.0	144
40-44	43.5	20.7	2.2	1.1	1.1	4.3	9.8	2.2	0.0	22.8	16.3	6.5	0.0	56.5	100.0	92
45-49	36.8	19.7	6.6	0.0	1.3	3.9	5.3	2.6	0.0	17.1	15.8	1.3	0.0	63.2	100.0	76
50-54	34.5	20.2	3.6	3.6	1.2	2.4	9.5	0.0	0.0	14.3	10.7	3.6	0.0	65.5	100.0	84
55-59	10.5	3.5	0.0	0.0	0.0	0.0	1.8	1.8	0.0	7.0	5.3	0.0	1.8	89.5	100.0	57
Total	33.5	19.9	4.7	1.1	0.9	2.1	10.4	0.7	0.0	13.6	9.1	4.0	0.5	66.5	100.0	749

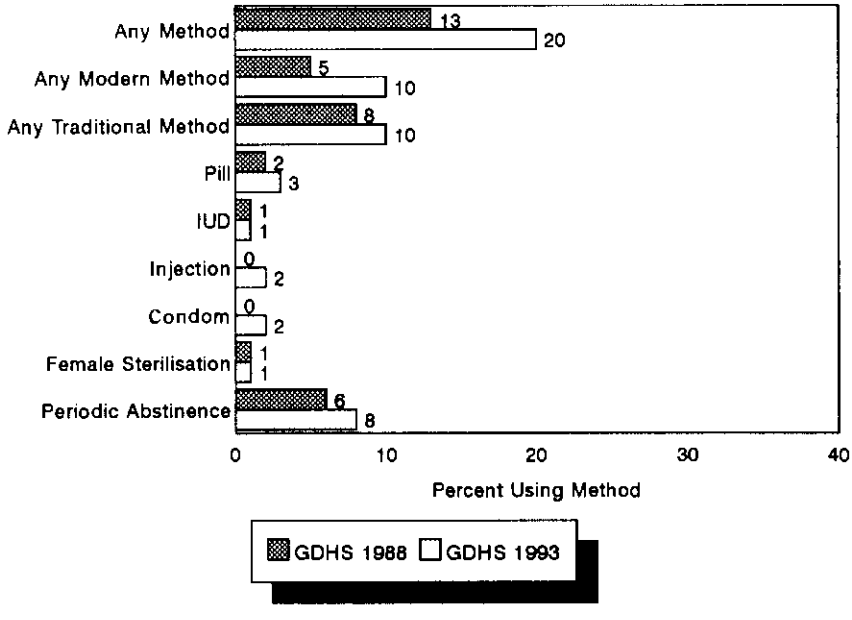
[1]Ages 15-19 and 20-24 are combined due to the small number of men under 20 years.

Nineteen percent of all women use any method (modern or traditional). The corresponding number for currently married women and men are 20 and 34 percent, respectively. The percentage using any modern method is 9 percent for all women. The figures for currently married women and men are 10 and 20 percent, respectively. The percentages using any traditional method are 10 percent for all women, 10 percent for currently married women, and 14 percent for currently married men.

The prevalence of contraceptive use has increased sharply since the 1988 GDHS. The use of any method has increased from 13 percent to 20 percent among currently married women (see Figure 4.1). The use of modern methods doubled (from 5 to 10 percent), while the use of traditional methods increased from 8 to 10 percent.

Among all women and currently married women, the most commonly used modern methods of contraception are the pill, condom and injectable, in that order. However, with one exception, the condom, the proportion of currently married women using each of the methods, including the traditional methods, is larger than that for all women. Periodic abstinence is by far the most commonly used method by women. Except for injections and female sterilisation, currently married men report a higher overall prevalence for all methods than women. The difference is particularly striking for condom use, where the prevalence is 10 percent for currently married men versus 2 percent for currently married women.

Figure 4.1
Trends in Contraceptive Use
Currently Married Women 15-49



Tables 4.7.1 and 4.7.2 show the distribution of currently married women and currently married men, respectively, by current contraceptive method used, according to selected background characteristics (also see Figure 4.2). For both the male and female distributions, the proportion using any form of contraception, including traditional methods, is higher in urban than rural areas. Currently married women report the pill as the most preferred modern method (3 percent), while currently married men report the condom as the most preferred modern method (10 percent). Of the traditional methods, periodic abstinence appears to be the preferred method for both married men and women, in both urban and rural areas.

Table 4.7.1 Current use of family planning by method

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Ghana 1993

		Modern method								Traditional method						
Background characteristic	Any method	Any modern method	Pill	IUD	Injection	Diaphragm/ foam/ jelly	Condom	Female sterilisation	Implant	Any trad. method	Periodic abstinence	Withdrawal	Other	Not currently using	Total	Number of women
Residence																
Urban	30.6	15.8	4.4	1.8	2.0	2.0	4.3	1.4	0.0	14.8	12.2	2.2	0.4	69.4	100.0	1025
Rural	15.4	7.4	2.7	0.5	1.4	0.8	1.3	0.7	0.0	7.9	5.3	2.0	0.6	84.6	100.0	2179
Region																
Western	26.4	14.4	5.2	0.8	0.8	2.4	4.0	1.2	0.0	12.0	8.4	2.8	0.8	73.6	100.0	250
Central	15.6	7.6	1.7	1.3	1.3	0.3	2.7	0.3	0.0	8.0	5.0	2.7	0.3	84.4	100.0	301
Greater Accra	36.8	18.0	3.1	2.5	2.5	2.0	6.5	1.4	0.0	18.8	14.0	4.2	0.6	63.2	100.0	356
Volta	25.2	7.7	1.1	0.3	2.0	2.0	1.7	0.6	0.0	17.5	13.2	3.7	0.6	74.8	100.0	349
Eastern	25.9	12.9	5.0	0.6	2.1	2.4	2.1	0.9	0.0	12.9	9.7	1.8	1.5	74.1	100.0	340
Ashanti	13.7	8.0	3.1	0.2	1.3	0.2	1.3	1.8	0.2	5.8	4.7	0.7	0.4	86.3	100.0	553
Brong-Ahafo	25.4	14.0	5.9	2.0	2.0	1.3	1.3	1.6	0.0	11.4	6.5	4.2	0.7	74.6	100.0	307
Northern	11.2	5.1	1.9	0.3	0.8	0.8	1.3	0.0	0.0	6.1	5.9	0.3	0.0	88.8	100.0	376
Upper West	6.6	5.1	2.9	0.0	0.7	0.0	1.5	0.0	0.0	1.5	1.5	0.0	0.0	93.4	100.0	136
Upper East	10.2	7.2	3.0	0.8	2.1	0.8	0.0	0.4	0.0	3.0	2.5	0.0	0.4	89.8	100.0	236
Education																
No education	8.2	3.6	1.0	0.2	0.9	0.3	0.6	0.6	0.0	4.6	3.5	0.7	0.3	91.8	100.0	1356
Primary	22.3	12.4	4.3	1.0	2.5	1.6	1.7	1.4	0.0	9.9	6.2	2.9	0.8	77.7	100.0	516
Middle/JSS	28.1	13.8	4.7	1.2	1.8	1.5	3.8	0.9	0.0	14.3	10.4	3.2	0.6	71.9	100.0	1092
Secondary/ Higher	48.3	25.0	6.7	2.9	2.5	4.6	5.8	2.1	0.4	23.3	19.6	2.9	0.8	51.7	100.0	240
Number of living children																
0	9.5	3.3	1.7	0.0	0.0	0.4	0.8	0.4	0.0	6.2	4.6	1.7	0.0	90.5	100.0	241
1	15.6	7.3	1.9	0.5	0.2	0.7	4.0	0.0	0.0	8.2	5.6	1.9	0.7	84.4	100.0	572
2	20.7	9.4	4.1	1.5	0.2	1.5	1.8	0.3	0.0	11.3	8.1	2.8	0.5	79.3	100.0	608
3	26.1	13.5	4.9	0.7	2.7	1.4	2.7	1.1	0.0	12.6	10.5	1.6	0.5	73.9	100.0	555
4+	21.7	11.6	2.9	1.0	2.8	1.4	1.7	1.7	0.1	10.1	7.4	2.1	0.6	78.3	100.0	1228
Total	20.3	10.1	3.2	0.9	1.6	1.2	2.2	0.9	0.0	10.1	7.5	2.1	0.5	79.7	100.0	3204

Table 4.7.2 Current use of family planning by method

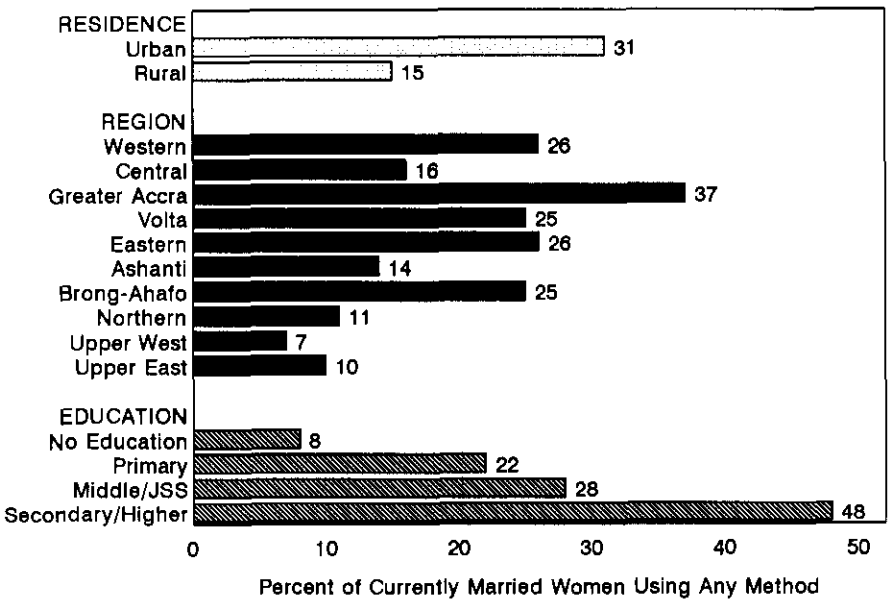
Percent distribution of currently married men by contraceptive method currently used, according to selected background characteristics, Ghana 1993

Background characteristic	Any method	Modern method: Any modern method	Pill	IUD	Injection	Diaphragm/ foam/ jelly	Condom	Female sterilisation	Traditional method: Any trad. method	Periodic abstinence	Withdrawal	Other	Not currently using	Total	Number of men
Residence															
Urban	46.6	29.7	4.8	2.4	1.6	3.2	16.5	1.2	16.9	12.0	4.4	0.4	53.4	100.0	249
Rural	27.0	15.0	4.6	0.4	0.6	1.6	7.4	0.4	12.0	7.6	3.8	0.6	73.0	100.0	500
Region															
Western	26.1	11.6	1.4	0.0	0.0	1.4	7.2	1.4	14.5	4.3	10.1	0.0	73.9	100.0	69
Central	26.8	22.5	2.8	1.4	2.8	0.0	15.5	0.0	4.2	4.2	0.0	0.0	73.2	100.0	71
Greater Accra	57.3	38.2	2.2	2.2	3.4	5.6	22.5	2.2	19.1	11.2	7.9	0.0	42.7	100.0	89
Volta	37.2	18.6	5.8	1.2	1.2	5.8	4.7	0.0	18.6	11.6	5.8	1.2	62.8	100.0	86
Eastern	31.7	14.4	5.8	0.0	0.0	0.0	8.7	0.0	17.3	12.5	2.9	1.9	68.3	100.0	104
Ashanti	37.8	26.1	11.7	0.0	0.9	0.9	11.7	0.9	11.7	4.5	6.3	0.9	62.2	100.0	111
Brong-Ahafo	37.7	21.3	3.3	3.3	0.0	1.6	13.1	0.0	16.4	14.8	1.6	0.0	62.3	100.0	61
Northern	27.6	12.6	2.3	1.1	0.0	3.4	5.7	0.0	14.9	14.9	0.0	0.0	72.4	100.0	87
Upper West	18.5	11.1	3.7	3.7	0.0	0.0	3.7	0.0	7.4	7.4	0.0	0.0	81.5	100.0	27
Upper East	9.1	9.1	2.3	0.0	0.0	0.0	4.5	2.3	0.0	0.0	0.0	0.0	90.9	100.0	44
Education															
No education	10.2	3.2	0.5	0.0	0.0	0.0	2.3	0.5	6.9	5.6	0.9	0.5	89.8	100.0	216
Primary	27.6	14.5	1.3	0.0	1.3	3.9	7.9	0.0	13.2	7.9	5.3	0.0	72.4	100.0	76
Middle/JSS	37.1	23.8	7.1	1.7	0.7	1.7	11.9	0.7	13.3	8.2	4.1	1.0	62.9	100.0	294
Secondary/ Higher	60.7	37.4	7.4	1.8	2.5	4.9	19.6	1.2	23.3	16.0	7.4	0.0	39.3	100.0	163
Number of living children															
0	34.4	23.0	4.9	3.3	0.0	0.0	14.8	0.0	11.5	8.2	3.3	0.0	65.6	100.0	61
1	28.4	17.4	0.9	0.9	0.9	0.9	13.8	0.0	11.0	5.5	4.6	0.9	71.6	100.0	109
2	34.5	19.8	5.2	0.9	0.0	3.4	10.3	0.0	14.7	8.6	5.2	0.9	65.5	100.0	116
3	38.9	21.4	7.9	0.8	1.6	1.6	9.5	0.0	17.5	11.1	6.3	0.0	61.1	100.0	126
4+	32.6	19.6	4.5	0.9	1.2	2.7	8.9	1.5	13.1	9.8	2.7	0.6	67.4	100.0	337
Total	33.5	19.9	4.7	1.1	0.9	2.1	10.4	0.7	13.6	9.1	4.0	0.5	66.5	100.0	749

For any method and for any modern method, the prevalence rate reported by married men is consistently higher than that reported by married women in every region except in Western and Upper East. For any modern method, married women reported a prevalence rate of less than 10 percent in all regions except Brong-Ahafo, Eastern, Greater Accra and Western. In contrast, married men reported a modern prevalence rate of more than 10 percent in all but one region: Upper East.

For specific methods, there is no apparent correspondence between women's and men's report of current use in each region. This is especially true for condom use. Whereas 23 percent of married men in Greater Accra declare the condom as the current method they use, only 7 percent of married women in Greater Accra report the condom as the current method.

Figure 4.2
Current Use of Contraception
By Selected Background Characteristics



There are distinct variations in level of current use by educational attainment for both modern and traditional methods. The more educated married men and women are the most likely to use any type of contraceptive method. Currently married women with secondary education are almost 7 times more likely to use modern methods and 5 times more likely to use traditional methods than those with no education. Among those with middle/JSS or secondary education, the pill (5-7 percent) and condom (4-6 percent) are the most commonly used modern methods. Among those with less than middle school education, the most preferred modern methods are the pill (1-4 percent) and injections (1-3 percent). Periodic abstinence is the preferred method among all educational levels. Similar patterns emerge for the currently married men.

The higher the number of living children the more likely a woman is to use any method of contraception. However, women who have 4 or more children have a lower prevalence rate than those who have given birth to 3 children. The pill is the most common form of modern contraception regardless of number of children ever born. In addition, women of order 2 or less also prefer condoms whereas those of order 3 or more prefer injections. Periodic abstinence is the preferred form of traditional birth control among all parity levels. There is no clear relationship between men's parity and level of use except in the case of condom and withdrawal. The higher the parity the less likely currently married men are to use the condom.

4.6 Number of Children at First Use of Contraceptives

Couples may start using contraception only after attaining their desired family size. They may also choose to start using contraceptives as a means of spacing births. In a similar fashion, young unmarried women may use contraceptives to avoid unwanted pregnancy. Differences in fertility-controlling behaviour of women can, therefore, be observed by examining the number of living children at the time of first use of contraceptives by age of the woman. For the Ghana DHS, this information is presented in Table 4.8.

Table 4.8 Number of children at first use of contraception

Percent distribution of all women by number of living children at the time of first use of contraception, according to current age, Ghana 1993

Current age	Never used contraception	Number of living children at time of first use of contraception					Missing	Total	Number of women
		0	1	2	3	4+			
15-19	78.5	19.6	1.5	0.2	0.0	0.0	0.2	100.0	803
20-24	53.1	30.0	12.4	3.7	0.7	0.0	0.0	100.0	829
25-29	50.1	21.7	14.2	8.5	3.7	1.8	0.1	100.0	845
30-34	51.4	11.3	10.2	11.2	8.3	7.4	0.1	100.0	743
35-39	48.0	10.0	8.1	9.6	7.9	16.0	0.3	100.0	581
40-44	52.0	7.5	8.2	7.1	5.9	19.3	0.0	100.0	425
45-49	66.1	3.9	2.7	6.5	6.5	14.3	0.0	100.0	336
Total	56.9	17.0	8.8	6.5	4.2	6.4	0.1	100.0	4562

The results show that younger women are more likely to use contraceptives for the first time before the birth of the first child, suggesting a desire to postpone pregnancy. For example, among ever-users 15-19 years of age, 91 percent of them first used it before the birth of the first child. Among ever-users 20-24, the corresponding proportion is 64 percent. In contrast, among ever-users 35-39, 64 percent first used contraceptives after the birth of the second child, suggesting a desire either to limit or to space. The results also show that use of contraceptives before the first birth has increased from about 4 percent for the 45-49 year-old cohort to almost 20 percent for the 15-19 year-old. Therefore, there is a trend towards earlier use of contraceptives.

4.7 Knowledge of Fertile Period

A number of contraceptive methods depend on basic knowledge of the ovulatory cycle for their success. This is especially true for periodic abstinence, which relies on knowledge of when in the cycle a woman is most likely and when she is least likely to conceive. Table 4.9 presents a distribution of all women and those who have ever used periodic abstinence by their reported knowledge of the fertile period in the ovulatory cycle.

Table 4.9 Knowledge of fertile period

Percent distribution of all women and of women who have ever used periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Ghana 1993

Perceived fertile period	All women	Ever users of periodic abstinence
During menstrual period	0.9	1.5
Right after period has ended	20.2	23.9
In the middle of the cycle	28.4	54.5
Just before period begins	3.6	6.9
No particular time	0.1	0.1
Other	0.2	0.1
Don't know	46.6	12.9
Missing	0.1	0.1
Total	100.0	100.0
Number	4562	984

More than 46 percent of all respondents did not know the timing of the fertile period. Of those who have used periodic abstinence, the number that did not know is substantially lower (13 percent). Comparable numbers, 1 and 2 percent, respectively, said the fertile period occurs during the menstrual cycle. Twenty percent of all women and 24 percent of all who have used natural family planning said the fertile period comes after the menstrual cycle has ended. Of all women, 28 percent gave the correct response, i.e., the fertile period falls in the middle of the menstrual cycle. Among those who have used periodic abstinence, only 55 gave the correct response. This has serious implications for family planning because more than 40 percent of those who rely on this technique of birth control are probably using it incorrectly.

4.8 Source of Family Planning Methods

All current users of modern family planning methods were asked for the source from which they most recently obtained their supply. Table 4.10 classifies these sources as public, medical private, other private and other. More than 50 percent of respondents obtain their supply from private sources, mainly pharmacy/drug store. The second largest source is the public sector, accounting for 43 percent of all contraceptive supplies (see Figure 4.3). The main distributing institutions that form the public sector are government hospitals, government health centres, and family planning clinics.

Table 4.10 Source of supply for modern contraceptive methods

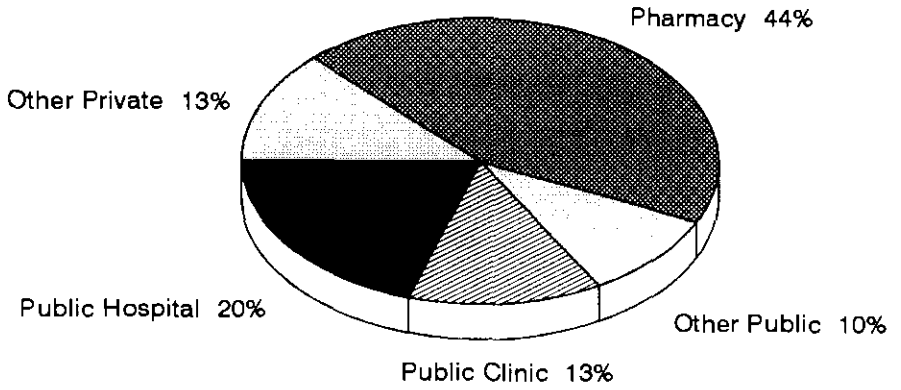
Percent distribution of women who are current users of modern contraceptive methods by most recent source of supply, according to specific methods, Ghana 1993

Source of supply	Pill	IUD	Injec-tion	Diaphragm/ Foam/ Jelly	Con-dom	Female sterili-sation	All modern methods
Public	36.9	87.1	85.7	24.5	16.8	73.0	43.3
Government hospital	11.5	48.4	28.6	4.1	8.4	73.0	20.3
Government health centre	8.5	6.5	26.8	4.1	0.8	0.0	7.3
Family planning clinic	13.1	32.3	26.8	12.2	5.9	0.0	13.0
Mobile clinic	3.1	0.0	3.6	0.0	1.7	0.0	1.9
Field worker	0.8	0.0	0.0	4.1	0.0	0.0	0.7
Medical private	60.0	12.9	14.3	65.3	74.8	27.0	52.2
Private hospital/clinic	0.8	6.5	3.6	2.0	0.8	21.6	3.5
Pharmacy/drug store	53.1	0.0	1.8	61.2	72.3	0.0	44.0
Private doctor/clinic	3.8	3.2	7.1	0.0	0.0	5.4	2.8
Mobile clinic	0.8	0.0	0.0	0.0	0.8	0.0	0.5
Field worker	1.5	0.0	0.0	0.0	0.8	0.0	0.7
Family planning clinic	0.0	3.2	0.0	2.0	0.0	0.0	0.5
Maternity home	0.0	0.0	1.8	0.0	0.0	0.0	0.2
Other private	2.3	0.0	0.0	6.1	8.4	0.0	3.8
Shop	1.5	0.0	0.0	2.0	1.7	0.0	1.2
Friends/relatives	0.8	0.0	0.0	4.1	6.7	0.0	2.6
Other	0.8	0.0	0.0	4.1	0.0	0.0	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	130	31	56	49	119	37	423

The main types of contraceptives distributed by the private sector, mainly pharmacies, are the pill, diaphragm/foam/jelly, and condoms. However, private clinics and doctors account for about 27 percent of all female sterilisations. The government sector is largely responsible for sterilisation (73 percent of all female sterilisations), IUD insertion (87 percent), and injectable (86 percent). In addition, the government sector is also responsible for supplying about 37 percent of pill supplies, 25 percent of diaphragm/foam/jelly, and 17 percent of all condoms.

Respondents using a contraceptive were asked the time needed to travel from their home to the source of contraceptives. Non-users were asked if they knew of a source, and if so, the travelling time between their homes and this source. Table 4.11 presents the length of time between a respondent's home and the source of contraceptives. The median travelling time for the non-user of modern methods (30 minutes) is about 1½ times that of the user (20 minutes). The median travel time of rural respondents is generally about twice as long as that for urban respondents. For instance, a current rural user has a median travel time of about 30 minutes compared to 15 minutes for the current urban user. Corresponding figures for rural non-users and urban non-users are 46 and 20 minutes, respectively.

Figure 4.3
Percent Distribution of Current Users of Modern Methods by Most Recent Source of Supply



GDHS 1993

Table 4.11 Time to source of supply for modern contraceptive methods

Percent distribution of women who are currently using a modern contraceptive method, of women who are not using a modern method, and of women who know a method, by time to reach a source for family planning, according to urban-rural residence, Ghana 1993

Minutes to source	Women who are currently using a modern method			Women who are not using a modern method			Women who know a contraceptive method		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Not applicable[1]	4.7	9.6	7.1	0.3	1.9	1.3	0.8	2.7	2.0
0-14	46.5	20.2	33.6	26.2	8.2	14.7	29.8	10.2	18.0
15-29	20.0	13.5	16.8	19.8	7.1	11.7	20.4	8.5	13.2
30-59	17.7	20.2	18.9	18.5	13.6	15.4	19.0	15.7	17.0
60 or more	10.2	34.6	22.2	9.2	25.4	19.5	9.7	29.1	21.3
Does not know time	0.5	1.9	1.2	0.9	3.9	2.8	0.8	4.3	2.9
Does not know source	0.0	0.0	0.0	25.0	39.6	34.3	19.4	29.2	25.3
Not stated	0.5	0.0	0.2	0.1	0.3	0.2	0.1	0.3	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median time to source	15.1	31.0	20.6	20.1	45.7	30.4	16.0	45.5	30.3
Number of women	215	208	423	1505	2634	4139	1655	2500	4155

[1]Response was either "friends/relatives," "mobile clinic," or "field worker."

Among current urban users, 67 percent are within 30 minutes of a source. The corresponding figure for current rural users is 34 percent. Also, only 10 percent of current urban users live more than 60 minutes from a source compared to 35 percent of current rural users. Among urban non-users of modern methods, 46 percent live within 30 minutes of a source compared to 15 percent of rural non-users. Among those who know of a modern method, 50 percent of those in the urban area live within 30 minutes of a source compared to only 19 percent of those in the rural areas.

4.9 Intention to Use Family Planning Among Non-Users

All women not using contraceptives at the time of the survey, which includes women now pregnant as well as past users and never users, were asked whether they might consider adopting contraceptives at a future date, and if so which method they might prefer. Such data provide an indication of future demands for family planning services.

Table 4.12 shows the distribution of women by intention to use in the future, according to the number of living children. A distinction is made between near future use and later use.

Table 4.12 Future use of contraception

Percent distribution of currently married women who are not using a contraceptive method by past experience with contraception and intention to use in the future, according to number of living children, Ghana 1993

Past experience with contraception and future intentions	Number of living children[1]					Total
	0	1	2	3	4+	
Never used contraception						
Intend to use in next 12 months	1.7	17.2	25.8	21.8	29.6	23.5
Intend to use later	17.4	19.8	15.4	14.0	11.3	14.5
Unsure as to timing	3.3	2.9	3.2	5.2	3.6	3.6
Unsure as to intention	16.5	11.7	6.1	7.7	9.4	9.4
Do not intend to use	61.2	48.4	49.3	50.9	46.1	48.9
Missing	0.0	0.0	0.3	0.4	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	121	308	345	271	692	1737
Previously used contraception						
Intend to use in next 12 months	11.0	51.0	47.0	50.0	53.0	49.0
Intend to use later	47.2	29.0	26.8	14.2	9.8	19.1
Unsure as to timing	0.0	2.8	3.0	2.1	2.1	2.3
Unsure as to intention	0.0	2.8	3.6	5.0	2.7	3.2
Do not intend to use	41.7	14.5	19.6	29.1	31.4	26.0
Missing	0.0	0.0	0.0	0.0	0.6	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	36	145	168	141	328	818
All currently married nonusers						
Intend to use in next 12 months	3.8	28.0	32.7	31.3	37.3	31.7
Intend to use later	24.2	22.7	19.1	14.1	10.8	15.9
Unsure as to timing	2.5	2.9	3.1	4.1	3.1	3.2
Unsure as to intention	12.7	8.8	5.3	6.8	7.3	7.4
Do not intend to use	56.7	37.5	39.6	43.4	41.4	41.6
Missing	0.0	0.0	0.2	0.2	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	157	453	513	412	1020	2555

[1]Includes current pregnancy

Among those who have never used contraceptives, 42 percent intend to use. Of this number, 56 percent (24 percent of total) intend to use in the next 12 months, while 35 percent intend to use at a later date. Of those who have used contraceptives previously, 70 percent intend to use them in the future. More than 70 percent of previous users who intend to use intend to do so in the next 12 months. Among all currently married non-users 51 percent intend to use family planning, and of these, 62 percent intend to do so in the next 12 months while 31 percent intend to do so later.

In general, the proportion intending to use family planning methods in the next 12 months tends to increase with parity. For example, among the never users, the proportion intending to use some contraceptive method in the next 12 months is 2 percent among those with no living children, 17 percent among those with only one living child, and 30 percent among those with 4 or more children. The corresponding figures among those who have previously used family planning methods are 11, 51, and 53 percent, respectively.

In contrast, the proportion intending to use family planning later decreases with the number of living children. Among never users, this figure is 20 percent for those with 1 living child. The corresponding figures are 15, 14 and 11 percent for those with 2, 3 and 4 or more children, respectively. A similar pattern is observed among those who have previously used family planning.

4.10 Reasons for Non-Use

Women who are not currently using any contraceptive method and do not intend to use any in the future were asked to provide the main reason for their intention not to use. Table 4.13 presents the percentage distribution of these women classified into two age ranges—those less than 30 years of age and those 30 years and above, according to reasons for not intending to use.

Table 4.13 Reasons for not using contraception

Percent distribution of married women who are not using a contraceptive method and who do not intend to use in the future by main reason for not using, according to age, Ghana 1993

Reason for not using contraception	Age		Total
	15-29	30-49	
Want children	45.9	25.9	32.8
Lack of knowledge	15.8	11.5	13.0
Partner opposed	1.9	1.7	1.8
Cost	0.0	0.4	0.3
Side effects	7.1	6.2	6.5
Other health concern	2.4	2.7	2.6
Hard to get methods	0.5	0.4	0.5
Religion	3.3	1.7	2.3
Opposed to family planning	6.0	2.4	3.7
Fatalistic	3.8	2.9	3.2
Other people opposed	0.8	0.6	0.7
Infrequent sex	0.8	4.5	3.2
Difficult to get pregnant	5.4	16.3	12.5
Menopausal/Had hysterectomy	0.5	16.8	11.2
Inconvenient	1.4	1.3	1.3
Other	0.3	1.2	0.8
Don't know	4.1	3.5	3.7
Total	100.0	100.0	100.0
Number	368	695	1063

More than 30 percent of the women cite the desire for children as the main reason for not using contraceptives. This category represents 46 percent of those under 30 years and 26 percent of those 30 years and over. Thirteen percent claim lack of knowledge as the main reason. This group represents 16 percent of those under 30 years and 12 percent of those 30 years and above. Thirteen percent have difficulty getting pregnant. They represent 5 percent of those under 30 years but 16 percent of those 30 years and over. Another 11 percent are menopausal. They represent 1 percent of those under 30 years but 17 percent of those over 30 years. A relatively small number (7 percent) do not intend to use contraceptives because of side effects. Thus, older women are more likely to offer difficulty in getting pregnant and menopause as reasons for not intending to use contraceptives than younger women. On the other hand, younger women are more likely to offer desire to get pregnant as the reason than are older women.

4.11 Preferred Method

Respondents who are currently non-users, but who *intend* to use *in the future*, were asked to state their preferred methods. Table 4.14 displays the results for currently married women and currently married men.

Table 4.14 Preferred method of contraception for future use

Percent distributions of currently married women and currently married men who are not using a contraceptive method but who intend to use in the future by preferred method, according to whether they intend to use in the next 12 months or later, Ghana 1993

Preferred method of contraception	Intend to use: In next 12 months	Intend to use: After 12 months	Intend to use: Unsure as to timing	Total
WOMEN				
Pill	20.7	20.9	12.2	20.2
IUD	4.0	1.7	4.9	3.3
Injection	31.5	29.2	47.6	31.8
Diaphragm/Foam/Jelly	2.2	1.7	0.0	1.9
Condom	3.7	5.2	3.7	4.2
Female sterilisation	3.5	3.4	6.1	3.6
Male sterilisation	0.0	0.2	0.0	0.1
Implant	0.6	0.5	0.0	0.5
Periodic abstinence	7.8	7.6	1.2	7.3
Withdrawal	1.2	0.7	0.0	1.0
Other	0.9	0.5	0.0	0.7
Unsure	24.0	28.3	24.4	25.3
Missing	0.0	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0
Number	811	407	82	1300
MEN				
Pill	17.6	15.7	*	15.7
IUD	4.2	0.0	*	2.8
Injection	20.4	27.0	*	24.1
Diaphragm/Foam/Jelly	2.8	2.2	*	2.4
Condom	14.1	21.3	*	16.1
Female sterilisation	3.5	3.4	*	3.2
Male sterilisation	1.4	1.1	*	1.2
Implant	0.0	1.1	*	0.4
Periodic abstinence	8.5	3.4	*	6.0
Withdrawal	0.7	1.1	*	0.8
Other	0.0	1.1	*	0.4
Unsure	23.2	21.3	*	24.5
Missing	3.5	1.1	*	2.4
Total	100.0	100.0	*	100.0
Number	143	89	17	249

* Base for percentages is fewer than 25 cases.

Of all the women who intend to use family planning, more than 25 percent are unsure of their method of choice. The corresponding figure for men is also 25 percent. Thirty-two percent of women prefer the injection method and 20 percent prefer the pill. For currently married men, 24 percent prefer injection and 16 percent favour the pill. Very similar distributions are obtained for those who intend to use contraceptives in the next 12 months and those who intend to use them later. It is noteworthy that only 4 percent of the women indicated an intention to use condom in the future compared to 16 percent of the men.

In summary, women who are currently non-users but who intend to use in the future either do not know which method they prefer or prefer pills and injections. Men show preference for injections, condoms and pills in that order. Periodic abstinence is the preferred traditional method among both men (6 percent) and women (7 percent). About the same proportion of married men and women prefer female sterilisation (3 and 4 percent, respectively).

4.12 Exposure to Family Planning Messages

Both male and female respondents were asked if they had heard family planning messages over the radio, TV or both radio and TV in the month before the interview. Tables 4.15.1 and 4.15.2 present the distribution of their responses according to selected characteristics.

Table 4.15.1 Heard about family planning on radio and television

Percentage distribution of all women by whether they have heard a radio or television message about family planning in the last few months prior to the interview, according to selected background characteristics, Ghana 1993

Background characteristic	Heard family planning message on radio or television				Total	Number of women
	Neither	Radio only	Tele-vision only	Both		
Residence						
Urban	42.8	13.2	10.9	33.1	100.0	1720
Rural	70.4	20.4	2.0	7.2	100.0	2842
Region						
Western	57.3	18.8	7.0	16.8	100.0	398
Central	69.2	13.5	3.9	13.5	100.0	438
Greater Accra	40.5	12.0	9.5	38.0	100.0	618
Volta	71.5	20.0	1.4	7.1	100.0	491
Eastern	57.0	21.8	4.0	17.1	100.0	519
Ashanti	61.6	13.1	7.6	17.7	100.0	750
Brong-Ahafo	62.3	17.3	6.0	14.5	100.0	469
Northern	68.2	18.7	3.6	9.5	100.0	444
Upper West	69.2	23.3	3.1	4.4	100.0	159
Upper East	51.1	32.6	2.2	14.1	100.0	276
Education						
No education	73.8	19.3	1.9	5.0	100.0	1597
Primary	64.9	17.8	6.3	11.0	100.0	729
Middle/JSS	54.1	16.9	6.5	22.5	100.0	1768
Secondary/Higher	27.4	15.4	11.1	46.2	100.0	468
Total	60.0	17.7	5.3	17.0	100.0	4562

Table 4.15.2 Heard about family planning on radio and television

Percentage distribution of all men by whether they have heard a radio or television message about family planning in the last few months prior to the interview, according to selected background characteristics, Ghana 1993

Background characteristic	Heard family planning message on radio or television: Neither	Radio only	Tele-vision only	Both	Total	Number of men
Residence						
Urban	29.6	19.3	8.5	42.6	100.0	460
Rural	52.5	31.9	1.7	13.9	100.0	842
Region						
Western	48.2	28.1	2.6	21.1	100.0	114
Central	50.0	28.4	3.4	18.1	100.0	116
Greater Accra	24.3	17.9	7.5	50.3	100.0	173
Volta	54.2	37.3	0.6	7.9	100.0	177
Eastern	41.0	27.7	4.0	27.2	100.0	173
Ashanti	40.1	22.6	9.0	28.2	100.0	177
Brong-Ahafo	39.8	24.4	3.3	32.5	100.0	123
Northern	61.6	27.5	2.9	8.0	100.0	138
Upper West	60.4	18.8	0.0	20.8	100.0	48
Upper East	34.9	49.2	1.6	14.3	100.0	63
Education						
No education	62.9	29.9	2.2	5.0	100.0	321
Primary	56.3	28.1	0.7	14.8	100.0	135
Middle/JSS	43.1	26.7	4.4	25.8	100.0	573
Secondary/Higher	19.4	26.0	7.3	47.3	100.0	273
Total	44.4	27.5	4.1	24.0	100.0	1302

Of all women, 60 percent did not hear any family planning message over radio or television, 18 percent heard some radio messages, 17 percent heard both radio and TV messages, and 5 percent heard only TV messages. Of all men, 44 percent did not hear any family planning message over radio or television, 28 percent heard some radio messages, 24 percent heard both radio and TV messages, and 4 percent heard only TV messages. Thus, only 22 percent of the women and 28 percent of the men were exposed to family planning messages on the TV. Urban residents are more likely to have heard some message (57 percent of women and 70 percent of men) compared to rural residents (30 percent of women and 48 percent of men). Rural residents are more likely to have heard from the radio only (20 percent for women and 32 percent for men) while urban residents are more likely to have heard from both the radio and TV (33 percent for women and 43 percent for men).

Access to TV is limited in all regions, but is especially so in the Volta, Northern and Upper West regions. Except for Greater Accra, more than 50 percent of the women in all regions did not hear either a radio or TV message in the month preceding the interview. In the case of the men this is true only in Central, Volta, Northern and Upper West regions.

Access to radio and TV varies by education. About 74 percent of all women with no education did not hear any radio or TV message compared to only 27 percent of those with secondary/higher education. Also, 46 percent of those women with secondary/higher education heard both radio and TV compared to 5 percent of those with no education and 11 percent of those with primary education. Similar distributions are observed for the men.

4.13 Approval of Family Planning Messages

Respondents were asked their opinion on airing family planning messages on radio and TV. The objective is to obtain a measure of public acceptability of having such information broadcast. Table 4.16 shows the percentage distribution of all female respondents by whether they deem such broadcasting acceptable, not acceptable or do not know, by selected characteristics.

A large majority (88 percent) believed such messages to be acceptable. Only 6 percent did not have an opinion. The proportion that found it acceptable seems to increase with age, peaking at 30-34 years, and then dropping. Urban residents are more likely to find such messages acceptable (93 percent) than rural residents (85 percent). Women in the Northern (10 percent), Upper West (9 percent) and Upper East (11 percent) regions are more likely than women in other regions to find radio and TV messages not acceptable. The higher the educational attainment of the woman the less likely she is to find such messages objectionable. For example, almost 10 percent of women with no education find such messages unacceptable compared to only 3 percent of those with secondary education.

Table 4.16 Accepability of the use of news media for disseminating family planning messages

Percentage distribution of women by acceptability of having messages about family planning on radio or television, by selected background characteristics, Ghana 1993

Background characteristic	Acceptable	Not acceptable	Don't know	Missing	Total	Number
Age						
15-19	84.2	6.4	9.3	0.1	100.0	803
20-24	88.2	7.1	4.6	0.1	100.0	829
25-29	89.5	6.2	4.4	0.0	100.0	845
30-34	90.3	5.5	4.2	0.0	100.0	743
35-39	88.5	6.7	4.6	0.2	100.0	581
40-44	86.6	7.5	5.6	0.2	100.0	425
45-49	84.5	7.4	8.0	0.0	100.0	336
Residence						
Urban	92.7	4.1	3.3	0.0	100.0	1720
Rural	84.7	8.1	7.1	0.1	100.0	2842
Region						
Western	86.2	8.8	5.0	0.0	100.0	398
Central	91.8	3.9	4.1	0.2	100.0	438
Greater Accra	93.2	3.4	3.4	0.0	100.0	618
Volta	87.4	7.5	5.1	0.0	100.0	491
Eastern	90.6	4.8	4.4	0.2	100.0	519
Ashanti	86.5	7.7	5.7	0.0	100.0	750
Brong-Ahafo	93.6	3.8	2.6	0.0	100.0	469
Northern	80.9	9.7	9.0	0.5	100.0	444
Upper West	71.7	9.4	18.9	0.0	100.0	159
Upper East	79.3	10.9	9.8	0.0	100.0	276
Education						
No education	79.6	9.9	10.3	0.2	100.0	1597
Primary	88.8	5.9	5.3	0.0	100.0	729
Middle/JSS	92.3	4.8	2.9	0.1	100.0	1768
Secondary/Higher	96.4	2.8	0.9	0.0	100.0	468
Total	87.7	6.6	5.7	0.1	100.0	4562

To further explore the issue of acceptability of family planning, currently married women were asked to state the extent to which they discussed contraception with their partners or spouses. Table 4.17 presents the distribution of currently married respondents who know a contraceptive method according to frequency of discussion of family planning with their spouses, during the year preceding the interview.

Of the 2895 respondents to this question, 53 percent never discussed family planning topics with their spouses. Of those that did (46 percent), 20 percent did so infrequently and 26 percent did so frequently (more than twice). The proportion that never discussed decreases from a steep 73 percent for those under 20 years, to 48 percent for those 30-34 years, then increases to 52 percent for the 40-44, and 60 percent for the 45-49 age-group. In other words, young women and older women are least likely to engage in contraceptive discussions with their spouses. Women in the 30-39 age group are most likely to frequently discuss family planning with their husbands.

Table 4.17 Discussion of family planning by couples

Percent distribution of currently married women who know a contraceptive method by the number of times family planning was discussed with husband in the year preceding the survey, according to current age, Ghana 1993

Age	Number of times family planning discussed			Missing	Total	Number of women
	Never	Once or twice	More often			
15-19	72.5	15.2	10.1	2.2	100.0	138
20-24	55.1	19.8	23.0	2.0	100.0	499
25-29	52.8	21.4	25.2	0.6	100.0	654
30-34	48.2	20.7	30.8	0.3	100.0	614
35-39	49.4	19.6	30.6	0.4	100.0	445
40-44	52.1	19.8	27.5	0.6	100.0	313
45-49	59.5	20.3	19.8	0.4	100.0	232
Total	53.1	20.1	25.9	0.8	100.0	2895

Note: The question was not asked of sterilised women.

In pursuit of further clarification, both male and female respondents who are currently married were asked to indicate their approval or disapproval of couples using contraception. The data presented in Tables 4.18.1 and 4.18.2 are limited to currently married, non-sterilised respondents who know or have heard of a contraceptive method. It should be noted that the respondents' opinion of their spouses attitudes may be incorrect.

Overall, 89 percent of both married women and married men say they approve of couples using family planning. Sixty-one percent of female and 75 percent of male respondents reported that both they and their partners approve the use of contraceptives to avoid pregnancy. Twenty-two percent of the female respondents do not know the attitude of their husbands compared to only 12 percent of the male respondents. Nine percent of the female respondents report that they approve while their husbands disapprove. The corresponding figure for the male respondents is 5 percent. Two percent of female respondents and 2 percent of male respondents disapprove while their partners approve. Only 5 percent of both male and female respondents report disapproval by both spouses.

Table 4.18.1 Attitudes of couples toward family planning

Percent distribution of currently married women who know a contraceptive method by approval of family planning and by their perception of their husband's approval, according to selected background characteristics, Ghana 1993

Background characteristic	Both approve	Respondent approves		Respondent disapproves		Both disapprove	Missing	Total	Number
		Husband disapproves	Husband's attitude is unknown	Husband approves	Husband's attitude unknown				
Age									
15-19	52.9	3.6	26.8	2.2	6.5	6.5	1.4	100.0	138
20-24	65.1	6.8	18.0	1.0	2.4	4.4	2.2	100.0	499
25-29	61.6	7.5	19.7	2.6	3.5	4.7	0.3	100.0	654
30-34	62.5	8.5	18.9	3.1	2.9	4.1	0.0	100.0	614
35-39	63.8	9.9	15.7	1.1	3.8	5.4	0.2	100.0	445
40-44	58.1	15.0	16.0	2.2	3.5	4.2	1.0	100.0	313
45-49	54.7	10.8	22.0	0.4	5.2	6.5	0.4	100.0	232
Residence									
Urban	66.0	9.1	16.1	2.3	2.0	3.6	0.8	100.0	992
Rural	59.0	8.7	20.1	1.8	4.3	5.4	0.6	100.0	1903
Region									
Western	59.7	5.5	18.5	4.6	5.0	6.7	0.0	100.0	238
Central	69.6	3.3	18.8	0.7	2.2	4.7	0.7	100.0	276
Greater Accra	62.2	10.9	19.2	1.7	3.4	2.6	0.0	100.0	349
Volta	55.2	11.0	23.3	1.8	3.4	5.2	0.0	100.0	326
Eastern	73.9	7.5	11.8	1.9	0.3	3.4	1.2	100.0	322
Ashanti	67.1	7.8	13.1	2.9	2.2	5.7	1.2	100.0	490
Brong-Ahafo	69.4	9.9	14.3	1.0	0.7	2.4	2.4	100.0	294
Northern	48.6	11.3	25.9	2.1	5.3	6.4	0.4	100.0	282
Upper West	27.9	17.1	36.9	0.0	14.4	3.6	0.0	100.0	111
Upper East	52.2	8.7	22.2	1.4	7.7	7.7	0.0	100.0	207
Education									
No education	50.6	9.5	24.8	1.9	6.5	6.4	0.4	100.0	1115
Primary	59.6	9.6	20.9	1.8	2.0	5.3	0.6	100.0	488
Middle/JSS	70.0	8.0	13.7	2.0	1.7	3.4	1.1	100.0	1057
Secondary/Higher	77.9	7.7	8.1	2.6	0.9	2.6	0.4	100.0	235
Total	61.4	8.8	18.8	2.0	3.5	4.8	0.7	100.0	2895

Note: The question was not asked of sterilised women.

In all age groups, and for both male and female respondents, the proportion of couples where both partners approve of family planning is more than 50 percent. The next largest proportion is in the category where the respondent approves but does not know the attitude of the spouse. These numbers are much larger for females than for males. In other words, currently married men are more likely to claim knowledge of their female partner's attitude to contraception than currently married women. Couples' attitudes do not appear to have a clear relationship to age, but there are definite patterns to some response categories. For instance, male respondents are more likely to report that both they and their partners disapprove of contraceptives if the male respondent is older. Also, the percentage where the wife approves and the husband disapproves increases with age of the wife. The age patterns in other categories of response are less obvious.

Both partners are more likely to approve in urban than in rural areas. Similarly, both partners are more likely to disapprove in rural than in urban areas. There are no clear relationships by region.

Both partners are more likely to approve the more educated the respondent, and *vice versa* for disapproval. The proportion that do not know their partners attitude decreases with education for both male and female respondents.

Table 4.18.2 Attitudes of couples toward family planning

Percent distribution of currently married men who know a contraceptive method by approval of family planning and by their perception of their wives' approval, according to selected background characteristics, Ghana 1993

Background characteristic	Both approve	Respondent approves		Respondent disapproves		Both disapprove	Missing	Total	Number
		Wife disapproves	Wife's attitude is unknown	Wife approves	Wife's attitude unknown				
Age									
15-24	79.5	0.0	6.8	0.0	0.0	2.3	11.4	100.0	44
25-29	74.0	7.7	9.6	1.9	1.9	2.9	1.9	100.0	104
30-34	80.6	2.3	5.4	2.3	3.9	3.9	1.6	100.0	129
35-39	75.5	6.5	9.4	2.2	1.4	5.0	0.0	100.0	139
40-44	72.2	2.2	10.0	4.4	3.3	6.7	1.1	100.0	90
45-49	67.6	5.9	13.2	4.4	2.9	5.9	0.0	100.0	68
50-54	80.5	3.9	6.5	0.0	2.6	6.5	0.0	100.0	77
55-59	58.3	10.4	16.7	0.0	4.2	8.3	2.1	100.0	48
Residence									
Urban	79.8	2.5	5.0	4.6	0.4	4.2	3.4	100.0	238
Rural	72.0	6.1	11.3	0.9	3.7	5.4	0.7	100.0	461
Region									
Western	69.1	4.4	11.8	4.4	0.0	8.8	1.5	100.0	68
Central	76.1	2.8	7.0	2.8	5.6	2.8	2.8	100.0	71
Greater Accra	89.7	3.4	4.6	1.1	0.0	1.1	0.0	100.0	87
Volta	63.9	9.6	15.7	2.4	2.4	6.0	0.0	100.0	83
Eastern	75.0	12.0	6.0	0.0	2.0	3.0	2.0	100.0	100
Ashanti	83.2	1.0	4.0	3.0	3.0	3.0	3.0	100.0	101
Brong-Ahafo	83.9	3.6	3.6	3.6	1.8	1.8	1.8	100.0	56
Northern	63.8	4.3	14.5	1.4	4.3	8.7	2.9	100.0	69
Upper West	*	*	*	*	*	*	*	*	23
Upper East	68.3	0.0	12.2	0.0	2.4	17.1	0.0	100.0	41
Education									
No education	58.3	5.0	16.7	3.3	5.6	10.6	0.6	100.0	180
Primary	75.3	5.5	8.2	1.4	4.1	5.5	0.0	100.0	73
Middle/JSS	76.9	4.9	8.7	1.7	1.7	3.8	2.1	100.0	286
Secondary/Higher	88.7	4.4	1.9	1.9	0.0	0.6	2.5	100.0	160
Total	74.7	4.9	9.2	2.1	2.6	5.0	1.6	100.0	699

Note: The question was not asked of men whose wives had been sterilised. An asterisk signifies that the percentage is based on fewer than 25 cases, and has been suppressed.

CHAPTER 5

OTHER PROXIMATE DETERMINANTS OF FERTILITY

In this chapter the focus is on the main factors, other than contraception, that affect a woman's risk of becoming pregnant. These are nuptiality (marriage), sexual intercourse, postpartum amenorrhoea and abstinence from sexual relations, and secondary infertility. The importance of nuptiality as an indicator of the onset of exposure to childbearing cannot be overemphasised. In Ghana, various types of marriage exist, ranging from customary, civil and religious, to a variety of informal unions. Throughout this report, the term "married" refers to both formal and informal unions.

5.1 Marital Status

The upper panel of Table 5.1 presents the distribution of women interviewed according to their marital status. The data show that less than a fifth of those interviewed have never been married. Nearly 60 percent of the women are found in formal unions. About 12 percent reported living together in informal unions. The widowed and the divorced constitute 2 percent and 6 percent, respectively. Three percent of the women are no longer living together with their partners. There is a clear relationship between age and marital status. The proportion currently married increases with age. Women between 20 and 35 are the most likely

Table 5.1 Current marital status

Percent distribution of women and men by current marital status, according to age, Ghana 1993

Age	Marital status						Total	Number of women
	Never married	Married	Living together	Widowed	Divorced	Not living together		
				WOMEN				
15-19	77.6	10.5	9.6	0.0	1.0	1.4	100.0	803
20-24	24.7	46.3	20.0	0.6	4.3	4.0	100.0	829
25-29	5.9	69.5	13.4	1.2	6.7	3.3	100.0	845
30-34	1.3	78.2	10.5	1.6	5.5	2.8	100.0	743
35-39	0.3	76.8	8.8	2.4	8.4	3.3	100.0	581
40-44	0.0	77.9	6.1	4.9	8.9	2.1	100.0	425
45-49	0.0	78.3	5.1	5.1	8.0	3.6	100.0	336
Total	19.5	58.7	11.6	1.7	5.6	2.9	100.0	4562
				MEN				
15-19	98.2	0.4	1.3	0.0	0.0	0.0	100.0	224
20-24	72.5	12.6	11.0	0.0	2.2	1.6	100.0	182
25-29	37.0	39.5	15.5	0.0	5.5	2.5	100.0	200
30-34	9.6	69.5	13.8	0.6	2.4	4.2	100.0	167
35-39	6.4	74.3	9.9	0.0	7.0	2.3	100.0	171
40-44	4.6	78.7	6.5	2.8	4.6	2.8	100.0	108
45-49	1.1	82.8	4.6	0.0	10.3	1.1	100.0	87
50-54	1.1	89.4	0.0	2.1	3.2	4.3	100.0	94
55-59	4.3	81.2	1.4	5.8	1.4	5.8	100.0	69
Total	35.6	49.4	8.1	0.8	3.8	2.4	100.0	1302

to be living in informal unions. The proportions of women widowed and divorced increase with age. The proportion never married falls from 78 percent in the age group 15-19 to a low of 0.3 percent for those age 35-39 years. Above the age of 40, all women are either currently married or formerly married.

Looking at the data for males (lower panel) it is found that more men than women, 36 percent compared to 20 percent, have never been married. A higher proportion of females than males, 9 percentage points more, are legally married. Eight percent of the men interviewed are in informal unions. Overall, more females are divorced or not living together with their spouses than their male counterparts. However, the higher number of females in all types of unions suggests both the existence of polygyny and a sex differential in age at marriage.

When comparing the results of the 1988 GDHS with the current survey, it is interesting to observe that in both cases, 70 percent of women were married. The number who were legally married fell by six percent in the time between the two surveys; the percentage in informal unions doubled, from 6 to 12 percent.

5.2 Polygyny

The extent of the practice of polygyny in Ghana was measured in the 1993 GDHS by asking married women whether their husbands had other wives and, if so, their number.

Overall, about 28 percent of currently married women in Ghana are in polygynous unions (Table 5.2.1). As indicated in the data, more older women are found in polygynous unions than younger women. Twenty-two percent of respondents in urban areas are found to be in polygynous unions compared to 31 percent in rural areas (see Figure 5.1).

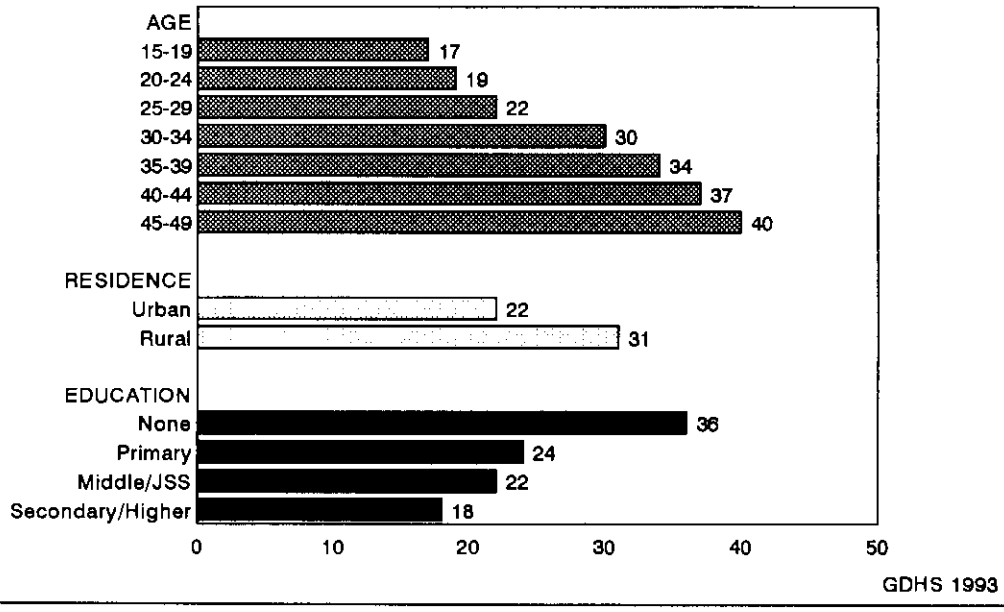
Table 5.2.1 Polygyny

Percentage of currently married women in a polygynous union, by age and selected background characteristics, Ghana 1993

	Age of woman							
Residence	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
Residence								
Urban	9.3	19.6	16.2	20.5	26.9	25.2	35.5	21.5
Rural	20.6	18.6	24.5	34.0	37.3	41.6	41.7	30.7
Region								
Western	*	(11.1)	(16.3)	23.9	(28.0)	(43.3)	*	24.8
Central	*	16.1	27.4	29.2	(43.5)	(38.2)	*	26.9
Greater Accra	*	(23.4)	14.1	11.8	25.0	(15.0)	(35.7)	18.8
Volta	*	22.8	26.6	27.0	34.0	(40.0)	(48.8)	31.8
Eastern	*	19.6	12.8	18.2	22.4	(21.9)	(20.7)	17.9
Ashanti	(11.8)	18.4	16.5	26.9	33.8	31.1	(25.7)	23.0
Brong-Ahafo	*	6.3	21.3	37.1	38.0	(51.6)	*	29.0
Northern	*	28.8	32.9	53.3	45.6	(58.7)	(60.5)	44.1
Upper West	*	*	(25.9)	(45.2)	*	*	*	35.3
Upper East	*	(27.9)	31.4	(35.7)	(29.4)	*	(37.9)	32.2
Education								
No education	30.2	19.7	30.0	40.6	39.8	43.1	42.5	35.7
Primary	(9.4)	14.5	15.2	26.0	37.2	(38.3)	(36.4)	23.6
Middle/JSS	8.1	20.1	18.7	21.2	27.5	29.7	(38.5)	22.0
Secondary/Higher	*	(21.4)	12.1	14.5	25.0	(17.9)	*	17.5
Total	16.8	18.9	21.7	29.6	33.6	36.7	40.0	27.7

Note: Percentages shown in parentheses are based on 25-49 women, whereas an asterisk means that the percentage is based on fewer than 25 women and has been suppressed.

Figure 5.1
Percent of Currently Married Women in a Polygynous Union by Age, Residence and Education



Variation in polygynous unions among regions is also observed. The regions in which the practice of polygyny is common are Northern (44 percent), Upper West (35 percent), and Upper East and Volta (32 percent). The regions where polygyny is practised least are Eastern and Greater Accra (18 and 19 percent, respectively).

The data reveal that women who are highly educated are less likely to practice polygyny. As shown in Table 5.2.1, women with no education have a high proportion (36 percent) of polygynous unions. This declines to a low of 18 percent for women with secondary or higher education.

The rate of polygyny found in the 1993 GDHS compared with data from previous surveys is seen to have declined over time. For example, the proportion of married women in polygynous unions was 35 percent in the Ghana Fertility Survey of 1979-80, 33 percent in the 1988 GDHS and only 28 percent in the 1993 survey.

Currently married males in rural areas are more likely to have more than one wife than men in urban areas (Table 5.2.2). Regional variations observed for males follow the same pattern as for females with the highest proportion in Upper East (27 percent), Volta and Northern (24 percent each). With reference to education, men with secondary or higher education are the least likely to be in polygynous unions (7 percent), whereas those with no education are the most likely (25 percent) to be in such unions.

It is interesting to observe that men with middle/JSS education are more likely to have additional wives than those with primary school education, although the difference is small.

Table 5.2.2 Polygyny

Percentage of currently married men in a polygynous union, by selected background characteristics, Ghana 1993

Background characteristic	Percentage
Age	
15-24	(7.0)
25-29	7.3
30-34	16.5
35-39	14.6
40-44	17.4
45-49	17.1
50-54	16.7
55-59	22.8
Residence	
Urban	7.6
Rural	18.4
Region	
Western	14.5
Central	9.9
Greater Accra	4.5
Volta	24.4
Eastern	8.7
Ashanti	13.5
Brong-Ahafo	13.1
Northern	24.1
Upper West	(14.8)
Upper East	(27.3)
Education	
No education	25.0
Primary	9.2
Middle/JSS	13.3
Secondary/Higher	6.7
Total	14.8

Note: Percentages shown in parentheses are based on 25-49 men.

The percentage distribution of currently married women by number of co-wives according to selected background characteristics is given in Table 5.3. Overall, 72 percent of the respondents who are currently married have no co-wives, as shown earlier. Thirteen percent of currently married women have one co-wife, whereas 14 percent have two or more co-wives.

Women age less than 30 years are less likely than those 30 years or more to be in a union with two or more co-wives. Women who live in Central, Ashanti, Brong-Ahafo and Northern regions are more likely to have two or more co-wives than to have just one co-wife.

Table 5.3 Number of co-wives

Percent distribution of currently married women by number of co-wives, according to background characteristics, Ghana 1993

Background characteristic	Number of co-wives			Missing	Total	Number of women
	0	1	2+			
Age						
15-19	83.2	9.3	7.5	0.0	100.0	161
20-24	81.1	9.5	9.5	0.0	100.0	550
25-29	78.3	11.1	10.6	0.0	100.0	700
30-34	70.4	13.7	15.6	0.3	100.0	659
35-39	66.4	14.7	18.7	0.2	100.0	497
40-44	63.3	16.0	20.7	0.0	100.0	357
45-49	60.0	22.1	17.9	0.0	100.0	280
Residence						
Urban	78.5	11.3	10.0	0.2	100.0	1025
Rural	69.3	14.3	16.3	0.0	100.0	2179
Region						
Western	75.2	16.8	7.6	0.4	100.0	250
Central	73.1	5.6	21.3	0.0	100.0	301
Greater Accra	81.2	16.0	2.8	0.0	100.0	356
Volta	68.2	27.8	4.0	0.0	100.0	349
Eastern	82.1	8.8	9.1	0.0	100.0	340
Ashanti	77.0	5.6	17.2	0.2	100.0	553
Brong-Ahafo	71.0	2.6	26.1	0.3	100.0	307
Northern	55.9	17.0	27.1	0.0	100.0	376
Upper West	64.7	22.8	12.5	0.0	100.0	136
Upper East	67.8	21.2	11.0	0.0	100.0	236
Education						
No education	64.3	17.0	18.7	0.0	100.0	1356
Primary	76.4	12.0	11.6	0.0	100.0	516
Middle/JSS	78.0	9.3	12.4	0.3	100.0	1092
Secondary/Higher	82.5	13.7	3.8	0.0	100.0	240
Total	72.3	13.3	14.3	0.1	100.0	3204

5.3 Age at First Marriage

Information on age at first marriage was obtained. Respondents were asked the month and year they started living together as couples, and those respondents who could not remember the time of marriage were asked their age at the time of marriage (Table 5.4). Older respondents had a tendency to hesitate in recalling the exact time. Thus, the data regarding older respondents must be interpreted with caution. The median age at first marriage is 19 years for women age 20-49 years. With regard to the median age across the age groups, no marked differences are observed. On the other hand, the present survey shows that women are now delaying marriage by one-half year compared with the results obtained five years ago, an increase in age at first marriage from 18.3 in the 1988 GDHS to 18.9 in the 1993 GDHS. This is probably a truer reflection of what is happening than are the cohort data presented in Table 5.4.

Table 5.4 indicates a tendency for men to marry later than women. The median age at first marriage for men is over 25 years. Thus, while only one-half of males have married by the age of 25, nearly all women of that age have married.

Table 5.4 Age at first marriage

Percentage of women and men who were first married by exact age 15, 18, 20, 22, and 25, and median age at first marriage, according to current age, Ghana 1993

Current age	Percentage who were first married by exact age: 15	18	20	22	25	Percentage who had never married	Number of women	Median age at first marriage
				WOMEN				
15-19	2.0	NA	NA	NA	NA	77.6	803	a
20-24	5.7	37.6	59.7	NA	NA	24.7	829	19.0
25-29	4.1	37.0	61.9	78.7	90.5	5.9	845	18.9
30-34	6.7	43.6	66.1	82.5	93.9	1.3	743	18.6
35-39	5.0	36.0	61.1	77.8	90.4	0.3	581	19.0
40-44	7.1	39.1	64.0	78.8	91.8	0.0	425	18.7
45-49	6.5	33.6	59.8	76.2	89.3	0.0	336	19.0
20-49	5.7	38.2	62.2	77.5	87.8	7.1	3759	18.9
				MEN				
15-19	0.0	NA	NA	NA	NA	98.2	224	a
20-24	1.1	4.4	11.0	NA	NA	72.5	182	a
25-29	0.0	3.5	10.5	24.0	49.5	37.0	200	a
30-34	0.0	0.6	5.4	19.8	44.3	9.6	167	25.5
35-39	0.0	4.7	9.4	19.9	45.0	6.4	171	25.3
40-44	0.9	5.6	11.1	38.0	48.1	4.6	108	25.2
45-49	0.0	2.3	9.2	23.0	43.7	1.1	87	25.6
50-54	0.0	2.1	8.5	26.6	41.5	1.1	94	26.5
55-59	1.4	4.3	8.7	20.3	29.0	4.3	69	26.7
30-59	0.2	3.2	8.9	24.0	44.5	12.4	696	25.5

NA = Not applicable

[a]Omitted because less than 50 percent of the women or men in the age group *x* to *x+4* were first married by age *x*.

The median age at first marriage for women age 20-49 by selected background characteristics is examined in Table 5.5. The overall median age observed for women in this age group is 19 years. The survey data reveal that rural women get married one year earlier. The median age at which rural women marry is 19 years compared to 20 years for urban women. Minor variations among regions have also been observed. High values are observed in Eastern and Northern regions with a median age of 19 years. However, for the age range 25-49, the median computed for Greater Accra ranks the highest (20 years). Western, Brong-Ahafo and Upper East regions have the lowest median age at first marriage. The median age for the other regions are distributed within the range of 18 to 19 years.

The data also suggest a positive relationship between level of education and age at first marriage: women with no education tend to marry earlier than their educated counterparts. The median age at first marriage for women with secondary/higher education is 22 years; the corresponding figures are 19 years for those with middle/JSS education and 18 years for those with primary and no education. Similar findings were observed in the 1988 GDHS.

Table 5.5 Median age at first marriage

Median age at first marriage among women age 20-49 years, by current age and selected background characteristics, Ghana 1993

Background characteristic	Current age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	a	19.7	19.2	20.1	18.9	19.2	19.8	19.5
Rural	18.4	18.6	18.3	18.6	18.7	18.9	18.5	18.6
Region								
Western	18.6	18.8	17.9	(18.8)	(17.7)	*	18.4	18.3
Central	18.8	18.4	18.4	18.5	(18.6)	(19.3)	18.6	18.5
Greater Accra	a	20.9	19.9	20.2	19.5	(18.9)	a	20.1
Volta	19.1	18.7	18.9	19.6	18.1	19.7	18.9	18.9
Eastern	19.8	19.4	19.1	18.8	(19.4)	(18.8)	19.2	19.1
Ashanti	18.6	18.6	18.3	18.8	18.5	(18.6)	18.6	18.6
Brong-Ahafo	19.4	19.0	17.9	18.2	(18.3)	(18.4)	18.5	18.3
Northern	18.8	18.9	19.5	19.4	(19.6)	(19.5)	19.2	19.4
Upper West	*	(18.7)	(18.3)	*	*	*	18.6	18.8
Upper East	17.7	18.0	(17.4)	(18.6)	(18.8)	(19.7)	18.1	18.3
Education								
No education	17.6	18.2	18.0	18.9	18.4	18.8	18.3	18.5
Primary	18.5	18.3	17.6	18.4	18.6	(18.9)	18.4	18.3
Middle/JSS	19.6	19.2	18.8	18.7	18.7	19.0	19.0	18.9
Secondary/Higher	a	22.5	21.8	21.8	(23.3)	*	a	22.3
Total	19.0	18.9	18.6	19.0	18.7	19.0	18.9	18.8

Note: The medians for the cohort 15-19 could not be determined because half the women have not yet been married.
[a]Medians were not calculated for these cohorts because less than 50 percent of women in the age group x to $x+4$ have married by x. Numbers in parentheses are based on 25-49 women; an asterisk indicates that the figure is based on fewer than 25 women and has been suppressed.

5.4 Age at First Sexual Intercourse

The timing of first sexual intercourse affects fertility levels. Women were asked the age at which they first had sexual intercourse. Table 5.6 shows that women age 20-49 had sexual intercourse the first time at a median age of 17 years. There is no marked variation across age groups with respect to the age at first sexual intercourse. Among the respondents, only 13 percent had had sexual relations by age 15. By age 20, more than 85 percent of the women have had intercourse.

Table 5.7 shows the median age at first sexual intercourse among women age 20-49 by background characteristics. With regard to the place of residence, the median age at first sexual intercourse is lower for rural than urban women. Slight variations among regions pertaining to the age at first intercourse are observed. It is only in the Northern Region that women appear to have sexual intercourse at a later age, 18 years. For the remaining regions the women were about 17 years old when they first had sexual intercourse.

By level of education, it appears women with secondary or higher education were older (18 years) before having sex for the first time. Those with no education or only primary or middle/JSS were between 16 and 17 years old when they first had sex. The case of women with higher education having sexual intercourse later could be due to the longer number of years spent in school, especially boarding schools.

Table 5.6 Age at first sexual intercourse

Percentage of women who had first sexual intercourse by exact age 15, 18, 20, 22, and 25, and median age at first intercourse, according to current age, Ghana 1993

Current age	Percentage of women who had first intercourse by exact age: 15	18	20	22	25	Percentage who never had intercourse	Number of women	Median age at first intercourse
15-19	12.0	NA	NA	NA	NA	41.0	803	a
20-24	15.0	66.0	87.9	NA	NA	4.2	829	16.9
25-29	12.3	63.9	85.6	95.4	98.3	0.8	845	17.0
30-34	14.4	66.2	85.7	95.0	98.4	0.3	743	16.8
35-39	12.2	64.5	85.9	95.0	97.8	0.0	581	17.1
40-44	13.6	58.4	84.2	93.4	97.6	0.0	425	17.4
45-49	9.8	56.0	81.5	90.2	94.9	0.0	336	17.6
20-49	13.2	63.6	85.7	94.3	97.3	1.2	3759	17.0

NA = Not applicable
[a]Omitted because less than 50 percent of the women in the age group x to $x+4$ had had intercourse by age x.

Table 5.7 Median age at first intercourse

Median age at first sexual intercourse among women age 20-49 years, by current age and selected background characteristics, Ghana 1993

Background characteristic	Current age 20-24	25-29	30-34	35-39	40-44	45-49	Women age 20-49
Residence							
Urban	17.6	17.4	17.2	17.5	17.8	18.1	17.5
Rural	16.6	16.8	16.7	16.9	17.3	17.3	16.8
Region							
Western	16.3	16.7	16.0	(16.4)	(16.2)	*	16.4
Central	16.8	16.8	16.5	17.0	(17.5)	(18.0)	16.8
Greater Accra	17.7	17.6	17.2	17.7	18.2	(17.9)	17.7
Volta	16.9	16.6	17.0	16.9	17.1	17.6	16.9
Eastern	16.7	17.4	17.1	16.8	(17.9)	(17.4)	17.1
Ashanti	17.0	17.0	16.5	16.7	16.6	(17.2)	16.8
Brong-Ahafo	16.4	16.7	16.2	16.9	(16.3)	(16.8)	16.5
Northern	17.8	18.1	18.4	18.8	(18.8)	(18.7)	18.4
Upper West	*	(18.0)	(16.8)	*	*	*	17.5
Upper East	16.7	16.7	(16.6)	(16.6)	(17.7)	(18.1)	16.9
Education							
No education	16.5	16.8	16.7	17.0	17.2	17.7	16.9
Primary	16.2	16.3	16.3	16.9	16.6	(17.1)	16.5
Middle/JSS	17.1	17.2	17.0	16.8	17.6	17.0	17.1
Secondary/Higher	18.7	18.3	17.9	18.1	(19.1)	*	18.4
Total	16.9	17.0	16.8	17.1	17.4	17.6	17.0

Note: The medians for the cohort 15-19 could not be determined because half the women had not yet had intercourse by age 15. Numbers in parentheses are based on 25-49 women; an asterisk indicates that the figure is based on fewer than 25 women and has been suppressed.

The frequency of sexual activity is recognized as one of the factors that affect the probability of getting pregnant. Information on sexual activity is, therefore, important to the accurate measurement of exposure to pregnancy. Women who had ever had sexual intercourse were asked how long ago their last sexual activity occurred, the frequency in the last 4 weeks, and **usual** monthly frequency. Table 5.8 shows the distribution of women by time since last sexual activity. It allows the assessment of the overall level of sexual activity according to various characteristics.

Table 5.8 Recent sexual activity

Percent distribution of women who have ever had sexual intercourse by sexual activity in the four weeks preceding the survey and the duration of abstinence by whether or not postpartum, according to selected background characteristics, Ghana 1993

Background characteristic	Sexually active in last 4 weeks	Not sexually active in last 4 weeks: Abstaining (postpartum) 0-1 years	Abstaining (postpartum) 2+ years	Abstaining (not postpartum) 0-1 years	Abstaining (not postpartum) 2+ years	Missing	Total	Number of women
Age of women								
15-19	44.7	16.5	1.5	34.8	2.3	0.2	100.0	474
20-24	47.4	23.6	2.9	22.9	3.1	0.1	100.0	794
25-29	54.5	18.5	3.1	20.2	3.7	0.0	100.0	838
30-34	49.3	21.7	3.1	23.2	2.6	0.1	100.0	741
35-39	56.1	15.3	5.0	19.1	4.5	0.0	100.0	581
40-44	52.2	11.1	2.6	25.9	8.2	0.0	100.0	425
45-49	47.9	3.6	2.4	29.8	16.4	0.0	100.0	336
Duration of union								
0-4 years	49.7	27.6	3.0	17.9	1.6	0.1	100.0	692
5-9	50.7	24.1	3.0	19.0	3.2	0.0	100.0	793
10-14	53.8	19.8	3.4	21.0	2.0	0.0	100.0	734
15-19	49.6	17.7	3.6	24.0	5.0	0.2	100.0	617
20-24	54.7	11.4	5.2	22.6	6.1	0.0	100.0	446
25+	49.2	3.3	1.8	30.3	15.4	0.0	100.0	390
Never in union	45.6	5.6	1.0	41.2	6.4	0.2	100.0	517
Residence								
Urban	51.1	12.5	1.8	28.3	6.1	0.1	100.0	1530
Rural	50.3	20.2	3.7	21.7	4.1	0.1	100.0	2659
Region								
Western	53.0	12.7	1.1	27.6	5.5	0.0	100.0	362
Central	46.2	16.3	2.2	30.1	5.2	0.0	100.0	405
Greater Accra	50.5	11.4	1.7	30.3	6.2	0.0	100.0	535
Volta	46.2	20.3	3.4	23.6	6.5	0.0	100.0	444
Eastern	59.9	11.2	1.5	23.9	3.3	0.2	100.0	481
Ashanti	50.6	16.7	2.3	25.5	4.7	0.1	100.0	699
Brong-Ahafo	56.8	15.1	2.1	24.0	2.1	0.0	100.0	438
Northern	47.5	25.9	5.3	18.9	2.4	0.0	100.0	413
Upper West	54.1	21.2	5.5	9.6	8.9	0.7	100.0	146
Upper East	37.2	34.2	10.5	11.3	6.8	0.0	100.0	266
Education								
No education	46.7	22.2	4.9	20.9	5.1	0.1	100.0	1547
Primary	50.5	18.9	2.9	23.1	4.4	0.1	100.0	681
Middle/JSS	52.6	14.5	1.9	27.2	3.9	0.0	100.0	1550
Secondary/Higher	57.7	8.0	0.5	25.8	8.0	0.0	100.0	411
Current contraceptive								
No method	45.2	20.7	3.5	24.7	5.7	0.1	100.0	3326
Pill	83.1	3.1	0.0	13.8	0.0	0.0	100.0	130
IUD	90.3	0.0	0.0	6.5	3.2	0.0	100.0	31
Sterilisation	54.1	8.1	0.0	24.3	13.5	0.0	100.0	37
Periodic abstinence	61.4	9.3	1.8	26.5	0.9	0.0	100.0	332
Other	77.2	0.6	0.9	20.7	0.6	0.0	100.0	333
Total	50.6	17.4	3.0	24.1	4.8	0.1	100.0	4189

Of all the women who have ever had sexual intercourse, only about 50 percent had sexual intercourse in the last 4 weeks, 20 percent are in postpartum abstinence and 29 percent are abstaining for reasons other than recent childbirth. Sexual activity appears to be more frequent among women between the ages of 25 and 44, educated women and those using some type of contraceptive.

The proportion of postpartum women abstaining for under 2 years is smaller for those 35 years and older. It declines with increase in marital duration and education. Women in rural areas and those with no education are more likely to be postpartum abstaining. There is a less clear-cut relationship between abstinence unrelated to childbirth and age, except where the duration of abstinence is 2 or more years, and the proportion increases with age and marital duration.

Education seems to be strongly associated with sexual activity in the 4 weeks prior to the survey. This relationship is almost entirely due to the practice of postpartum abstinence among the lesser educated. Those with little or no education reported a lower level of sexual activity (47 percent) than those with middle/JSS and secondary/higher education, who reported sexual activity of 53 percent and 58 percent, respectively. In relation to measures adopted by the women to prevent pregnancy in the past month, the data indicate a much higher level of sexual activity for women who are using contraceptives than for those not using a contraceptive.

5.6 Postpartum Amenorrhoea, Abstinence and Insusceptibility

Postpartum amenorrhoea is the time between the birth of a child and the return of the menstrual cycle, the duration of which varies depending on the length and intensity of breastfeeding. A number of studies have shown that there is a link between breastfeeding and fertility (Gomez, 1984). Women who gave birth during the 3 years prior to the survey were asked about their breastfeeding practices, the duration of amenorrhoea and sexual abstinence. A woman is considered insusceptible to the risk of pregnancy if she is either amenorrhoeic or abstaining from sexual intercourse. The results are presented in Tables 5.9 and 5.10.

Table 5.9 Postpartum amenorrhoea, abstinence and insusceptibility

Percentage of births whose mothers are postpartum amenorrhoeic, abstaining and insusceptible, by number of months since birth, and median and mean durations, Ghana 1993

Months since birth	Amenor-rhoeic	Abstaining	Insus-ceptible	Number of births
< 2	97.2	95.4	99.1	108
2-3	93.0	92.3	97.9	143
4-5	81.8	72.3	90.6	159
6-7	70.8	55.2	82.5	154
8-9	70.5	53.6	75.0	112
10-11	58.3	40.8	67.0	103
12-13	53.2	49.5	69.7	109
14-15	44.1	37.3	59.8	102
16-17	35.0	31.7	50.8	120
18-19	15.4	27.6	35.8	123
20-21	22.8	33.3	42.1	114
22-23	14.6	22.3	26.2	103
24-25	6.3	18.9	21.1	95
26-27	4.0	15.1	16.7	126
28-29	6.6	12.4	14.6	137
30-31	3.3	16.3	18.7	123
32-33	4.3	11.1	12.8	117
34-35	3.8	6.7	7.7	104
Total	39.7	39.8	50.9	2152
Median	13.0	9.0	16.2	-
Mean	14.0	14.1	18.0	-
Prevalence/Incidence mean	14.1	14.1	18.1	-

The median duration of amenorrhoea is 13 months, of abstinence 9 months and of insusceptibility 16 months. The data show that at less than 2 months after birth nearly all the women are amenorrhoeic and therefore insusceptible to pregnancy. At 16-17 months after birth a third are still amenorrhoeic and/or abstaining, and half of them are insusceptible.

Table 5.10 presents the median duration of postpartum amenorrhoea, abstinence and insusceptibility by background characteristics. When the data are examined by age, women under 30 years appear to have a shorter duration of amenorrhoea (12 months) than older women (15 months). Rural women seem to have longer periods of amenorrhoea, sexual abstinence and insusceptibility than urban women. Women in Greater Accra have the shortest period of amenorrhoea (10 months), while those in Upper East have the longest (19 months), followed by Upper West (17 months). The remaining regions have durations between 11 and 15 months. For sexual abstinence, Western Region has the lowest duration (5 months) while Upper East women have, by far, the longest period of abstinence (29 months), followed by Northern (17 months) and Upper West (14 months) regions.

Table 5.10 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility, by selected background characteristics, Ghana 1993

Background characteristic	Postpartum amenorrhoea	Postpartum abstinence	Postpartum insuscep-tibility	Number of women
Age				
<30	11.5	9.2	15.8	1221
30+	14.8	8.5	16.8	931
Residence				
Urban	10.6	8.2	15.2	598
Rural	14.2	9.4	17.3	1554
Region				
Western	11.8	5.0	12.1	196
Central	10.5	7.2	14.9	229
Greater Accra	9.7	7.1	12.5	193
Volta	15.4	9.5	19.7	229
Eastern	12.0	6.5	13.5	235
Ashanti	11.6	7.6	15.0	393
Brong-Ahafo	11.9	9.5	16.5	205
Northern	15.1	16.5	20.5	248
Upper West	17.4	13.9	20.5	77
Upper East	18.5	28.8	28.8	147
Education				
No education	15.6	12.2	19.8	862
Primary	12.6	7.5	15.9	397
Middle/JSS	11.7	7.1	15.6	774
Secondary/Higher	7.4	6.5	8.5	119
Total	13.0	9.0	16.2	2152

Note: Medians are based on current status.

The data reveal the tendency of amenorrhoea, abstinence and postpartum insusceptibility to decline with educational attainment. Thus, women with little or no education report a longer duration of amenorrhoea, sexual abstinence and postpartum insusceptibility than the educated women.

5.7 Termination of Exposure to Pregnancy: Menopause

Above age thirty, exposure to the risk of pregnancy declines with age as higher proportions of women become menopausal. Although difficult to assess correctly, the onset of menopause in a woman can be determined. This is evident when women who are neither pregnant nor postpartum amenorrhoeic have not had their menstrual period for over six months.

Table 5.11 shows that the proportion of women who have reached menopause increases with age, particularly after age 40, from 8 to 9 percent for women age 40-43, to 58 percent for women age 48-49.

Table 5.11 Termination of exposure to the risk of pregnancy

Indicators of menopause among currently married women age 30-49, by age, Ghana 1993

Age	Menopause[1]	Number
30-34	1.3	383
35-39	2.6	349
40-41	7.8	128
42-43	8.7	104
44-45	24.4	131
46-47	25.0	84
48-49	58.3	84
Total	10.7	1263

[1]Percentage of currently married women who are neither pregnant nor amenorrhoeic, whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.

CHAPTER 6

FERTILITY PREFERENCES

The general objective of the Ghana Family Planning Programme is to reduce the level of unmet need for family planning, particularly among high-risk families. Thus, it is important to understand the extent of unmet need in the country, whether for spacing or limitation. Unmet need for spacing refers to women who are not using a contraceptive method, but wish to wait two or more years for their next birth. Unmet need for limitation refers to women who are not using any method of family planning but who want no more children. Questions that allow an assessment of the need for contraception, whether for birth spacing or for birth limitation, and the extent of unwanted fertility are closely examined in this chapter. Four other issues are also examined: the desire for childbearing, ideal family size, the extent to which unwanted and mistimed pregnancies occur and the effect of such pregnancies on the fertility rates.

6.1 Desire for More Children

Overall, 56 percent of currently married women in Ghana are desirous of having children while 34 percent either want no more children or have been sterilised (Table 6.1). This is a significant change compared to the 1988 GDHS data where 65 percent of women wanted more children and 23 percent did not.

Among those who are currently desirous of having children 16 percent want the next birth within 2 years compared with 39 who want to delay the next birth for 2 years or more. Four percent of currently married women are infecund while only 1 percent are sterilised. Table 6.1 shows that the desire for children is highest among women having no children and least among those who already have 6 or more children. Also worth mentioning is the fact that about 11 percent of women without a child declared themselves infecund.

As expected, the proportion of women with 6 or more children who want no more children is 76 percent compared with zero and three percent for the women without any living child and those with one, respectively.

Table 6.1 Fertility preference by number of living children

Percent distribution of currently married women by desire for more children, according to number of living children, Ghana 1993

Desire for children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Have another soon[2]	63.9	24.4	17.5	14.7	8.7	7.4	3.3	16.3
Have another later[3]	16.7	64.4	58.8	44.9	29.8	22.3	8.4	39.3
Have another, undecided when	2.2	0.9	0.5	1.1	1.1	0.0	0.2	0.7
Undecided	3.3	3.1	3.1	5.6	9.4	10.1	4.7	5.4
Want no more	0.0	2.6	16.6	29.6	48.1	53.4	75.9	33.0
Sterilised	0.6	0.0	0.3	1.1	0.2	1.5	3.1	0.9
Declared infecund	10.6	3.1	2.8	2.9	2.4	5.0	4.3	3.7
Missing	2.8	1.5	0.3	0.2	0.2	0.3	0.2	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	180	542	639	557	459	337	490	3204

[1]Includes current pregnancy
[2]Wants next birth within 2 years
[3]Wants to delay next birth for 2 or more years

Obviously, the women who want no more children and those who want a child after two years or more constitute a major group (72 percent) that needs contraception for either birth spacing or birth prevention—an indication of possible fertility reduction in the future if family planning services are accessible to them.

Desire for children by age of married women as presented in Table 6.2.1 shows that a higher proportion of young married women are desirous of having a child after 2 years or more. For example 67 percent of women age 15-19 years want the next child after 2 years compared with 36 and 3 percent for those age 30-34 and 45-49 years, respectively. Thus, the table reveals that the desire to space births declines with increasing age of women.

Table 6.2.1 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Ghana 1993

Desire for children	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Have another soon[1]	17.4	15.1	19.9	19.0	16.1	10.6	10.4	16.3
Have another later[2]	67.1	65.6	56.7	35.5	22.5	10.9	2.5	39.3
Have another, undecided when	1.2	1.1	0.7	0.6	0.8	0.6	0.4	0.7
Undecided	9.3	4.2	3.6	6.8	5.8	7.0	4.3	5.4
Want no more	2.5	11.6	17.9	35.8	48.5	60.5	61.4	33.0
Sterilised	0.0	0.2	0.1	0.5	1.8	3.1	1.8	0.9
Declared infecund	0.0	0.5	0.9	1.7	4.2	7.0	18.9	3.7
Missing	2.5	1.6	0.3	0.2	0.2	0.3	0.4	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	161	550	700	659	497	357	280	3204

[1]Wants next birth within 2 years
[2]Wants to delay next birth for 2 or more years

Table 6.2.2 Fertility preferences by age

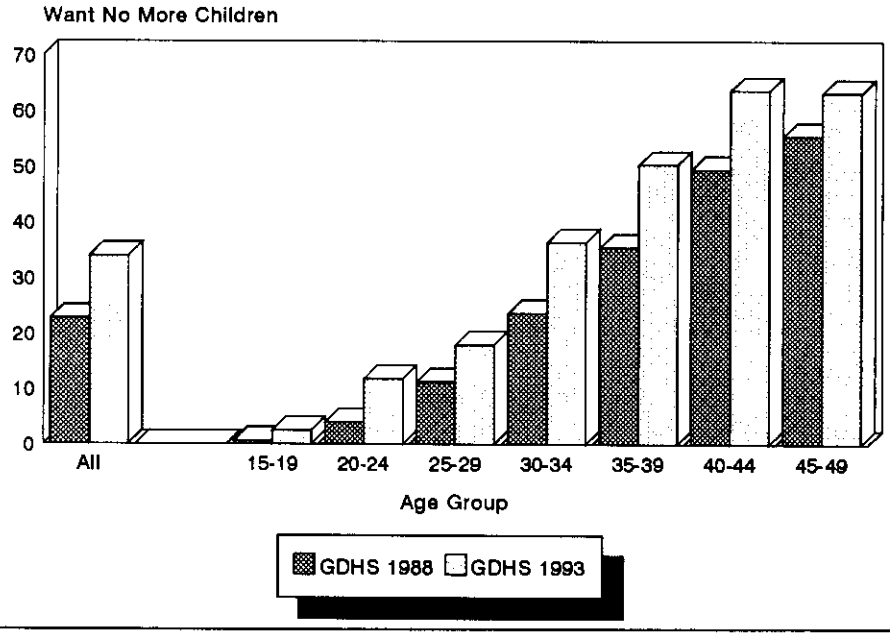
Percent distribution of currently married men by desire for more children, according to age, Ghana 1993

Desire for children	Age of man								Total
	15-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	
Have another soon[1]	14.9	34.5	23.7	25.7	16.3	26.3	11.9	10.5	22.2
Have another later[2]	59.6	46.4	51.8	43.8	33.7	15.8	13.1	5.3	36.2
Have another, undecided when	2.1	2.7	2.9	1.4	1.1	1.3	2.4	1.8	2.0
Undecided	10.6	6.4	2.9	6.3	5.4	6.6	2.4	15.8	6.1
Want no more	2.1	9.1	16.5	22.9	40.2	47.4	69.0	61.4	31.1
Wife sterilised	0.0	0.0	0.0	0.0	2.2	2.6	0.0	1.8	0.7
Wife declared infecund	0.0	0.9	0.7	0.0	0.0	0.0	0.0	3.5	0.5
Missing	10.6	0.0	1.4	0.0	1.1	0.0	1.2	0.0	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	47	110	139	144	92	76	84	57	749

[1]Wants next birth within 2 years
[2]Wants to delay next birth for 2 or more years

On the other hand the proportion who do not want any more children are predominantly in the 35- to 49-year age group. Whereas only 3 percent of women age 15-19 years do not want more children, as many as 61 percent of those in both the 40- to 44-year and 45- to 49-year age groups want no more. For a comparison of results from the 1988 and 1993 surveys concerning the desire for more children by age, see Figure 6.1.

Figure 6.1
Trends in Percentage of Currently Married Women Who Want No More Children, by Age, 1988 and 1993



Women declared infecund are predominantly those in their forties; the proportion in the 45-49 age group is more than double that in the preceding age groups, undoubtedly because some have reached the age of menopause.

Since the fertility behaviour of women is affected by the attitudes of their partners, the GDHS sought information about the fertility preferences of married men. According to Table 6.2.2, a third (31 percent) of married men do not want any more children while nearly two-thirds (60 percent) are desirous of having children. Interestingly, 36 percent would want the children after 2 years, 2 percent want children but do not know when, and 22 percent want them in less than 2 years.

In all, about 6 percent of married men are undecided whether they want a child or not. Desire for children initially increases with age of married men, peaks between ages 25-29 and generally declines thereafter. The table indicates that older men do not want any more children. For example, the majority of those in the 50-54 and 55-59 age groups, 69 and 61 percent, respectively, do not want any more children. Although the desire for children is high among young men, the large majority of them want children after 2 years.

Table 6.3.1 presents the percentage of currently married women who want no more children (or who have been sterilised) by background characteristics. As noted earlier, 34 percent of married women want no

Table 6.3.1 Desire to limit childbearing

Percentage of currently married women who want no more children, by number of living children and selected background characteristics, Ghana 1993

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	1.4	2.0	26.2	40.3	61.3	68.7	85.6	37.0
Rural	0.0	2.9	11.8	25.5	42.9	50.4	77.0	32.5
Region								
Western	*	(4.3)	(20.0)	(27.5)	(46.3)	(36.0)	65.9	31.2
Central	*	0.0	(16.9)	(23.1)	(46.5)	(71.0)	88.1	37.5
Greater Accra	*	4.1	29.6	56.6	(70.2)	(62.5)	(86.2)	41.3
Volta	*	(6.1)	22.2	44.6	(64.0)	(61.7)	82.0	43.0
Eastern	*	0.0	18.4	33.8	66.7	(60.5)	78.2	38.8
Ashanti	(0.0)	3.9	19.3	30.3	52.1	66.7	87.2	36.7
Brong-Ahafo	(5.3)	(1.8)	(11.1)	(26.5)	(43.4)	(62.1)	89.3	36.2
Northern	*	0.0	1.5	5.2	(15.8)	(35.0)	57.6	17.3
Upper West	*	*	*	*	*	*	(69.6)	22.1
Upper East	*	*	(5.9)	(17.0)	(42.9)	(46.2)	(80.0)	25.0
Education								
No education	0.0	3.0	12.0	16.1	33.8	47.2	72.3	31.6
Primary	(4.2)	4.5	14.9	29.6	54.3	62.5	85.9	36.6
Middle/JSS	0.0	1.3	20.4	38.6	57.8	61.1	90.8	34.3
Secondary/Higher	(0.0)	(4.4)	26.3	59.3	(75.8)	*	*	39.6
Total	0.6	2.6	16.9	30.7	48.4	54.9	79.0	34.0

Note: Women who have been sterilised are considered to want no more children. Percentages shown in parentheses are based on 25-49 women, whereas an asterisk means that the percentage is based on fewer than 25 women and has been suppressed.
[1]Includes current pregnancy

more children, and the desire for children declines with increasing parity. In terms of area of residence, women in urban areas are more likely to want to stop having children than rural women. This observation is true at all parity levels except for parity one.

At the regional level, the desire to have no more children is least (17 percent) among married women in the Northern Region and greatest among those in the Volta and Greater Accra regions. Note also that in all regions, the desire to have no more children rises with increasing parity. The data show that women in the northern half of the country are less likely to want to cease childbearing than those in the southern half. Of the regions in the southern half of the country with the exception of Greater Accra, Western and Volta, the proportion of women who want no more children ranges between 36 and 39 percent.

Looking at the desire for children in relation to educational background of married women, the table generally suggests that desire for more children declines with increasing educational status at any given parity. For example, whereas 59 percent of women who have had secondary/higher education and have 3 living children want no more children only 16 percent of those without any education, but at the same parity level, want no more.

The proportion of women who wanted no more children rose between 1988 and 1993, from 23 percent to 34 percent, an increase of 11 percentage points. With regards to educational attainment, a similar increase was observed during the period. The proportion with secondary or higher education in 1988 who wanted no more children was 23 compared to 40 in 1993.

Table 6.3.2 presents the distribution of married men who want no more children in terms of three variables: number of living children, place of residence and educational status.

First, the proportion of men who want no more children rises as the number of living children increases. This pattern is similar in both urban and rural areas. Second, the percentage of men who want no more children in urban areas is higher than the percentage in rural localities by 14 percentage points.

Among those with no education or with primary education, one out of every five men want no more children, compared to three out of every ten, and four out of every ten for those with middle/JSS education and secondary/higher education, respectively.

Table 6.3.2 shows that of the married men who have either one or no child, only 2 percent are desirous of having no more children compared to 67 percent of those with 6 or more children.

Over the period 1988-1993 the proportion of married men not wanting any more children increased appreciably from 19 (1988 GDHS) to 32 (1993 GDHS) percent.

Table 6.3.2 Desire to limit childbearing

Percentage of currently married men who want no more children (or whose wife has been sterilised), by number of living children, residence and level of education, Ghana 1993

Residence/ Education	Number of living children				Total
	0-1	2-3	4-5	6+	
Residence					
Urban	5.6	28.6	62.1	82.6	41.4
Rural	0.9	11.3	38.0	60.8	27.0
Education					
No education	2.8	1.6	30.6	49.3	23.1
Primary	5.6	10.0	33.3	80.0	23.7
Middle/JSS	0.0	20.8	52.4	78.9	33.3
Secondary/Higher	5.3	36.5	63.9	75.7	44.2
Total	2.4	17.8	46.4	66.7	31.8

6.2 Demand for Family Planning Services

Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth.

Unmet need for limiting purposes refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted, and women who are not using any method of family planning but who want no more children. These indicators are used to evaluate the extent to which family planning programs are meeting the demand for services.

Total demand for family planning has two components: unmet need and met need (i.e., current users of contraception). Fifty-nine percent of currently married Ghanaian women are in demand (or need) of family planning: 39 percent with unmet need and 20 percent currently using contraception (Table 6.4). This means that the Ghana Family Planning Programme is satisfying only 34 percent of the total demand. Of women who have unmet needs, 25 percent of the unmet need is for birth spacing and 13 percent is for limiting. Unmet need for spacing births declines with increasing age of woman. For example, 43 percent of women in the 15-19 age group have unmet need for spacing compared with 5 percent of married women age 45-49 years. Also total demand for family planning services is 61 percent for the 15-19 age group compared with 43 percent for the 45-49 age group. Only 21 percent of the demand of the 15-19 age group has been satisfied, whereas the percentage of demand satisfied is highest (41 percent) for women in the 35-39 age group.

Table 6.4 Need for family planning services

Percentage of currently married women with unmet need for family planning, met need for family planning, and the total demand for family planning services, by selected background characteristics, Ghana 1993

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	42.9	5.0	47.8	13.0	0.0	13.0	55.9	5.0	60.9	21.4	161
20-24	37.3	4.0	41.3	14.5	2.4	16.9	51.8	6.4	58.2	29.1	550
25-29	31.4	6.3	37.7	16.3	4.9	21.1	47.7	11.1	58.9	35.9	700
30-34	24.7	14.3	39.0	11.1	9.4	20.5	35.8	23.7	59.5	34.4	659
35-39	19.1	18.5	37.6	6.4	19.5	26.0	25.6	38.0	63.6	40.8	497
40-44	12.3	28.3	40.6	3.9	19.3	23.2	16.2	47.6	63.9	36.4	357
45-49	5.0	23.2	28.2	1.1	13.2	14.3	6.1	36.4	42.5	33.6	280
Residence											
Urban	21.1	14.3	35.4	15.4	15.2	30.6	36.5	29.6	66.0	46.4	1025
Rural	27.3	12.8	40.1	8.2	7.2	15.4	35.5	20.0	55.4	27.7	2179
Region											
Western	24.4	12.4	36.8	15.6	10.8	26.4	40.0	23.2	63.2	41.8	250
Central	31.9	13.3	45.2	6.6	9.0	15.6	38.5	22.3	60.8	25.7	301
Greater Accra	17.1	12.9	30.1	16.6	20.2	36.8	33.7	33.1	66.9	55.0	356
Volta	22.9	20.1	43.0	13.5	11.7	25.2	36.4	31.8	68.2	37.0	349
Eastern	26.2	14.7	40.9	13.2	12.6	25.9	39.4	27.4	66.8	38.8	340
Ashanti	29.3	18.8	48.1	7.2	6.5	13.7	36.5	25.3	61.8	22.2	553
Brong-Ahafo	28.7	12.7	41.4	13.7	11.7	25.4	42.3	24.4	66.8	38.0	307
Northern	23.7	5.6	29.3	8.0	3.2	11.2	31.6	8.8	40.4	27.6	376
Upper West	20.6	9.6	30.1	2.2	4.4	6.6	22.8	14.0	36.8	18.0	136
Upper East	23.7	5.1	28.8	5.1	5.1	10.2	28.8	10.2	39.0	26.1	236
Education											
No education	25.4	13.3	38.8	4.1	4.1	8.2	29.5	17.5	47.0	17.4	1356
Primary	26.0	16.3	42.2	11.6	10.7	22.3	37.6	26.9	64.5	34.5	516
Middle/JSS	27.7	13.3	41.0	15.4	12.7	28.1	43.1	26.0	69.1	40.7	1092
Secondary/Higher	11.7	6.7	18.3	22.5	25.8	48.3	34.2	32.5	66.7	72.5	240
Total	25.3	13.3	38.6	10.5	9.7	20.3	35.8	23.0	58.8	34.4	3204

[1]Unmet need for *spacing* includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for *limiting* refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children.

[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.

Unmet family planning need for spacing births is highest among women in the younger age groups while unmet need for limiting childbearing is greater among the older women. Total unmet need is 48 percent among the 15-19 age group as against 28 percent for those in the 45-49 age group. Similarly, using contraception to space births is more prevalent among younger women while a greater proportion of women age 35 and over undertake contraception to limit childbearing.

Two-thirds of married urban women are in demand of family planning services compared with a little over one-half of rural women. However, satisfaction of this demand appears to be better by far in the urban (46 percent) than rural (28 percent) areas.

At the regional level, demand for family planning services is lowest in the three northernmost regions of the country, which also have the smallest proportion of married women who are currently using family planning services to limit or space births. The more urbanized regions are expected to have higher use of contraception but surprisingly Ashanti (one of the most urbanized regions in the country) has the highest unmet need (48 percent) and only 14 percent of its resident married women are using contraception. Thus, whereas 55 percent of the total demand for family planning services in Greater Accra has been satisfied only 22 percent has been satisfied in Ashanti, compared to 18 percent for the Upper West Region and 26 percent for both the Upper East and Central regions.

In terms of education, there appears to be almost no difference between unmet needs of women who have never been to school and those who have either primary or middle/JSS education. However, the unmet need of women with secondary or higher education is very low compared with those of the other educational levels and additionally it is one-half of the national average. Satisfaction of demand for family planning services shows the same pattern; 73 percent of total demand of the highly educated women has been satisfied compared to 17 percent for those without any education.

6.3 Ideal Family Size

The distribution of all women by the number of children they desire according to the number of living children, shows that overall, 36 percent of all women favour a family size of 4 children, whereas 21 percent consider 6 or more children as an ideal size (Table 6.5). Sixteen percent prefer a family size of 3 while eleven percent consider 2 children as an ideal number. Seven percent did not know what responses to give or gave non-numeric responses such as "it all depends on God," etc. Ghanaian women, however, seem not to favour childlessness, because the percentage who responded "zero" or "no child" for ideal family size account for 0 percent.

For women who do not have a living child and those with one living child, 60 percent prefer a family size of between 3 and 4 children compared to 36 and 39 percent of women with 5 and 6 or more living children, respectively. Nearly 40 percent of women with 6 or more living children prefer an ideal family size of 6 or more. The general trend is that women with 3 or more living children prefer larger family sizes.

More importantly when the results are compared with those from the 1988 survey, it is observed that the mean ideal family size has dropped from 5.5 to 4.7 children for currently married women, and from 5.3 to 4.4 for all women. By implication we are seeing a preference for smaller families over time. This preference is true at all parity levels. The increasing cost of looking after children probably is one of the underlying reasons for preferring smaller families.

Table 6.5 Ideal and actual number of children

Percent distribution of all women by ideal number of children and mean ideal number of children for all women and for currently married women, according to number of living children, Ghana 1993

Ideal number of children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
1	0.9	0.7	0.1	0.8	0.2	0.5	0.0	0.5
2	19.3	12.0	7.8	9.1	8.0	4.0	3.1	10.5
3	26.5	24.6	17.2	9.9	6.4	9.7	4.0	16.1
4	33.5	38.1	42.2	35.6	36.3	26.5	35.3	35.9
5	5.8	7.9	8.7	14.7	9.4	13.9	7.9	9.1
6+	8.3	12.0	18.0	22.4	30.3	35.1	37.7	20.5
Non-numeric response	5.7	4.8	6.0	7.2	9.4	10.2	11.9	7.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1046	733	739	624	501	373	546	4562
Mean ideal number	3.6	4.0	4.4	4.6	4.9	5.3	5.5	4.4
Number of women	986	698	695	579	454	335	481	4228
Mean ideal for currently married women	4.4	4.0	4.4	4.7	5.0	5.3	5.5	4.7
Number of currently married women	168	512	599	515	414	300	432	2940

Note: The means exclude women who gave non-numeric responses.
[1]Includes current pregnancy

The mean ideal family size increases from 3.6 for women in the 15-19 age group to 5.5 for those in the 45-49 age group (Table 6.6.1 and Figure 6.2). It is evident that older women prefer larger family sizes. Women in the rural areas prefer larger family sizes than their urban counterparts, i.e., 4.8 children versus 3.7, respectively. This is true at all ages. Women in the Greater Accra Region desire, on the average, 3.4 children, which is the lowest value, compared with a high of 6.4 for their counterparts in the Northern and Upper West regions. Women in Ashanti and Brong-Ahafo regions appear to favour slightly higher family sizes (4.4 and 4.5 respectively) than women in the Western, Central, and Volta and Eastern regions.

Not only do women in the Northern, Upper West and Upper East regions appear to favour large family sizes in general, but younger aged women living in the Northern Region also are desirous of having large family sizes.

A negative correlation is observed between years of schooling and mean ideal family size, at all ages. The higher the educational status of a woman the smaller the family size she desires. For example, women with secondary education consider a family size of 3.4 children as ideal whereas their colleagues who have never been to school favour 5.5 as ideal. The difference between those without any education and those with primary education is 1.2 children. Thus, the simple message is that the more education a woman acquires, the more likely she is to desire a smaller family size.

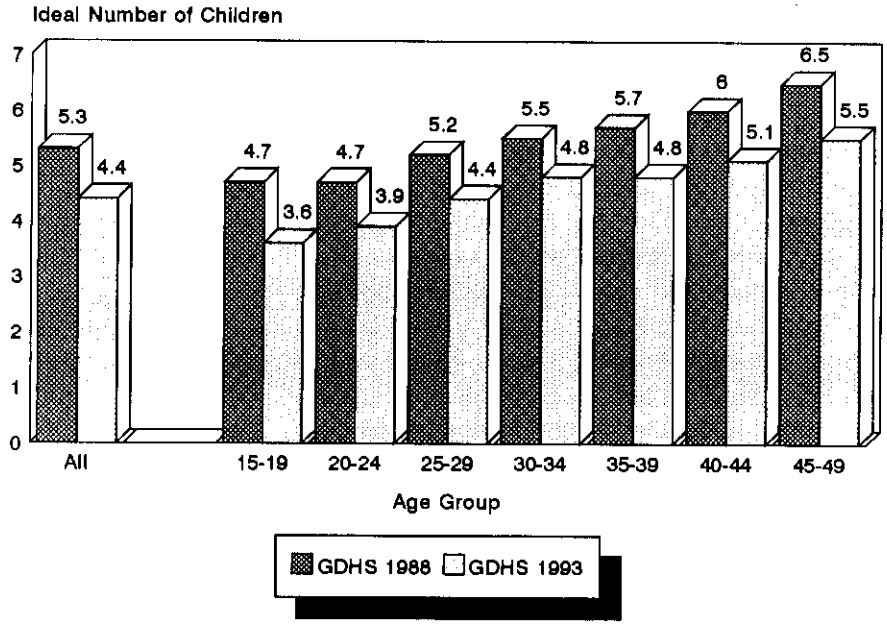
Table 6.6.1 Mean ideal number of children by background characteristics

Mean ideal number of children for all women, by age and selected background characteristics, Ghana 1993

Background characteristic	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	3.2	3.5	3.7	4.0	4.0	4.4	4.5	3.7
Rural	3.9	4.2	4.9	5.2	5.3	5.4	6.0	4.8
Region								
Western	3.5	3.9	3.9	4.2	(4.1)	(4.8)	*	4.0
Central	3.2	3.7	3.9	4.4	4.5	(4.2)	(4.3)	4.0
Greater Accra	2.9	3.1	3.4	3.8	3.8	4.0	(3.7)	3.4
Volta	3.2	3.7	4.0	4.7	4.5	4.4	5.0	4.1
Eastern	3.4	3.5	3.9	4.3	4.3	(4.3)	(5.0)	4.0
Ashanti	3.7	3.9	4.2	4.5	4.5	5.5	(6.1)	4.4
Brong-Ahafo	3.7	4.2	4.5	4.9	4.8	(5.5)	(4.9)	4.5
Northern	5.4	5.7	6.5	6.3	7.5	(6.5)	(7.5)	6.4
Upper West	*	*	(6.1)	(6.5)	*	*	*	6.4
Upper East	(3.8)	4.4	5.7	(5.9)	(5.0)	(5.9)	(6.6)	5.3
Education								
No education	4.9	4.8	5.4	5.7	5.7	5.8	6.0	5.5
Primary	3.8	4.1	4.3	4.6	4.7	4.6	(4.8)	4.3
Middle/JSS	3.3	3.6	3.9	4.2	4.3	4.5	5.0	3.8
Secondary/Higher	3.1	3.1	3.4	3.6	3.8	(3.6)	*	3.4
Total	3.6	3.9	4.4	4.8	4.8	5.1	5.5	4.4

Note: Means shown in parentheses are based on 25-49 women, whereas an asterisk indicates that the mean is based on fewer than 25 women and has been suppressed.

Figure 6.2
Trend in Ideal Number of Children by Age, GDHS 1988 and GDHS 1993



The overall mean ideal number of children among all men (Table 6.6.2) is 4.8, a remarkable decline from the 1988 figure of 7.6, although the 1988 figure was for married men. This decline means that men's attitudes about large families are changing in favour of small ones. The ideal family size for men with fewer number of living children is small but it is higher for those with bigger families. Men still prefer somewhat larger families than women (a mean of 4.8 for men and 4.4 for women), but they are much closer now than in 1988, when the mean for married men was 7.6 and that for married women was 5.5.

Across residence the ideal family size is 5.3 in rural areas compared to 3.8 for urban areas. The effect of education on ideal family size is also shown clearly. Men with secondary or higher education prefer an ideal family size of 3.7 in comparison to 6.9 for those without any education. Thus, the higher the educational level of a man the more likely he is to favour small family sizes.

Table 6.6.2 Mean ideal number of children

Mean ideal number of children for all men, by age and selected background characteristics, Ghana 1993

Residence/ Education	Number of living children				Total
	0-1	2-3	4-5	6+	
Residence					
Urban	3.3	3.8	4.5	5.2	3.8
Rural	4.5	5.3	6.4	7.1	5.3
Education					
No education	5.5	6.3	8.2	9.2	6.9
Primary	4.1	4.7	6.4	5.1	4.7
Middle/JSS	3.9	4.4	5.0	5.2	4.3
Secondary/Higher	3.3	3.7	4.1	4.8	3.7
Total	4.1	4.7	5.8	6.6	4.8

6.4 Wanted and Unwanted Fertility

The distribution of births that occurred in the three years preceding the survey in Table 6.7 shows that 57 percent of the births were planned, a third were unplanned but wanted at a later time, and 9 percent were unwanted births.

Overall, fertility planning among mothers generally was high, because over half of all births were reported as wanted when they occurred. But, it is evident that second- and third-order births are more likely to have been planned (61 and 62 percent, respectively) than other births, particularly the sixth-order and higher births (45 percent). Sixth-order and higher births are more likely to be unwanted (25 percent) than, for example, second-order births (4 percent). It is observed that unwanted births occurred predominantly among older women and the incidence increased with increasing age from the age group 35-39 onwards. In fact, women age 35 years and over had more than 20 percent unwanted births in the three years preceding the survey. In contrast, 60 percent of women in the 25-29 age group had births at the time they wanted. The desire to postpone births appears to be quite high among very young women (15-19) but this was not realised, because one out of every 2 births that occurred to them was wanted later.

Table 6.7 Fertility planning status

Percent distribution of births in the three years preceding the survey, including current pregnancies, by fertility planning status, according to birth order and mother's age, Ghana 1993

Birth order and mother's age	Planning status of birth				Total	Number of births
	Wanted then	Wanted later	Not wanted	Missing		
Birth order						
1	55.1	38.9	5.1	1.0	100.0	514
2	61.1	34.4	4.2	0.4	100.0	524
3	61.7	33.0	4.8	0.5	100.0	418
4	54.0	32.7	12.7	0.6	100.0	624
5	59.3	29.5	10.1	1.2	100.0	258
6+	45.3	26.5	24.8	3.4	100.0	234
Age at birth						
<19	40.7	50.0	8.6	0.6	100.0	324
20-24	57.4	37.9	3.8	0.9	100.0	655
25-29	60.6	32.8	5.9	0.7	100.0	677
30-34	61.6	28.7	8.9	0.8	100.0	495
35-39	55.8	21.2	20.8	2.2	100.0	274
40-44	55.8	19.4	24.0	0.8	100.0	129
45-49	*	*	*	*	*	18
Total	56.6	33.4	9.0	0.9	100.0	2572

Note: Birth order includes current pregnancy. An asterisk indicates a figure based on fewer than 25 women and has been suppressed.

Wanted fertility rates express the level of fertility that theoretically would result if all unwanted births were prevented. Comparison of actual rates with wanted rates indicates the potential demographic impact of the elimination of unwanted births. This calculation is highly relevant for countries that have official policies to reduce the birth rate and, thus, the rate of population growth. The total wanted fertility rate provides another indicator of fertility aspirations and may be interpreted as the number of wanted births that a woman would bear by age 50, if she experienced the wanted fertility rates observed for the past three years.

In contrast, the total fertility rate measures the number of children that a woman would give birth to by the end of her reproductive age, if she were subjected to the observed age-specific fertility rates prevailing during the five years preceding the survey.

As highlighted in Table 6.8, actual fertility rates are higher than wanted fertility rates. At the national level, a difference of over one child is observed. The wanted total fertility rate for the three years preceding the survey is 4.2 compared with the actual total fertility rate of 5.5. Like the TFR, the

Table 6.8 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three and five years preceding the survey, respectively, by selected background characteristics, Ghana 1993

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	2.9	4.0
Rural	4.9	6.4
Region		
Western	3.7	5.5
Central	4.1	5.6
Greater Accra	2.8	3.6
Volta	4.3	5.4
Eastern	3.7	5.1
Ashanti	4.2	5.6
Brong-Ahafo	4.0	5.5
Northern	5.7	7.4
Upper West	4.7	6.0
Upper East	5.2	6.4
Education		
No education	5.1	6.7
Primary incomplete	4.4	6.1
Primary complete	3.6	4.7
Secondary/Higher	2.3	2.9
Total	4.2	5.5

Note: The total fertility rates are the same as those presented in Table 3.2.

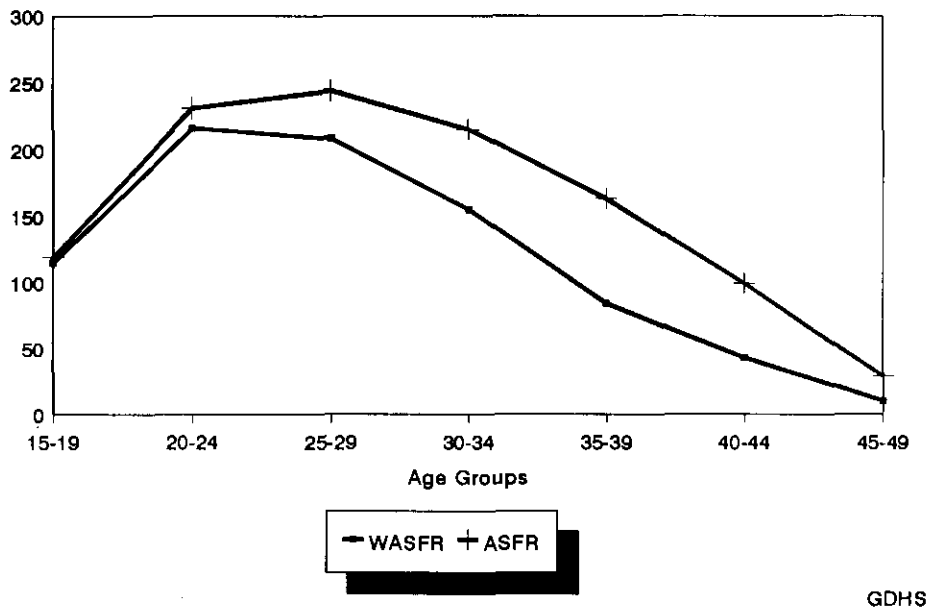
wanted total fertility rate is higher for rural than urban women, 4.9 versus 2.9 children. In regional terms, women in Greater Accra desire the least children (2.8) in contrast with their counterparts in the Northern Region who want 5.7 children.

However, the differential between the two values suggests that unwanted births occur more in the Western Region (1.8) and Northern Region (1.7) and least in Greater Accra (0.8). The wanted fertility rate, as expected, declines with increasing educational status of women. Women without any education have a wanted total fertility rate that is more than double the rate for those with secondary/higher education. Additionally, the wanted fertility rate, like the actual fertility rate, exhibits an inverse relationship with level of education.

When wanted total fertility rates and actual fertility rates are compared, the observed differential is higher in rural than urban areas. By implication, unwanted births are more prevalent in rural than urban areas.

A close study of actual and wanted age-specific fertility rates, as shown in Figure 6.3, is even more revealing. While the actual fertility rate reaches its peak at ages 25-29, the wanted fertility rate reaches its maximum at ages of 20-24. Overall, it is evident that unwanted births are considerably higher among mothers in the 30-44 age range than among younger and older women.

Figure 6.3
Wanted and Actual
Age-Specific Fertility Rates



CHAPTER 7

INFANT AND CHILD MORTALITY

Estimation of the levels, differentials, and recent trends in infant and child mortality is a major objective of the 1993 Ghana Demographic and Health Survey (1993 GDHS). Current estimates of mortality, apart from identifying segments of the population that are at high risk, can also serve as reliable tools for evaluating the success of various health intervention programs and projects.

The focus of this chapter is on the evaluation of data quality, measuring prevalence of child loss, levels and trends in infant and child mortality, differentials in infant and child mortality, and the reproductive factors that affect infant and child mortality.

The data for the estimation of mortality were collected in the birth history section of the 1993 GDHS questionnaire. Each female respondent in the survey was asked to report the number of sons and daughters who live with her, the number who live elsewhere and the number who have died, and to provide a detailed birth history of her childbearing experience, covering such items as sex, date of birth, whether a multiple birth, survival status, current age of each live birth and, if not alive, the age at death of each live birth. The information from the birth histories is used in computing the direct estimates of infant and child mortality rates for Ghana.

7.1 Data Quality

The reliability of any mortality estimate made from retrospective survey data depends upon the complete recall of all children who have died, the absence of severe differential displacement of birth dates of both living and dead children, and accurate reporting of ages at death.

Literature evidence indicates that earlier surveys might have reported heaping of age at death at exactly 12 months or one year (GSS, 1989; Sullivan et al., 1990). Some of these deaths might actually have occurred before the first birthday such that their classification as child deaths tends to have a downward bias on infant mortality estimates, while it upwardly biases child mortality estimates. However, Sullivan and colleagues, in their study of DHS data from a number of countries, concluded that such heaping would typically bias the estimates by no more than 5 percent.

To assess the quality of data collected in the 1993 GDHS, the distribution of all children by calendar year of birth and of dead children by age at death was examined. Under-reporting of infant deaths is known to be most severe for deaths that occur very early in infancy. Under-reporting of early infant deaths is also more common for births that occurred many years before the survey.

A common technique for assessing under-reporting of very early infant deaths entails computing the ratio of deaths in the first week of life to deaths in the first month. Because mortality generally decreases throughout infancy, the value of the ratio would be expected to increase as the overall mortality level declines and a ratio of less than 0.60 would indicate severe under-reporting of very early infant deaths.

The ratio of deaths in the first week of life to all deaths in the first month is not less than 65 percent for any of the five-year periods in the two decades preceding the survey, as depicted in Table 7.1. Thus, the implication is that there was no severe under-reporting of very early infant deaths.

Table 7.1 Early neonatal deaths among neonatal deaths

Percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey, Ghana 1993

	Number of years preceding the survey				
	0-4	5-9	10-14	15-19	0-19
Percent early neonatal	73.2	68.9	70.9	65.4	70.1

A low ratio of neonatal mortality relative to infant mortality is also used to assess the magnitude of under-reporting of early infant deaths. As indicated in Table 7.2, the ratio ranges from 55 to 65 for the same five-year periods referred to already.

The most common source of error in the reporting of a child's age at death is the tendency of mothers to report age at death in multiples of six months. To reduce this error, interviewers in the 1993 GDHS, as in the 1988 survey, were asked to record deaths among children under one month in days, deaths of children under two years of age in months and deaths among children age two years or more in years. Despite this protocol, the data on age at death still showed heaping at ages that are multiples of six months. However, this has been found to have no serious effect on the estimates of infant and child mortality (Sullivan et al., 1990).

Table 7.2 Neonatal deaths among infant deaths

Percentage of infant deaths reported to occur at ages under one month, for five-year periods of birth preceding the survey, Ghana 1993

	Number of years preceding the survey				
	0-4	5-9	10-14	15-19	0-19
Percent neonatal	64.6	62.4	61.7	55.3	61.7

7.2 Prevalence of Child Loss

Table 7.3 presents the mean number of children ever born and the proportion dead among children ever born by current age of mother according to rural-urban place of residence. Under-reporting of dead children, particularly by older women as a result of recall lapse, would result in underestimates of child mortality. The data in Table 7.3 can be used to assess the prevalence of child loss of women interviewed in the survey.

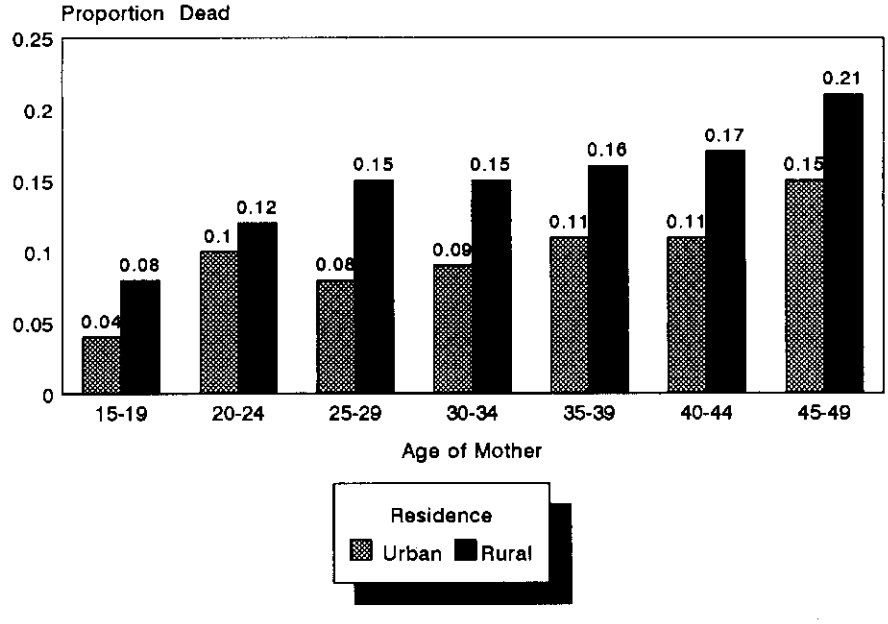
According to the data, slightly more than 1 in 6 (16 percent) children born to women have died. The implication is that child mortality levels have been high during the period in which these women have borne their children. Differentials in the proportion dying among children ever born by woman's current place of residence were also observed. Only about ten percent of children ever born to women age 15-49 years residing in the urban areas have died, compared to 16 percent among women in the rural areas. As shown in Figure 7.1, the proportion dead among children ever born increases with the age of the mother, from less than 1 in 14 among women age 15-19 years to almost 1 in 5 among women age 45-49 years.

Table 7.3 Children ever born and the proportion who have died

Mean number of children ever born to all women and the proportion dead, by current age of mother, according to urban-rural residence, Ghana 1993

Mother's age	Urban		Rural		Total	
	Mean number	Proportion dead	Mean number	Proportion dead	Mean number	Proportion dead
15-19	0.16	0.04	0.25	0.08	0.21	0.07
20-24	0.78	0.10	1.39	0.12	1.15	0.12
25-29	1.76	0.08	2.66	0.15	2.31	0.13
30-34	3.28	0.09	4.14	0.15	3.84	0.13
35-39	3.71	0.11	5.09	0.16	4.58	0.15
40-44	4.96	0.11	6.23	0.17	5.82	0.15
45-49	5.91	0.15	6.93	0.21	6.64	0.19
Total	2.19	0.10	3.35	0.16	2.91	0.16

Figure 7.1
Proportion of Children Dead, by Age of Mother and Residence



GDHS 1993

The distribution of children surviving, at a point in time, according to the number of children ever born reflects the experience of losing a child. Table 7.4 presents the percentage distribution of mothers by the number of living children and the number of children ever born. Women with two live births have an 84 percent chance that all are alive. In contrast, women with eight live births have only about one in four chances that they are all alive, while women with ten live births have one in ten chances that all are alive. In other words, as the number of children ever born increases, the likelihood that all of them are still alive

Table 7.4 Children ever born and surviving children

Percent distribution of mothers by number of living children according to number of children ever born, Ghana 1993

Number of children ever born	Number of living children											Total	Number of women
	0	1	2	3	4	5	6	7	8	9	10		
1	7.0	**93.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	675
2	1.3	15.0	**83.7**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	633
3	0.2	4.4	22.8	**72.6**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	544
4	0.0	2.1	8.0	29.3	**60.6**	0.0	0.0	0.0	0.0	0.0	0.0	100.0	485
5	0.0	0.8	1.9	15.0	30.1	**52.2**	0.0	0.0	0.0	0.0	0.0	100.0	379
6	0.0	0.0	2.0	5.6	16.8	33.2	**42.4**	0.0	0.0	0.0	0.0	100.0	250
7	0.0	0.0	0.4	3.5	5.8	27.0	35.4	**27.9**	0.0	0.0	0.0	100.0	226
8	0.0	0.0	0.0	2.1	7.9	12.9	30.0	22.9	**24.3**	0.0	0.0	100.0	140
9	0.0	0.0	1.1	1.1	1.2	5.6	29.2	20.2	27.0	**14.6**	0.0	100.0	89
10	0.0	0.0	0.0	0.0	1.8	3.6	9.1	20.0	30.9	25.5	**9.1**	100.0	55

Note: Table is truncated at 10 births due to the small number of cases thereafter.

decreases. It is quite clear from the data that child loss is a common feature of family formation in Ghana, especially among women who have given birth to a large number of children during their lifetime.

7.3 Levels and Trends of Infant and Child Mortality

The following rates have been computed using the birth history data:

Neonatal mortality: the probability of dying within the first month of life

Postneonatal mortality: the difference between infant and neonatal mortality

Infant mortality: the probability of dying before the first birthday

Child mortality: the probability of dying between the first and the fifth birthday

Under-five mortality: the probability of dying between birth and the fifth birthday.

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

Results of direct estimates of infant and child mortality rates for cohorts of children born in four five-year periods before the survey are shown in Table 7.5 and Figure 7.2. The results indicate a fall in infant and child mortality levels. Infant mortality declined from 82 deaths per 1,000 live births between 1974-1978 to 66 deaths per 1,000 live births in 1989-1993. The under-five mortality rate, which is the overall summary measure of childhood mortality, declined from 157 deaths per 1,000 live births in 1974-78 to 119 deaths per 1,000 live births in 1989-93. The child mortality rate also declined from 81 deaths per 1,000 survivors at age one in 1974-78 to 57 deaths per 1,000 survivors at age one in 1989-93. Overall, since 1974, while under-five mortality was declining, child mortality declined at a relatively faster pace than infant mortality (i.e., a decline of 30 percent compared to a drop of 19 percent for infant mortality).

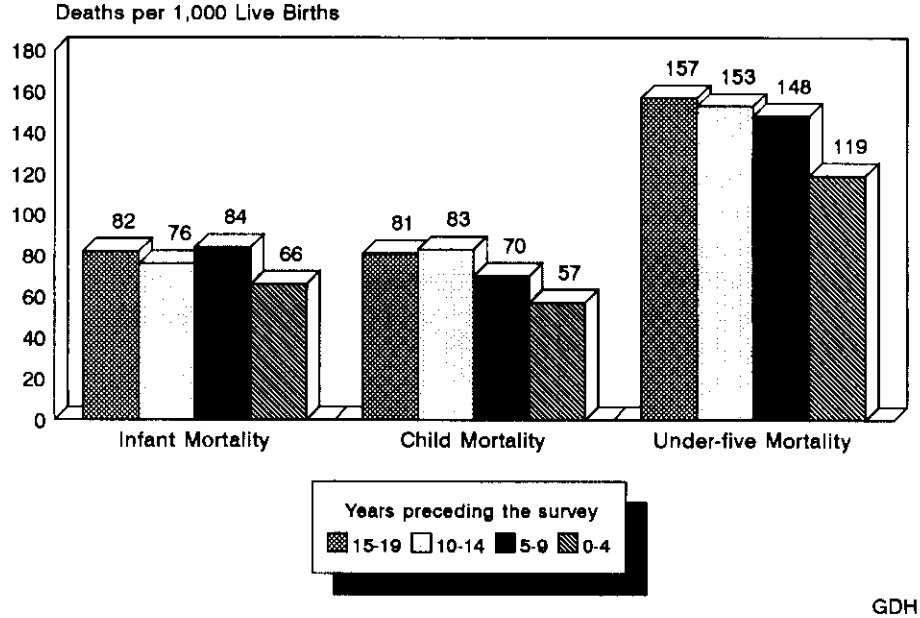
Table 7.5 Infant and child mortality by period

Mortality rates for five-year periods preceding the survey for the country and by sex of child, 1993

Approximate period	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	**Infant mortality** ($_1q_0$)	Child mortality ($_4q_1$)	**Under-five mortality** ($_5q_0$)
			TOTAL		
89-93	40.9	25.6	66.4	56.8	119.4
84-88	51.8	32.0	83.8	69.9	147.8
79-83	46.9	29.2	76.1	83.4	153.2
74-78	42.9	39.3	82.2	81.3	156.8
			MALE		
89-93	48.9	26.6	75.5	56.2	127.4
84-88	55.0	28.3	83.3	71.7	149.1
79-83	56.8	26.2	83.0	84.9	160.8
74-78	45.8	38.3	84.2	84.3	161.3
			FEMALE		
89-93	32.5	24.5	57.0	57.4	111.0
84-88	48.6	35.7	84.4	68.0	146.6
79-83	36.1	32.6	68.7	81.9	145.0
74-78	39.5	40.3	79.8	78.4	152.0

Note: The precise periods are 0-4, 5-9, 10-14 and 15-19 years prior to interview date.
[1]Computed as the difference between infant and neonatal mortality

Figure 7.2
Trends in Infant, Child and Under-Five Mortality



GDHS 1993

During the same time, neonatal mortality dropped by just 5 percent from 43 deaths per 1,000 live births born 15-19 years preceding the survey to 41 deaths per 1,000 live births born 0-4 years prior to the survey. However, for postneonatal mortality, the drop was nearly seven times as much (35 percent), declining from 39 to 26 deaths per 1,000 live births.

Differentials exist in the mortality rates by sex of the child. Overall, mortality decline was observed for each gender in the two decades preceding the survey, but it was faster among female children than among male children. Infant mortality among female children fell by 29 percent compared to only 10 percent among male children in the 20 years before the survey. Declines of similar magnitude for child mortality as well as for under-five mortality by sex were also observed. The only difference was that the male child mortality decline was faster (33 percent compared to 27 percent).

7.4 Socio-Economic Differentials of Mortality

In this section, the differentials in infant and child mortality in Ghana will be analysed with respect to some selected socio-economic characteristics, namely place of residence, region, level of education of mother and medical maternal care.

Place of Residence

Direct estimates of infant and child mortality for the ten-year period preceding the survey, by selected background characteristics, are presented in Table 7.6. In the ten-year period before the survey, infant mortality in the rural areas was 82 infant deaths per 1,000 live births compared to 55 infant deaths per 1,000 live births in the urban areas. The under-five mortality rates during the same period for rural and urban areas were 149 and 90 deaths per 1,000 live births, respectively.

Region

Considerable differences exist in infant and child mortality among the regions. The infant mortality rate varies from 49 infant deaths in Brong-Ahafo to 114 deaths per 1,000 live births in the Northern Region. In the ten years preceding the 1988 GDHS survey, Greater Accra Region reported the lowest infant mortality rate of 58 per 1,000 live births (GSS and IRD, 1989) but in the ten years before the 1993 GDHS survey, it is the Brong-Ahafo Region that recorded the lowest infant mortality rate of 49 per 1,000 live births.

Meanwhile, infant mortality declined by half (48 percent) in the Central Region during the period. It dropped from 138 to 72 deaths per 1,000 live births between the two ten-year periods. Under-five mortality for the same region fell by 39 percent over the same time-period. Five of the ten regions—Brong-Ahafo, Eastern, Greater Accra, Ashanti and Central—recorded infant mortality rates below the national average of 75 deaths per 1,000 live births in the most recent ten-year period before the 1993 survey.

With respect to under-five mortality, it is noteworthy that in the three northernmost regions, approximately two out of ten live births die before completing their fifth birthday. This mortality rate compares to just one out of ten in most of the rest of the country.

Mother's Education

The expected inverse relationship between the level of education of the mother and her child's survival chances are depicted by the data. In the ten years before the survey, the infant mortality rate for children born to mothers who had no formal education was 87 deaths per 1,000 births compared to 86 deaths per 1,000 births for children whose mothers had primary education, and 28 per 1,000 births for children

Table 7.6 Infant and child mortality by background characteristics

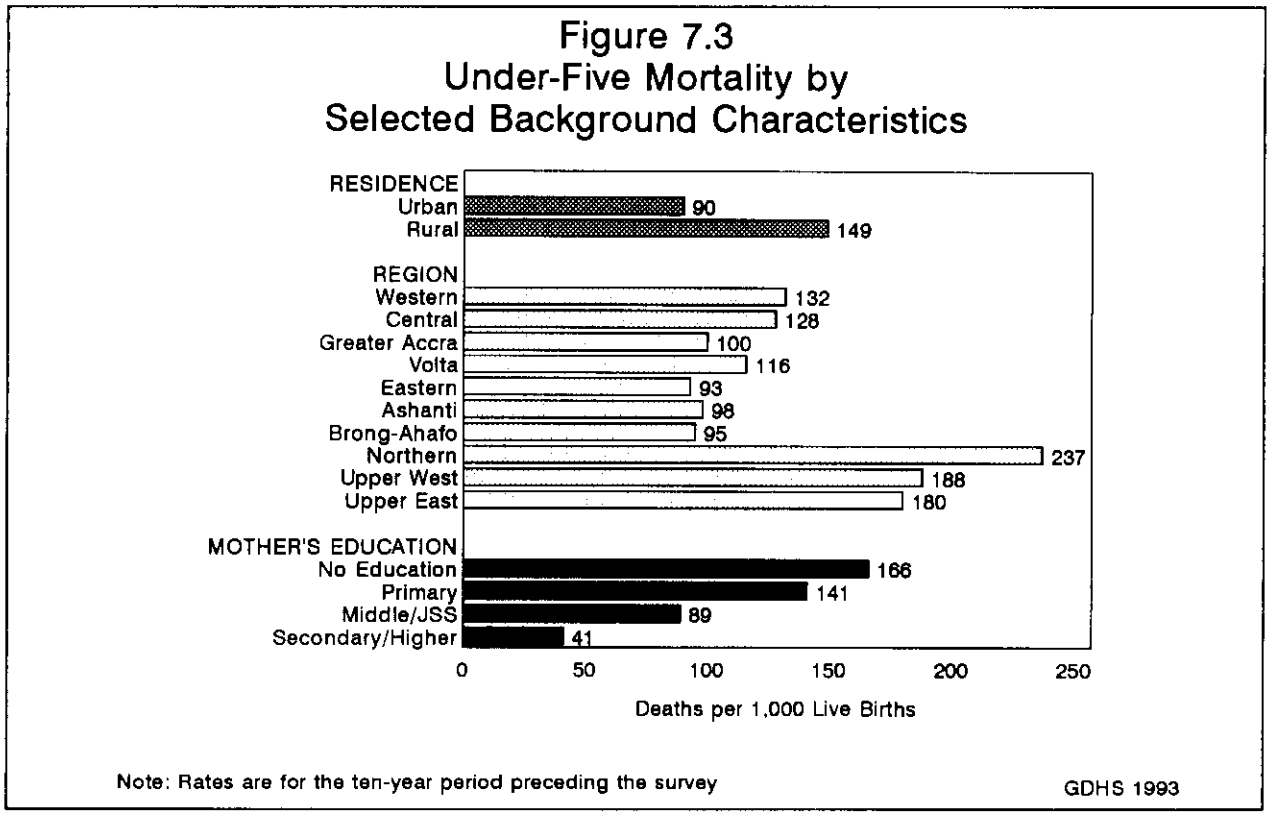
Infant and child mortality rates for the ten-year period preceding the survey, by selected background characteristics, Ghana 1993

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	**Infant mortality** ($_1q_0$)	Child mortality ($_4q_1$)	**Under-five mortality** ($_5q_0$)
Residence					
Urban	38.9	16.0	54.9	37.0	89.9
Rural	48.8	33.4	82.2	73.0	149.2
Region					
Western	47.3	29.0	76.3	60.1	131.8
Central	50.3	21.4	71.6	60.8	128.0
Greater Accra	44.1	14.3	58.4	44.4	100.2
Volta	40.0	37.8	77.8	41.8	116.4
Eastern	30.4	25.5	55.9	39.5	93.2
Ashanti	44.4	20.8	65.2	34.6	97.6
Brong-Ahafo	37.1	11.6	48.7	48.3	94.6
Northern	72.7	41.0	113.7	139.1	237.0
Upper West	(40.7)	(43.9)	(84.5)	(112.7)	(187.7)
Upper East	46.2	58.9	105.0	83.9	180.1
Mother's education					
No education	51.5	35.6	87.1	86.1	165.7
Primary	55.6	30.1	85.8	60.6	141.2
Middle/JSS	35.4	20.0	55.4	35.6	89.0
Secondary/Higher	(28.2)	(0.0)	(28.2)	(12.9)	(40.7)
Medical maternity care[2]					
No antenatal/delivery	(60.0)	(40.2)	(100.1)	-	-
Either antenatal/delivery	35.3	24.1	59.4	-	-
Both antenatal/delivery	38.8	15.3	54.1	-	-
Total	46.1	28.6	74.7	62.8	132.8

Note: The month of interview is excluded from analysis. Figures in parentheses are based on 250-499 births.
[1]Computed as the difference between infant and neonatal mortality.
[2]Rates are for the three-year period preceding the survey.

whose mothers reached secondary school and beyond. The infant mortality rate of children of highly educated mothers is about 68 percent lower than that of uneducated mothers. Children of uneducated mothers also have a higher probability of dying between ages one and five than those of mothers who have completed at least primary-level education. Indeed, children whose mothers received secondary or higher education are nearly seven times less likely than those of uneducated mothers to die during the 1-4 years of childhood (Table 7.6 and Figure 7.3). Under-five mortality declines dramatically with increasing level of education of the mother.

Whereas children of uneducated mothers are twice as likely to die before their fifth birthday as those of mothers whose highest level of education is middle or junior secondary school, they are four times as likely to die as those born to mothers with at least secondary school education. These findings emphatically indicate the impact of mother's education on survival chances of the child.



Prenatal and Delivery Care

As expected, children whose mothers received modern maternity care during pregnancy and/or delivery experienced lower levels of neonatal and infant mortality than children whose mothers received no medical care before or during delivery (Table 7.6). The data in Table 7.6 also indicate that in general children whose mothers received no antenatal or medical care at delivery have one and a half times the level of neonatal mortality, two and a half times the level of postneonatal mortality and nearly two times the level of infant mortality as children of mothers who received both antenatal and delivery care.

7.5 Bio-Demographic Differentials of Mortality

Sex of the Child

Direct estimates of infant and child mortality by selected bio-demographic characteristics for the ten-year period prior to the survey are reported in Table 7.7. The risk of mortality in childhood for the male child generally exceeds that of the female child. However, although the male neonatal mortality rate exceeded that of the female by 29 percent, the male postneonatal mortality rate was lower than that of the female by 8 percent. Infant and under-five mortality rates were higher for the male than for the female. There is hardly any difference in mortality risk between the sexes during childhood ages one through four.

Maternal Age

Neonatal mortality is highest among children of mothers age 40-49, followed by children of mothers under 20 years of age (Table 7.7). Infant mortality among children of mothers less than 40 years old lies within the range 69 to 91 deaths per 1,000 live births. Child mortality and under-five mortality decrease with

Table 7.7 Infant and child mortality by bio-demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected bio-demographic characteristics, Ghana 1993

Bio-demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	**Infant mortality** ($_1q_0$)	Child mortality ($_4q_1$)	**Under-five mortality** ($_5q_0$)
Sex of child					
Male	51.8	27.4	79.2	63.4	137.5
Female	40.2	29.9	70.1	62.2	127.9
Age of mother at birth					
< 20	59.3	32.0	91.3	76.6	160.9
20-29	41.9	27.3	69.2	61.6	126.6
30-39	44.8	25.5	70.3	57.9	124.1
40-49	(63.3)	(58.8)	(122.1)	(59.7)	(174.5)
Birth order					
1	52.5	24.5	77.0	64.9	136.9
2-3	37.4	31.7	69.1	53.2	118.6
4-6	41.5	22.3	63.8	72.9	132.0
7+	72.1	43.2	115.3	63.1	171.1
Previous birth interval					
< 2 yrs	80.7	36.6	117.3	90.8	197.4
2-3 yrs	37.1	30.9	67.9	59.4	123.3
4 yrs +	30.5	20.2	50.7	39.3	88.0
Total	46.1	28.6	74.7	62.8	132.8

Note: The month of interview is excluded from analysis. Figures in parentheses are based on 250-499 births.
[1]Computed as the difference between infant and neonatal mortality.

the age of the mother up to 40 years. However, under-five mortality is higher for children born to mothers under age 20 and to mothers age 40-49 years than to mothers age 20-39 years. The data, therefore, portray the well-known U-shaped relationship between the age of the mother at the time of birth of the child and mortality in childhood (see Figure 7.4).

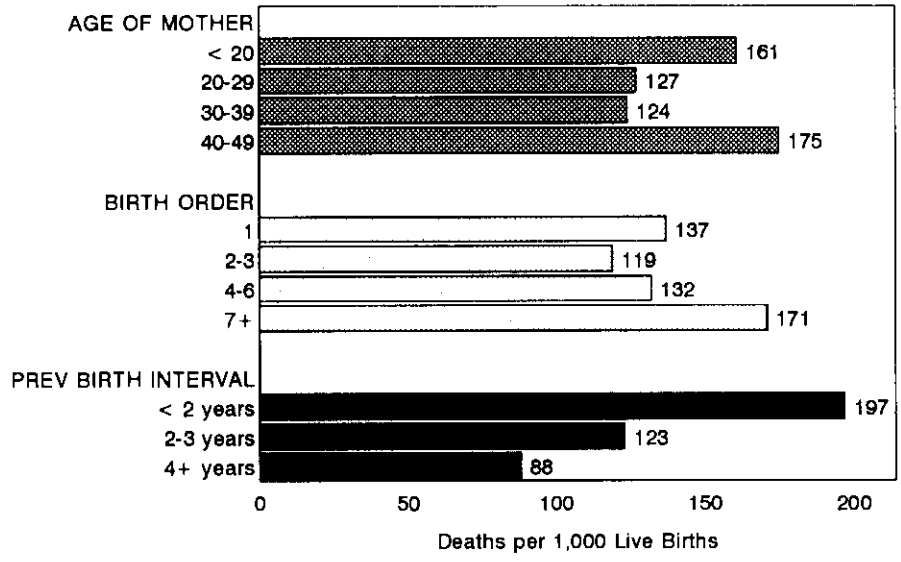
Birth Order

The risk of neonatal death among first births is about one-fifth to one-third higher than among second to sixth-order births, and it is about two-fifths to one-half higher among seventh and higher-order births than among second to sixth-order births. Thus, neonatal deaths among first births are nearly three-quarters as high as among seventh or higher-order births. This pattern of higher mortality among first and seventh or higher-order births is also observed when both infant and under-five mortality rates are considered (Table 7.7).

Previous Birth Interval

Where a birth occurs two or more years after a previous birth the risk of mortality declines considerably. The longer the previous birth interval, the lower the risk of mortality (Table 7.7 and Figure 7.4). Evidence from the 1993 GDHS indicates that the risk of mortality at any point in the first five years of

Figure 7.4
Under-Five Mortality by Selected Demographic Characteristics



Note: Rates are for the ten-year period preceding the survey

GDHS 1993

life is reduced by more than one half when the interval between two consecutive births is four or more years as opposed to when a subsequent birth occurs within two years of a preceding one.

7.6 High-Risk Fertility Behaviour

The distribution of children and women classified by categories of increased risk of infant and child mortality as a result of fertility behaviour of the mother is presented in Table 7.8. Children at elevated risk include:

- Those born to mothers below 18 years of age or more than 34 years at the time of birth,
- Children born to women who already have had three or more live births, and
- Children born within two years of a previous live birth.

The relative risk of mortality for children born in the last five years is also presented. The proportion dead in each high-risk category is compared with the proportion dead among children who are not in any high-risk category.

Among all children born in the five years preceding the survey, slightly more than 1 in 2 (54 percent) are in one or more elevated risk categories. Nearly one-fifth (21 percent) of the births are also of the multiple high-risk type. Under the high-risk category, 13 percent of the births occurred to mothers who were not only too old but also have already had more than 3 births, and 5 percent of the births occurred within two years of a previous birth and to women with parity greater than 3. High birth order is identified as the most common single high-risk factor. Among births classified under the single-risk category, 5 percent fell into

the young maternal age category (below 18 years), 1 percent into too old maternal age (over 34 years old), 5 percent into birth interval of less than 2 years, and 23 percent into birth orders higher than 3.

The risk ratios in the second column of Table 7.8 are used to compare each risk category with the reference category, that is, the no high-risk category has a risk ratio of 1.00. The larger the risk ratio, the higher the level of mortality. It is observed that the risk ratios for children in single-risk categories are generally lower than those for children in multiple high-risk categories. Overall, children who fall into a single elevated risk category have a ratio of 1.25, whereas children who are in multiple high-risk categories have a risk ratio of 1.73. Relative to the reference category, children born after too short birth intervals are twice (1.88) as likely to die as those in the reference category. With regards to children in the elevated multiple risk categories, children whose mothers are too old with too short birth intervals and with too high parity are more than three times (3.32) as likely to die as children in the reference category. Similarly, children born to too young mothers with less than two years separating consecutive births are nearly three times (2.82) as likely to die as those in the no high-risk category. Children of birth orders greater than 3 born after too short birth intervals are 2.59 times likely to die as those in the reference category.

Table 7.8 High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality, and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of mortality, by category of increased risk, Ghana 1993

Risk category	Births in 5 years preceding the survey		Percentage of currently married women[a]
	Percentage of births	Risk ratio	
Not in any high-risk category	**45.7**	**1.00**	**24.8[b]**
Single high-risk category			
Mother's age < 18	4.7	1.54	0.3
Mother's age > 34	1.1	1.06	3.5
Birth interval < 24 months	4.8	1.88	10.4
Birth order > 3	23.2	1.07	16.4
Subtotal	33.8	1.25	30.6
Multiple high-risk category			
Age <18 & birth interval <24[c] mo	0.1	2.82	0.2
Age >34 & birth interval <24	0.2	2.02	0.2
Age >34 & birth order >3	13.0	1.13	27.7
Age >34 & birth interval <24 & birth order >3	1.8	3.32	5.6
Birth interval <24 & birth order >3	5.4	2.59	11.0
Subtotal	20.6	1.73	44.7
In any high-risk category	**54.3**	**1.43**	**75.2**
Total	100.0	-	100.0
Number of births	3741	-	3204

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births *not in any high-risk category*.
[a]Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 3 or higher.
[b]Includes sterilised women
[c]Includes the combined categories *Age <18 and birth order >3*.

Currently married women in the survey were also classified by the category of potential risk they would fall into if they were to conceive at the time of the survey. The data reveal that 31 percent of currently married women have the potential for giving birth to a child in the single elevated risk category, while as much as 45 percent of the women have the potential to produce children with multiple high risk factors. In all, three-quarters of married women have the potential to produce children at elevated risk.

CHAPTER 8

MATERNAL AND CHILD HEALTH

The survival chances of infants and children are improved if mothers use maternal and child health services, particularly antenatal care, delivery care, childhood immunisations and oral rehydration therapy. There is overwhelming evidence to support the benefits of use of health services to the mother as well.

8.1 Antenatal Care

Just under 13 percent of mothers of children born in the last 3 years received no antenatal care (see Table 8.1). Those whose mothers received care from medically trained personnel (doctors, nurses and midwives) accounted for 86 percent.

Table 8.1 Antenatal care

Percent distribution of births in the three years preceding the survey, by source of antenatal care during pregnancy, according to selected background characteristics, Ghana 1993

Background characteristic	Antenatal care provider[1]							
	Doctor	Trained nurse/ Midwife	Trained trad. birth attendant	Untrained trad. birth attendant	Friends/ Relatives/ Other	No one/ Missing	Total	Number
Mother's age at birth								
< 20	22.8	64.7	0.7	1.0	0.0	10.7	100.0	289
20-34	27.8	58.6	0.5	0.6	0.2	12.3	100.0	1542
35+	23.7	57.0	0.3	0.9	1.2	16.9	100.0	337
Birth order								
1	30.0	59.5	0.5	1.1	0.2	8.6	100.0	440
2-3	30.0	56.9	0.4	0.4	0.1	12.2	100.0	794
4-5	24.2	61.9	0.0	0.6	0.0	13.3	100.0	525
6+	19.1	59.7	1.2	1.2	1.2	17.6	100.0	409
Residence								
Urban	46.0	50.7	0.0	0.2	0.0	3.2	100.0	600
Rural	19.1	62.4	0.6	1.0	0.4	16.4	100.0	1568
Region								
Western	32.4	54.9	1.5	0.5	0.0	10.8	100.0	204
Central	30.4	54.5	0.4	0.0	1.3	13.3	100.0	224
Greater Accra	52.0	43.9	0.5	0.0	0.0	3.6	100.0	196
Volta	23.9	62.0	0.9	0.4	0.0	12.8	100.0	234
Eastern	31.6	57.8	0.8	3.4	0.4	5.9	100.0	237
Ashanti	24.6	66.2	0.3	0.0	0.8	8.2	100.0	391
Brong-Ahafo	24.9	65.1	0.0	0.5	0.0	9.6	100.0	209
Northern	7.9	57.9	0.0	2.0	0.0	32.3	100.0	254
Upper West	10.4	63.6	0.0	0.0	0.0	26.0	100.0	77
Upper East	22.5	63.4	0.0	0.0	0.0	14.1	100.0	142
Mother's education								
No education	16.4	58.6	0.5	0.8	0.5	23.2	100.0	865
Primary	24.6	62.9	0.7	1.2	0.2	10.2	100.0	402
Middle/JSS	33.7	60.8	0.4	0.5	0.3	4.3	100.0	781
Secondary/Higher	59.2	40.0	0.0	0.0	0.0	0.8	100.0	120
All births	26.5	59.2	0.5	0.7	0.3	12.8	100.0	2168

Note: Figures are for births in the period 1-35 months preceding the survey.
[1]If the respondent mentioned more than one provider, only the most qualified provider is considered.

Although the proportion of births whose mothers received care from medically trained personnel decreases with age of the mother and birth order of the child, the differences are not remarkable.

The table indicates that the source of antenatal care is strongly influenced by the woman's area of residence. Forty-six percent of births to urban mothers, for example, received antenatal care from doctors compared to less than 20 percent for rural women. On the other hand, 16 percent of rural children received no care at all, compared to 3 percent of urban births.

With regard to the regions, 52 percent of births to mothers in Greater Accra were attended to by doctors compared to only 8 percent of those in the Northern Region. As many as 32 percent of mothers in the Northern region received no antenatal care. This is far in excess of those who received no care in the Greater Accra Region (4 percent).

The distribution of births by mother's level of education and source of antenatal care shows that the higher the level of the woman's education, the higher her chances of being attended to by a doctor. The figures range from 16 percent for those with no education to 59 percent for those with secondary or higher education.

A higher proportion of mothers with no education (23 percent) received no care when compared to only 1 percent of those with higher levels of education.

Table 8.2 shows that 87 percent of births in the last 3 years received antenatal care. Of these, 69 percent of mothers had their first antenatal care visit by the time they were 5 months pregnant. Thirty-three percent of women received care during their first trimester. As many as 17 percent received care when they were 6 months or more pregnant. The table further suggests that 59 percent made 4 or more antenatal visits. Twenty-two percent had between 2 and 3 visits. The median number of visits was 5.

Table 8.3 shows the distribution of live births in the last 3 years by number of tetanus toxoid injections received and background characteristics. Seventy-seven percent of the mothers received at least one tetanus toxoid injection during pregnancy. Mothers under 35 years of age are more likely to be vaccinated.

Over half (51 percent) of the mothers had received two or more immunisations against tetanus. Mothers of higher order births are less likely to receive two or more doses of the vaccination.

Urban mothers (91 percent) are more likely to be vaccinated than rural mothers (71 percent). Among the regions, mothers living in the Greater Accra Region are more likely to be vaccinated (88 percent) than those in the Northern Region (57 percent). With regard to the number of injections received, less than 40 percent of the mothers living in the Volta, Northern and Upper West regions had received two or more injections compared to over 50 percent in the other 7 regions.

Level of education also affects the likelihood of receiving tetanus immunisation. Whereas one-third (33 percent) of mothers with

Table 8.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the three years preceding the survey by number of antenatal care visits, and by the stage of pregnancy at the time of the first visit, Ghana 1993

Characteristic	Percent
Number of visits	
0	12.6
1	4.8
2-3	22.0
4+	58.9
Don't know/Missing	1.7
Total	100.0
Median	5.2
Months pregnant at time of first visit	
No antenatal care	12.6
<4 months	33.1
4-5 months	35.4
6-7 months	15.0
8+ months	2.4
Don't know/Missing	1.6
Total	100.0
Median	4.5
Number of births	2168

Note: Figures are for births in the period 1-35 months preceding the survey.

Table 8.3 Tetanus toxoid vaccination

Percent distribution of births in the three years preceding the survey, by number of tetanus toxoid injections given to the mother during pregnancy and whether the respondent received an antenatal card, according to selected background characteristics, Ghana 1993

Background characteristic	Number of tetanus toxoid injections					Percentage given antenatal card	Number of births
	None	One dose	Two doses or more	Don't know/ Missing	Total		
Mother's age at birth							
< 20	24.6	22.8	51.2	1.4	100.0	82.7	289
20-34	20.0	26.8	52.3	0.8	100.0	82.1	1542
35+	31.5	20.8	46.6	1.2	100.0	78.0	337
Birth order							
1	18.6	21.6	58.0	1.8	100.0	85.7	440
2-3	20.5	27.1	51.8	0.6	100.0	82.5	794
4-5	22.7	26.7	49.9	0.8	100.0	80.8	525
6+	29.6	24.4	45.0	1.0	100.0	76.3	409
Residence							
Urban	8.7	25.3	65.3	0.7	100.0	94.0	600
Rural	27.6	25.4	45.9	1.1	100.0	76.8	1568
Region							
Western	19.6	18.1	61.8	0.5	100.0	83.3	204
Central	20.1	25.9	53.6	0.4	100.0	83.9	224
Greater Accra	11.2	28.1	60.2	0.5	100.0	91.8	196
Volta	29.9	29.9	39.3	0.9	100.0	84.2	234
Eastern	18.6	23.6	57.4	0.4	100.0	86.9	237
Ashanti	17.9	28.1	51.7	2.3	100.0	80.8	391
Brong-Ahafo	17.7	23.9	57.9	0.5	100.0	84.7	209
Northern	42.9	18.9	38.2	0.0	100.0	62.6	254
Upper West	31.2	28.6	37.7	2.6	100.0	68.8	77
Upper East	16.9	31.0	50.0	2.1	100.0	85.9	142
Mother's education							
No education	32.7	25.9	39.9	1.5	100.0	70.5	865
Primary	23.4	25.4	50.7	0.5	100.0	83.6	402
Middle/JSS	13.1	24.5	61.8	0.6	100.0	90.5	781
Secondary/Higher	5.0	27.5	66.7	0.8	100.0	95.8	120
All births	22.4	25.4	51.3	1.0	100.0	81.5	2168

Note: Figures are for births in the period 1-35 months preceding the survey.

no education received no anti-tetanus injection, the figure was only 5 percent for those with secondary or higher education.

8.2 Place of Delivery and Delivery Assistance

Table 8.4 indicates that less than half (42 percent) of births in the last 3 years occurred in a health facility. The distribution of the births by the mothers' background characteristics shows that younger women are more likely than older women to deliver in a health service facility.

Table 8.4 Place of delivery

Percent distribution of births in the three years preceding the survey, by place of delivery, according to selected background characteristics, Ghana 1993

Background characteristic	Health facility	At home	Other	Don't know/ Missing	Total	Number
Mother's age at birth						
< 20	44.6	55.4	0.0	0.0	100.0	289
20-34	43.5	55.7	0.3	0.5	100.0	1542
35+	34.4	63.8	1.5	0.3	100.0	337
Birth order						
1	53.6	46.1	0.0	0.2	100.0	440
2-3	44.0	55.5	0.0	0.5	100.0	794
4-5	40.0	59.0	0.8	0.2	100.0	525
6+	29.3	68.5	1.5	0.7	100.0	409
Residence						
Urban	79.3	20.5	0.0	0.2	100.0	600
Rural	28.0	70.9	0.6	0.5	100.0	1568
Region						
Western	36.3	63.7	0.0	0.0	100.0	204
Central	34.8	63.8	0.0	1.3	100.0	224
Greater Accra	79.6	20.4	0.0	0.0	100.0	196
Volta	33.3	65.8	0.0	0.9	100.0	234
Eastern	55.3	43.9	0.4	0.4	100.0	237
Ashanti	53.2	45.3	1.0	0.5	100.0	391
Brong-Ahafo	53.6	45.0	1.4	0.0	100.0	209
Northern	14.6	85.4	0.0	0.0	100.0	254
Upper West	22.1	75.3	2.6	0.0	100.0	77
Upper East	16.9	82.4	0.0	0.7	100.0	142
Mother's education						
No education	22.2	76.3	0.9	0.6	100.0	865
Primary	38.3	61.2	0.0	0.5	100.0	402
Middle/JSS	60.1	39.4	0.3	0.3	100.0	781
Secondary/Higher	83.3	16.7	0.0	0.0	100.0	120
Antenatal care visits						
None	9.2	90.1	0.4	0.4	100.0	273
1-3 visits	26.3	73.2	0.5	0.0	100.0	582
4 or more visits	56.7	43.0	0.2	0.1	100.0	1276
All births	42.2	56.9	0.5	0.4	100.0	2168

Note: Figures are for births in the period 1-35 months preceding the survey. Excludes those without information about antenatal visits.

Mothers of higher order births have a greater tendency to deliver outside the health facilities than those with lower parities. For example, first-order births were almost twice as likely to occur in the health facilities as those of order six or above.

Nearly four out of five births (79 percent) to urban residents occurred in health facilities, in contrast to only 28 percent of births to rural women. More than half of all births to women in the Greater Accra,

Eastern, Ashanti and Brong-Ahafo regions occurred in health facilities compared to only 15 percent for the Northern region.

As expected, the tendency to deliver in health facilities increased with higher levels of education. The distribution of the children by the number of antenatal visits shows that only one out of ten children whose mothers had received no antenatal care were delivered in a health facility. In contrast, 57 percent of those whose mothers had 4 or more visits were delivered in a health facility. Thus, the more antenatal visits a woman made, the more likely she was to have had her child at a health facility.

Table 8.5 suggests that supervised deliveries (that is, deliveries assisted by doctors, nurses, midwives and trained traditional birth attendants (TBAs)) were received by less than 60 percent of mothers. Lower order births were more likely to receive supervised deliveries than higher order births.

Table 8.5 Assistance during delivery

Percent distribution of births in the three years preceding the survey, by type of assistance during delivery, according to selected background characteristics, Ghana 1993

Background characteristic	Attendant assisting during delivery								
	Doctor	Trained nurse/ Midwife	Trained trad. birth attendant	Untrained trad. birth attendant	Friends/ Other	No one	Missing	Total	Number
Mother's age at birth									
< 20	5.9	41.5	13.8	18.7	17.6	2.4	0.0	100.0	289
20-34	6.4	38.7	15.4	14.5	20.6	4.2	0.3	100.0	1542
35+	8.0	27.3	16.3	15.7	24.0	8.6	0.0	100.0	337
Birth order									
1	9.5	46.4	12.0	14.3	15.9	1.6	0.2	100.0	440
2-3	7.1	37.9	15.6	14.2	22.2	2.6	0.4	100.0	794
4-5	5.1	36.4	15.6	15.6	20.4	6.9	0.0	100.0	525
6+	4.2	27.6	17.8	17.8	23.5	9.0	0.0	100.0	409
Residence									
Urban	16.5	64.7	4.7	5.3	6.2	2.5	0.2	100.0	600
Rural	2.7	26.8	19.4	19.1	26.3	5.5	0.2	100.0	1568
Region									
Western	7.4	32.4	27.9	12.3	13.7	6.4	0.0	100.0	204
Central	0.9	36.6	29.0	17.4	14.7	0.9	0.4	100.0	224
Greater Accra	24.5	55.6	4.6	4.1	7.7	3.6	0.0	100.0	196
Volta	4.7	29.5	13.7	15.8	27.8	8.1	0.4	100.0	234
Eastern	6.3	48.9	13.9	14.8	11.4	4.2	0.4	100.0	237
Ashanti	7.4	48.3	12.0	12.5	16.1	3.6	0.0	100.0	391
Brong-Ahafo	6.7	48.8	12.4	8.1	15.8	8.1	0.0	100.0	209
Northern	2.0	13.8	13.4	35.8	31.9	3.1	0.0	100.0	254
Upper West	0.0	22.1	16.9	15.6	35.1	10.4	0.0	100.0	77
Upper East	2.1	16.9	11.3	12.7	54.2	2.1	0.7	100.0	142
Mother's education									
No education	3.1	20.7	14.7	19.9	34.5	6.9	0.2	100.0	865
Primary	6.2	35.1	17.9	17.9	18.9	3.7	0.2	100.0	402
Middle/JSS	8.2	53.0	16.1	10.1	9.1	3.3	0.1	100.0	781
Secondary/Higher	21.7	62.5	5.8	6.7	3.3	0.0	0.0	100.0	120
Antenatal care visits									
None	1.5	8.4	16.5	28.2	38.1	7.3	0.0	100.0	273
1-3 visits	2.1	24.7	22.5	17.9	27.1	5.7	0.0	100.0	582
4 or more visits	9.6	49.3	11.9	11.5	13.9	3.8	0.1	100.0	1276
All births	6.5	37.3	15.3	15.3	20.7	4.7	0.2	100.0	2168

Note: Figures are for births in the period 1-35 months preceding the survey. If the respondent mentioned more than one attendant, only the most qualified attendant is considered. Excludes those without information about antenatal visits.

Urban residents are nearly twice as likely (86 percent) to receive supervised delivery as their rural counterparts (49 percent). Among the regions, residents of Greater Accra are more likely to receive supervised deliveries than residents in the other regions. Also, in Greater Accra the delivery attendants are more likely to be doctors, nurses and midwives unlike what is found in the Northern, Upper East and Upper West regions.

The quality of personnel attending to births improves with increasing levels of education. Thus, as much as 90 percent of births to mothers with secondary or higher levels of education were supervised compared to only 39 percent of those to mothers with no education and 59 percent of those to mothers with primary education. The trend observed for the different levels of women's education in relation to the quality of personnel providing delivery care could also be influenced by the area of residence.

Table 8.5 also shows that a higher proportion of births whose mothers had more antenatal visits were attended by trained personnel, including trained TBAs. For example, whereas 71 percent of those whose mothers had 4 or more antenatal visits were delivered by trained personnel, only 26 percent of those whose mothers received no antenatal care were delivered by such trained personnel.

8.3 Delivery Characteristics

Tables 8.6.1 and 8.6.2 give an idea of some of the risks faced by women who had live births in the last 3 years and the outcome of such pregnancies. An expectant mother who is too young or too old or suffers

Table 8.6.1 Delivery characteristics: Caesarean section, prematurity, birth weight and size

Percent distribution of live births in the last 3 years by whether the delivery was by caesarean section, whether premature, and by birth weight and the mother's estimate of baby's size at birth, by age and education of mother, Ghana 1993

Background characteristic	Age of mother at birth			Mother's education				Total
	<20	20-34	35+	No education	Primary	Middle/ JSS	Secondary	
C-section								
Yes	4.2	4.2	5.6	2.9	4.5	4.5	15.0	4.4
No	94.8	93.9	92.0	94.6	93.5	94.4	84.2	93.7
Missing	1.0	1.9	2.4	2.5	2.0	1.2	0.8	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Premature birth								
Yes	3.5	2.4	1.2	1.4	1.5	4.2	0.0	2.4
No	96.2	97.0	97.0	97.2	98.0	95.4	100.0	96.9
Don't know/Missing	0.3	0.6	1.8	1.4	0.5	0.4	0.0	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Birth weight								
Less than 2.5 kg	2.4	2.0	0.6	0.7	2.2	2.9	1.7	1.8
2.5 kg or more	17.3	18.2	14.8	6.6	14.7	26.2	50.0	17.6
Don't know/Missing	9.7	13.0	13.1	9.6	10.7	15.5	21.7	12.6
Not weighed	70.6	66.7	71.5	83.1	72.4	55.3	26.7	68.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size at birth								
Very large	11.8	11.9	13.9	11.2	9.7	14.3	14.2	12.2
Larger than average	29.1	29.6	26.1	28.2	30.6	29.8	23.3	29.0
Average	46.0	45.0	48.4	46.0	46.8	43.3	55.0	45.7
Smaller than average	8.7	8.2	7.1	9.4	9.2	6.8	3.3	8.1
Very small	4.5	4.7	3.0	4.0	3.2	5.4	4.2	4.4
Don't know/Missing	0.0	0.6	1.5	1.2	0.5	0.4	0.0	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	289	1542	337	865	402	781	120	2168

Table 8.6.2 Delivery characteristics: Caesarean section, prematurity, birth weight and size

Percent distribution of live births in the last 3 years by whether the delivery was by caesarean section, whether premature, and by birth weight and the mother's estimate of baby's size at birth, by area of residence and region, Ghana 1993

Background characteristic	Residence		Region										Total
	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong-Ahafo	Northern	Upper West	Upper East	
C-section													
Yes	8.5	2.9	2.5	2.7	11.2	2.1	5.1	5.6	5.7	2.8	2.6	2.1	4.4
No	90.3	95.0	97.1	94.6	88.3	94.0	93.2	93.1	93.8	93.7	96.1	95.8	93.7
Missing	1.2	2.1	0.5	2.7	0.5	3.8	1.7	1.3	0.5	3.5	1.3	2.1	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Premature birth													
Yes	3.2	2.0	3.4	2.7	1.5	0.0	3.4	1.5	8.1	1.6	0.0	0.0	2.4
No	96.7	96.9	96.6	96.0	98.5	98.7	96.2	96.7	91.4	98.4	100.0	98.6	96.9
Don't know/Missing	0.2	1.0	0.0	1.3	0.0	1.3	0.4	1.8	0.5	0.0	0.0	1.4	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Birth weight													
Less than 2.5 kg	3.8	1.1	2.9	0.4	7.1	0.4	2.1	2.0	1.4	0.8	0.0	0.0	1.8
2.5 kg or more	41.3	8.5	16.2	10.7	57.7	4.7	17.7	21.7	19.6	5.9	6.5	8.5	17.6
Don't know/Missing	20.0	9.8	13.7	9.4	8.7	17.1	21.1	14.1	10.5	7.1	15.6	7.0	12.6
Not weighed	34.8	80.7	67.2	79.5	26.5	77.8	59.1	62.1	68.4	86.2	77.9	84.5	68.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size at birth													
Very large	14.8	11.2	19.1	8.9	7.7	11.5	3.4	19.4	16.3	11.0	6.5	9.2	12.2
Larger than average	27.3	29.6	26.5	23.2	36.2	37.2	25.7	31.2	27.8	18.5	39.0	32.4	29.0
Average	47.5	45.0	38.7	55.8	49.0	46.6	58.6	34.5	36.4	51.2	51.9	43.0	45.7
Smaller than average	7.2	8.4	5.4	6.7	6.1	3.0	10.1	7.7	10.5	16.1	2.6	7.7	8.1
Very small	2.8	5.0	10.3	3.6	1.0	0.9	1.7	5.6	9.1	2.8	0.0	7.0	4.4
Don't know/Missing	0.3	0.8	0.0	1.8	0.0	0.9	0.4	1.5	0.0	0.4	0.0	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	600	1568	204	224	196	234	237	391	209	254	77	142	2168

from illness or malnutrition is usually more likely to have a caesarian birth, premature babies or underweight babies. According to the survey, fewer than 5 percent of births were caesarian delivery. Caesarian deliveries were found to be more common among births to highly educated mothers.

Premature deliveries (that is, deliveries occurring before 28 weeks of gestation) accounted for only 2 percent of the births and are more prevalent among teenage mothers. Urban mothers were more likely to have premature births than rural mothers. Among the regions, Brong-Ahafo Region was found to have the highest incidence of premature births.

Given that about 40 percent of the births occurred in health facilities one would have expected an equal number of people to report on the birth weight of their children, but the results show that mothers were able to give the birth weight for fewer than 20 percent of their children.

It is quite discouraging, though, to note that even for those who could remember their child's birth weight (probably the very well educated), almost one-tenth of the children were underweight (that is, they weighed less than 2.5 kg).

In order to get around the problem of recalling birth weight, the mothers were asked to give an idea of the size of their babies at the time of birth. As shown in the tables, 87 percent of the births were believed to be normal or larger than normal size babies. Such a subjective assessment needs to be interpreted with caution because it is difficult to know whether the women have made a fair assessment or not.

8.4 Immunisation of Children

To assist in the evaluation of the Expanded Program on Immunisation, data on vaccination coverage were also collected in the GDHS. The guidelines for complete immunisation require that each child be given BCG at birth or soon thereafter. Three doses of DPT and polio are administered at 6, 10 and 14 weeks, respectively. One dose of measles vaccine is administered at 9 months of age. Thus, all children are expected to be fully vaccinated by the age of 12 months.

Each child is issued a card at the time of the first vaccination. Subsequent vaccinations are recorded on the same card. Thus, possession of a vaccination card provides concrete proof of prior vaccination. Where such a card is not available, interviewers rely on the mother's recall.

Table 8.7 shows the distribution of vaccination coverage for the recommended vaccines for children age 12-23 months, by source of information. The proportion receiving particular vaccines by age 12 months is shown in the last row.

Table 8.7 Vaccinations by source of information

Percentage of children 12-23 months who had received specific vaccines at any time before the survey, by whether the information was from a vaccination card or from the mother, and the percentage vaccinated by 12 months of age, Ghana 1993

Source of information	Percentage of children who received:										Percentage with vaccination card	Number of children
	BCG	DPT 1	DPT 2	DPT 3+	Polio 1	Polio 2	Polio 3+	Measles	All[1]	None		
Vaccinated at any time before the survey												
Vaccination card	67.6	67.6	61.4	54.2	67.4	60.8	54.2	52.4	48.1	0.0	68.2	444
Mother's report	15.5	14.3	12.3	8.1	14.3	12.3	8.1	12.0	6.8	15.2	31.8	207
Either source	83.1	81.9	73.7	62.4	81.7	73.1	62.4	64.4	54.8	15.2	100.0	651
Vaccinated by 12 months of age												
Vaccination card	80.8	79.1	69.3	57.3	78.9	68.6	57.1	50.6	42.9	17.5	-	651

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine. 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.
[1]Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

In all, vaccination cards could be produced for only 68 percent of children age 12-23 months. Of those with vaccination cards, only 48 percent had been fully vaccinated. Among those without cards (32 percent), only 7 percent had received all the recommended vaccines. Thus, if maternal report is taken into account, the percentage of children receiving full immunisation is 55 percent. The corresponding figure for the 1988 GDHS was 47 percent (GSS and IRD, 1989), implying improvement in coverage. Subsequent discussion will refer to the combined information from both vaccination cards and maternal report.

Children are more likely to receive BCG (83 percent). For multiple dose vaccines such as polio and DPT, children are more likely to be given the first dose. For example, 82 percent of the children received the first dose of polio compared to 73 and 62 percent for the second and third doses, respectively. Similarly, the percentage receiving the first, second and third doses of DPT are 82, 74 and 62 percent, respectively. Only sixty-four percent of the children were vaccinated for measles.

Only 43 percent of the children received all the recommended vaccines by the age of 12 months. Eighty-one percent of children received BCG by 12 months of age. The corresponding figures for the first, second and third doses of polio are 79, 69 and 57 percent, respectively. Only 51 percent of children received the measles vaccine by 12 months of age.

Table 8.8 shows the distribution of vaccination coverage among children age 12-23 months old by background characteristics. Except in the case of measles, males generally appear more likely to be vacci-

Table 8.8 Vaccinations by background characteristics

Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to the vaccination card or the mother's report) and the percentage with a vaccination card, by selected background characteristics, Ghana 1993

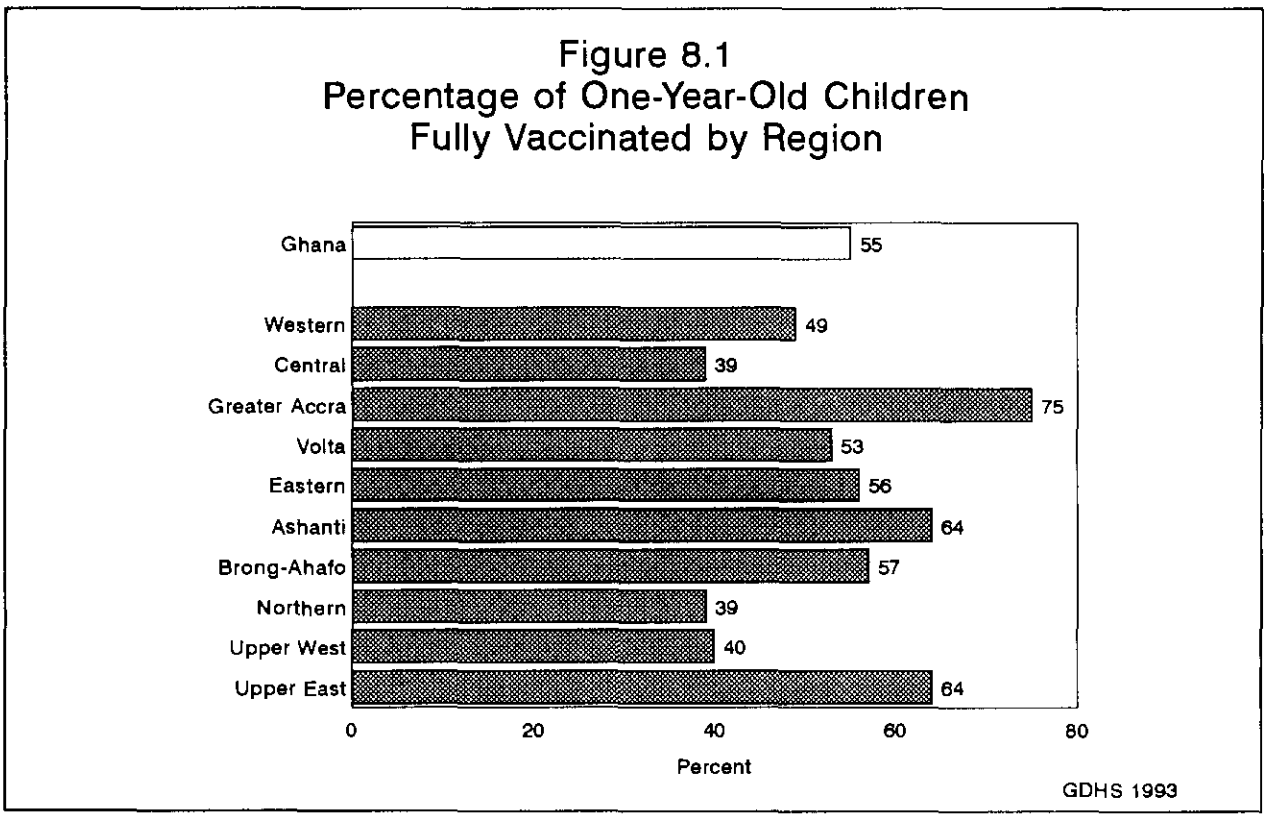
Background characteristic	Percentage of children who received:										Percentage with vaccination card	Number of children
		DPT			Polio							
	BCG	1	2	3+	1	2	3+	Measles	All[1]	None		
Sex												
Male	84.6	82.3	75.0	63.4	82.0	74.4	63.4	62.5	53.2	14.0	69.2	344
Female	81.4	81.4	72.3	61.2	81.4	71.7	61.2	66.4	56.7	16.6	67.1	307
Birth order												
1	88.0	87.3	79.3	70.7	86.7	79.3	70.7	73.3	64.7	10.0	76.0	150
2-3	83.3	83.3	76.7	64.8	83.3	75.3	65.2	67.8	57.3	15.0	66.1	227
4-5	85.3	81.4	69.2	58.3	81.4	68.6	57.7	59.0	48.7	14.1	67.3	156
6+	73.7	72.9	66.9	52.5	72.9	66.9	52.5	53.4	45.8	23.7	63.6	118
Residence												
Urban	93.4	92.4	88.8	79.2	92.4	88.3	78.7	80.2	71.1	6.1	75.1	197
Rural	78.6	77.3	67.2	55.1	77.1	66.5	55.3	57.5	47.8	19.2	65.2	454
Region												
Western	81.4	81.4	72.9	55.9	81.4	72.9	55.9	59.3	49.2	16.9	66.1	59
Central	79.7	79.7	68.9	54.1	79.7	67.6	54.1	47.3	39.2	17.6	68.9	74
Greater Accra	89.1	87.5	81.3	76.6	85.9	79.7	78.1	81.3	75.0	10.9	78.1	64
Volta	78.4	77.0	68.9	58.1	77.0	68.9	58.1	62.2	52.7	18.9	66.2	74
Eastern	87.5	85.9	76.6	62.5	85.9	76.6	62.5	68.8	56.3	9.4	71.9	64
Ashanti	87.8	87.8	80.0	72.2	87.8	79.1	72.2	73.0	64.3	12.2	72.2	115
Brong-Ahafo	84.3	84.3	78.6	71.4	84.3	77.1	70.0	60.0	57.1	15.7	77.1	70
Northern	65.6	60.9	53.1	40.6	60.9	53.1	40.6	60.9	39.1	28.1	42.2	64
Upper West	84.0	84.0	72.0	48.0	84.0	72.0	48.0	48.0	40.0	16.0	52.0	25
Upper East	95.2	90.5	83.3	71.4	90.5	83.3	71.4	71.4	64.3	4.8	76.2	42
Mother's education												
No education	73.4	70.7	60.9	49.2	70.7	60.5	49.2	52.3	42.2	24.6	57.4	256
Primary	82.8	81.1	73.0	54.1	81.1	71.3	54.9	59.8	44.3	14.8	67.2	122
Middle/JSS	90.8	91.7	84.6	75.9	91.2	84.2	75.4	74.6	68.4	7.9	78.1	228
Secondary/Higher	100.0	97.8	93.3	91.1	97.8	93.3	91.1	93.3	86.7	0.0	82.2	45
All children	83.1	81.9	73.7	62.4	81.7	73.1	62.4	64.4	54.8	15.2	68.2	651

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine.
[1]Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

nated than females. Overall, however, slightly more females than males were found to have received all immunisations.

The extent of immunisation was found to be inversely related to birth order. In other words, the lower the birth order of a child, the higher his chances of getting immunised. As expected, the likelihood of urban children receiving all their immunisations was higher than children in rural areas (71 percent versus 48 percent or about 23 percent higher). Also, for each immunisation, urban children had comparatively higher chances of being immunised than rural children.

The distribution of the children by region shows that children living in Greater Accra, Upper East and Ashanti regions are more likely to be immunised than those living in the other regions. The Central and Northern regions have less than 40 percent of the 12- to 23-month age group receiving full immunisation compared to 75 percent coverage for the Greater Accra Region (see Figure 8.1).



The proportion of children receiving various vaccines increased with increasing levels of mother's education. Furthermore, the proportion of children born to women with secondary or higher levels of education who received full immunisation was about twice that of women with no education.

One can obtain an idea of changes in vaccination coverage over time by examining coverage among various age cohorts of children. The proportion immunised by age 12 months among children 12-23 months is a crude measure of coverage for the period late 1991 to late 1992. Similarly, the proportion immunised by 12 months among those age 24-35 months is a measure of coverage for the period late 1990 to late 1991.

Table 8.9 displays changes in vaccination coverage over time. In all, a very small number of children 12-35 months had been fully immunised during their first year of life (38 percent). The percentage fully immunised increased from 33 percent for the 24- to 35-month age cohort to 43 percent for the 12- to 23-month age cohort, an improvement of 10 percentage points. Sixty-three percent of all children 12-35 months had vaccination cards. The corresponding percentage for those age 24-35 months is 59 percent. The figure for the youngest age cohort (12-23 months) is 68 percent, implying an improvement in the number of children with cards. By similar comparison, BCG coverage improved by 6 percentage points, from 75 to 81 percent. Improvements of 10 or more percentage points are observed for measles and the third doses of polio and DPT vaccinations, respectively.

Table 8.9 Vaccinations in the first year of life

Percentage of children one and two years of age for whom a vaccination card was shown to the interviewer and the percentage vaccinated for BCG, DPT, polio, and measles during the first year of life, by current age of the child, Ghana 1993

Vaccine	Current age of child in months		All children 12-35 months
	12-23	24-35	
Vaccination card shown to interviewer	68.2	58.7	63.4
Percent vaccinated at 0-11 months[a]			
BCG	80.8	74.6	77.7
DPT 1[b]	79.1	72.8	75.9
DPT 2	69.3	61.0	65.1
DPT 3	57.3	46.8	52.0
Polio 1	78.9	72.2	75.5
Polio 2	68.6	60.8	64.7
Polio 3	57.1	46.6	51.8
Measles	50.6	39.6	45.1
All vaccinations[c]	42.9	32.6	37.7
No vaccinations	17.5	23.9	20.8
Number of children	651	664	1315

[a]Information was obtained either from a vaccination card or from the mother if there was no written record. 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 that for children with a written vaccination record.
[b]The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine, since mothers were specifically asked whether the child had received polio vaccine.
[c]Children who have received BCG, measles and three doses of DPT and polio vaccines.

8.5 Prevalence and Treatment of Acute Respiratory Infection

Acute lower respiratory tract infection (ALRI), predominantly the result of pneumonia, is a leading cause of childhood mortality. The prevalence of severe respiratory infection was estimated by asking mothers of children under three years if their children had a cough accompanied by rapid breathing in the two weeks preceding the survey. These symptoms, although nonspecific, often are associated with respiratory infection. It is generally well known that early diagnosis and treatment could prevent a significant proportion of deaths due to pneumonia. The responses of the mother are affected by her own perception of these symptoms and signs and her ability to recall events as they happened. Therefore, it is important to always keep in mind the subjective nature of the information provided here.

Table 8.10 presents the distribution of the prevalence of cough and rapid breathing, whether a facility was visited, and the type of treatment provided by various background characteristics of the child. The results show that, in the two weeks preceding the interview, only 10 percent of children under three years had a cough associated with fast breathing. The prevalence of respiratory signs and symptoms is around 9 percent for children under six months. It peaks at 16 percent for those 6-11 months old and drops to 7 percent for children older than two years. A child is more likely to have respiratory problems if male (11 percent), of birth order higher than 4 (10-12 percent), living in a rural area (11 percent) and having a mother with little or no education (10-12 percent). Children who live in Volta (14 percent), Northern (16 percent) or Upper East (23 percent) are more likely to have respiratory problems.

Table 8.10 Prevalence and treatment of acute respiratory infection

Percentage of children under three years who were ill with a cough accompanied by rapid breathing during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Ghana 1993

Background characteristic	Percentage of children with cough and rapid breathing	Among children with cough and rapid breathing: Percentage taken to a health facility or provider[1]	Percentage treated with: Antihiotic pill or syrup	Injection	Cough syrup	Home remedy	Other	None/ Don't know/ Missing	Number of children
Child's age									
< 6 months	9.3	42.4	18.2	0.0	54.5	12.1	21.2	9.1	355
6-11 months	15.5	30.9	14.5	1.8	58.2	14.5	32.7	16.4	354
12-23 months	11.1	50.0	11.1	2.8	56.9	8.3	22.2	16.7	651
24-35 months	6.8	31.1	13.3	2.2	44.4	15.6	31.1	17.8	664
Sex									
Male	11.2	43.1	12.1	1.7	60.3	12.9	27.6	13.8	1034
Female	9.0	34.8	15.7	2.2	46.1	11.2	25.8	18.0	990
Birth order									
1	9.8	43.9	9.8	2.4	61.0	2.4	24.4	22.0	418
2-3	9.1	41.2	14.7	1.5	55.9	13.2	22.1	14.7	745
4-5	11.8	36.2	8.6	3.4	50.0	13.8	31.0	19.0	491
6+	10.3	36.8	23.7	0.0	50.0	18.4	31.6	5.3	370
Residence									
Urban	7.0	60.0	25.0	7.5	67.5	12.5	30.0	10.0	568
Rural	11.3	34.5	10.9	0.6	50.9	12.1	26.1	17.0	1456
Region									
Western	6.5	25.0	41.7	0.0	41.7	41.7	33.3	8.3	185
Central	4.3	44.4	11.1	11.1	66.7	11.1	0.0	22.2	207
Greater Accra	9.7	72.2	27.8	0.0	77.8	5.6	22.2	5.6	185
Volta	14.3	28.1	6.3	0.0	43.8	9.4	37.5	15.6	223
Eastern	5.4	50.0	16.7	8.3	66.7	0.0	16.7	25.0	221
Ashanti	8.6	37.5	21.9	3.1	37.5	18.8	25.0	15.6	370
Brong-Ahafo	9.0	38.9	16.7	0.0	61.1	5.6	38.9	22.2	199
Northern	15.9	27.8	5.6	2.8	58.3	2.8	33.3	13.9	226
Upper West	7.0	40.0	0.0	0.0	60.0	20.0	20.0	0.0	71
Upper East	22.6	48.4	3.2	0.0	54.8	19.4	16.1	19.4	137
Mother's education									
No education	12.4	35.4	9.1	2.0	48.5	13.1	26.3	19.2	797
Primary	10.4	20.5	20.5	2.6	53.8	15.4	25.6	12.8	374
Middle/JSS	8.0	59.3	16.9	1.7	66.1	6.8	30.5	10.2	735
Secondary/Higher	6.8	37.5	12.5	0.0	37.5	25.0	12.5	25.0	118
All children	10.1	39.5	13.7	2.0	54.1	12.2	26.8	15.6	2024

Note: Figures are for children born in the period 1-35 months preceding the survey.
[1]Includes health post, health centre, hospital, and private doctor.

Only 40 percent of the children were taken to some form of health facility as a result of a respiratory infection. A child is more likely to have contact with a health facility if male (43 percent), of birth order 3 or less (41-44 percent) and living in an urban area (60 percent). In most regions, less than 50 percent of children have contact with health facilities. The exceptions are Greater Accra (72 percent) and Eastern (50 percent) regions.

The data suggest that a child having a cough associated with rapid breathing is most likely to be treated with cough syrup (54 percent). Only 14 percent are treated with antibiotics. About 12 percent are treated with some type of home remedy. A rather large proportion (27 percent) are treated in some nonspecified manner. Still, more than 15 percent receive no treatment. There is no clear relationship between

type of treatment and any of the background characteristics, except that in all cases children are more likely to be treated with cough syrup. It is worth noting that even though Volta, Northern and Upper East regions have the highest prevalence of respiratory infections, children from these regions are less likely to be treated with antibiotics.

8.6 Prevalence and Treatment of Fever

Malaria is endemic to Ghana and is among the most common causes of morbidity. Fever is its most obvious manifestation, albeit it is nonspecific. Mothers were therefore asked if their children under three years had fever in the two weeks preceding the interview, and if so, the place of treatment and the type of treatment they received.

Table 8.11 presents the distribution of the prevalence of fever, the type of health facility visited, and the type of treatment provided by various background characteristics of the child. The results show that, in

Table 8.11 Prevalence and treatment of fever

Percentage of children under three years who were ill with a fever during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Ghana 1993

		Among children with fever								
			Percentage treated with:							
Background characteristic	Percentage of children with fever	Percentage taken to a health facility or provider[1]	Anti-malarial	Anti-biotic	Injection	Home remedy	Other	None	Don't know/ Missing	Number of children
Age of child										
<6 months	17.5	38.7	61.3	19.4	8.1	6.5	25.8	11.3	0.0	355
6-11 months	33.1	47.0	66.7	24.8	11.1	7.7	39.3	3.4	0.9	354
12-23 months	30.0	48.2	72.8	19.5	14.4	5.1	35.9	2.6	0.0	651
24-35 months	28.5	41.3	58.2	26.5	11.1	7.9	32.8	5.8	0.0	664
Sex of child										
Male	28.9	43.5	64.5	25.1	9.7	6.4	34.4	6.4	0.3	1034
Female	26.7	45.8	66.3	20.5	14.4	7.2	34.5	3.0	0.0	990
Birth order										
1	23.7	53.5	69.7	19.2	8.1	6.1	35.4	6.1	0.0	418
2-3	27.8	45.4	68.6	26.1	12.6	7.7	34.3	2.9	0.5	745
4-5	28.3	40.3	64.0	22.3	15.1	5.0	32.4	4.3	0.0	491
6+	31.9	40.7	57.6	21.2	10.2	7.6	36.4	7.6	0.0	370
Residence										
Urban	21.8	55.6	73.4	31.5	14.5	3.2	32.3	4.0	0.0	568
Rural	30.2	41.5	63.1	20.5	11.2	7.7	35.1	5.0	0.2	1456
Region										
Western	28.1	44.2	69.2	30.8	13.5	19.2	28.8	0.0	0.0	185
Central	15.9	45.5	69.7	39.4	21.2	3.0	24.2	0.0	0.0	207
Greater Accra	16.2	50.0	76.7	20.0	13.3	3.3	33.3	3.3	0.0	185
Volta	48.0	29.0	57.9	7.5	5.6	3.7	43.9	7.5	0.9	223
Eastern	28.5	63.5	71.4	31.7	19.0	0.0	14.3	6.3	0.0	221
Ashanti	17.8	56.1	77.3	27.3	3.0	1.5	19.7	4.5	0.0	370
Brong-Ahafo	18.6	56.8	56.8	37.8	10.8	8.1	56.8	0.0	0.0	199
Northern	39.8	23.3	63.3	21.1	7.8	10.0	40.0	4.4	0.0	226
Upper West	23.9	52.9	35.3	17.6	23.5	17.6	41.2	17.6	0.0	71
Upper East	49.6	57.4	64.7	17.6	20.6	8.8	41.2	5.9	0.0	137
Education										
No education	32.2	37.4	62.6	17.1	11.3	8.6	35.8	7.0	0.0	797
Primary	29.7	43.2	64.0	29.7	11.7	8.1	34.2	3.6	0.0	374
Middle/JSS	23.7	52.9	71.8	24.1	12.6	4.0	33.3	2.3	0.6	735
Secondary/Higher	17.8	71.4	52.4	47.6	14.3	0.0	28.6	4.8	0.0	118
Total	27.8	44.6	65.4	22.9	11.9	6.7	34.5	4.8	0.2	2024

Note: Figures are for children born in the period 1-35 months preceding the survey.
[1]Includes health clinic, health centre, hospital, private doctor

the two weeks preceding the interview, 28 percent of the children under three years had fever. Children age 6-11 months are the most likely, and those under 6 months the least likely, to have had a fever. Likewise, rural children and those of higher birth order are the most likely to have had a fever. Fever appears to be very prevalent in the Upper East and Volta regions.

Nearly 45 percent of those with fever were taken to a health facility. There are no remarkable differentials in the proportion visiting a health facility for the treatment of fever by background characteristics, except that children of women with secondary or higher education are about twice as likely to visit a health facility as are those of women with no education.

Most children with fever are treated with antimalarial medicines (65 percent), regardless of background characteristics. The next most frequently administered medications include antibiotics (23 percent) and injected medications (12 percent). Only 7 percent of all children with fever were given home remedies. A rather large number (35 percent) were given some nonspecified medication. Slightly less than 5 percent were given nothing.

8.7 Prevalence and Treatment of Diarrhoea

Dehydration associated with severe diarrhoea is recognised as a major cause of morbidity and even death among young children. It is preventable by the early administration of rehydration solutions. These solutions are either prepackaged oral rehydration salts (ORS) for reconstruction at time of use or a home-made solution of sugar, salt and water.

Table 8.12 displays the prevalence of diarrhoea in the two weeks and 24 hours preceding the survey for children under three years by various socio-demographic characteristics of the child. It also shows the prevalence of bloody diarrhoea, usually associated with dysentery, by similar characteristics. In all, 9 percent of the children surveyed had diarrhoea in the 24 hours before the survey; 20 percent had diarrhoea and 4 percent had bloody diarrhoea in the two weeks preceding the survey.

Table 8.12 Prevalence of diarrhoea

Percentage of children under three years who had diarrhoea and diarrhoea with blood in the two weeks preceding the survey, and the percentage of children who had diarrhoea in the preceding 24 hours, by selected background characteristics, Ghana 1993

Background characteristic	Diarrhoea in the preceding 2 weeks[1]		All diarrhoea in the preceding 24 hours[2]	Number of children
	All diarrhoea	Diarrhoea with blood		
Child's age				
< 6 months	14.9	2.0	9.3	355
6-11 months	24.9	2.5	9.6	354
12-17 months	26.1	5.5	13.1	329
18-23 months	21.7	4.7	11.8	322
24-35 months	17.0	4.8	5.6	664
Sex				
Male	20.7	3.5	8.9	1034
Female	19.8	4.5	9.4	990
Birth order				
1	20.6	2.9	7.9	418
2-3	17.7	3.1	9.4	745
4-5	23.6	6.1	9.4	491
6+	20.5	4.3	9.7	370
Residence				
Urban	17.6	2.5	7.0	568
Rural	21.3	4.6	10.0	1456
Region				
Western	20.5	2.2	8.1	185
Central	17.4	3.4	6.3	207
Greater Accra	16.2	1.6	4.9	185
Volta	20.2	3.6	10.3	223
Eastern	13.6	1.8	2.7	221
Ashanti	16.8	1.6	8.1	370
Brong-Ahafo	19.1	4.5	10.1	199
Northern	37.6	12.4	20.8	226
Upper West	14.1	4.2	8.5	71
Upper East	26.3	6.6	11.7	137
Mother's education				
No education	24.0	6.3	11.9	797
Primary	22.2	4.0	9.6	374
Middle/JSS	16.9	1.9	6.7	735
Secondary/Higher	10.2	1.7	4.2	118
All children	20.3	4.0	9.1	2024

Note: Figures are for children born in the period 1-35 months preceding the survey.
[1]Includes diarrhoea in the past 24 hours
[2]Includes diarrhoea with blood

The prevalence of diarrhoea increases with age, peaks at age 12-17 months, and drops at older ages. There is not much difference in prevalence of diarrhoea by sex or birth order. Children in rural areas have a higher prevalence than children in urban areas. The Northern region seems to have a relatively higher incidence of both diarrhoea (38 percent) and bloody diarrhoea (12 percent). Also, the prevalence of diarrhoea in the last 24 hours is higher in the Northern than in the other regions (21 percent). There is a clear association between maternal education and the prevalence of diarrhoea. The more educated the mother, the less likely is the child's chances of having either diarrhoea or bloody diarrhoea. Thus, children whose mothers have had primary school education are twice as likely to have had diarrhoea or bloody diarrhoea in the last two weeks as those whose mothers have had secondary/higher education.

Table 8.13 presents the percentage of mothers with births in the last three years who know about and have ever used ORS by various socio-demographic characteristics. More than 75 percent of these mothers know about ORS but only 48 percent have ever used ORS. A mother is more likely to have heard about ORS if she is between 20 and 34 years old, lives in an urban area and is educated. The region with the largest proportion of mothers who know about ORS is Greater Accra (93 percent). The one with the smallest proportion of women who know about ORS is the Northern Region (39 percent). Mothers in the extreme age ranges (15-19 and 35+) are least likely to use ORS. Urban mothers and those with more education are the most likely to use ORS. Ever use/knowledge ratio is highest in Upper East (0.8), i.e., 80 percent of those who know about ORS have used it. Corresponding ratios are 0.7 for Greater Accra and Brong-Ahafo, and 0.6 for all other regions.

Table 8.13 Knowledge and use of ORS packets

Percentage of mothers with births in the three years preceding the survey who know about and have ever used ORS packets, by selected background characteristics, Ghana 1993

Background characteristic	Know about ORS packets	Have ever used ORS packets	Number of mothers
Age			
15-19	69.0	32.4	145
20-24	76.3	46.6	455
25-29	76.9	52.3	511
30-34	77.1	52.4	445
35+	72.6	45.6	423
Residence			
Urban	91.7	66.3	566
Rural	68.7	40.8	1413
Region			
Western	66.7	39.2	171
Central	82.7	46.6	208
Greater Accra	92.8	69.4	180
Volta	72.5	43.1	211
Eastern	78.6	49.5	220
Ashanti	83.0	51.8	353
Brong-Ahafo	79.8	52.1	188
Northern	38.6	22.0	236
Upper West	77.5	49.3	71
Upper East	86.5	67.4	141
Education			
No education	60.3	34.5	795
Primary	75.2	46.5	359
Middle/JSS	88.5	59.0	712
Secondary/Higher	98.2	80.5	113
All mothers	75.3	48.1	1979

Note: Figures include mothers who have given ORS for diarrhoea during the preceding two weeks, although they were not asked about knowledge of ORS packets.

Table 8.14 presents the distribution of children under three years who had diarrhoea in the two weeks prior to the survey by treatment facility and choice of treatment, by various characteristics. Only 24 percent of these children were taken to a health facility. The percentage taken to a health facility increases with the age of the child from 17 percent for those under 6 months, peaks at 12-17 months (30 percent), and then drops to 18 percent for those 24-35 months old. Children in urban areas are more likely to be taken to a health facility. Children in the Volta Region are the least likely to be sent to a health facility (9 percent).

There is no clear relationship between birth order and maternal education on the one hand and use of health facilities on the other.

Table 8.14 Treatment of diarrhoea

Among children under three years who had diarrhoea in the two weeks preceding the survey, the percentage taken for treatment to a health facility or provider, the percentage who received oral rehydration therapy (either solution prepared from ORS packets or recommended home fluids (RHS)) and increased fluids, the percentage who received neither oral rehydration therapy nor increased fluids, and the percentage receiving other treatments, by background characteristics, Ghana 1993

Background characteristic	Percentage taken to a health facility or provider[1]	Oral rehydration therapy (ORT)			Neither ORT, RHS nor increased fluids	Other treatments			No treatment	Number of children
		ORS packets	RHS at home	Increased fluids		Antibiotics	Injection	Home remedy or herbs		
Child's age										
< 6 months	17.0	22.6	13.2	28.3	47.2	22.6	0.0	20.8	28.3	53
6-11 months	29.5	33.0	14.8	25.0	47.7	27.3	1.1	34.1	14.8	88
12-17 months	30.2	36.0	10.5	27.9	39.5	26.7	1.2	40.7	12.8	86
18-23 months	25.7	28.6	17.1	24.3	45.7	37.1	2.9	41.4	12.9	70
24-35 months	17.7	22.1	13.3	11.5	59.3	31.0	1.8	47.8	12.4	113
Sex										
Male	25.7	28.5	14.0	17.8	49.1	29.9	1.9	40.2	12.6	214
Female	22.4	28.6	13.3	27.0	48.5	28.6	1.0	37.2	17.9	196
Birth order										
1	29.1	36.0	22.1	17.4	44.2	29.1	1.2	39.5	15.1	86
2-3	22.7	25.8	13.6	20.5	50.0	29.5	3.0	38.6	12.9	132
4-5	25.9	29.3	11.2	23.3	50.0	28.4	0.9	37.1	16.4	116
6+	18.4	23.7	7.9	28.9	50.0	30.3	0.0	40.8	17.1	76
Residence										
Urban	35.0	44.0	15.0	21.0	35.0	35.0	2.0	31.0	10.0	100
Rural	20.6	23.5	13.2	22.6	53.2	27.4	1.3	41.3	16.8	310
Region										
Western	18.4	18.4	10.5	7.9	65.8	21.1	2.6	68.4	7.9	38
Central	30.6	25.0	8.3	25.0	55.6	30.6	2.8	41.7	16.7	36
Greater Accra	30.0	36.7	13.3	33.3	40.0	40.0	0.0	46.7	0.0	30
Volta	8.9	15.6	6.7	20.0	66.7	22.2	0.0	22.2	35.6	45
Eastern	30.0	33.3	20.0	23.3	43.3	30.0	0.0	43.3	6.7	30
Ashanti	29.0	40.3	14.5	16.1	40.3	24.2	1.6	38.7	12.9	62
Brong-Ahafo	39.5	36.8	18.4	5.3	47.4	23.7	2.6	57.9	7.9	38
Northern	12.9	20.0	16.5	20.0	55.3	44.7	2.4	18.8	24.7	85
Upper West	*	*	*	*	*	*	*	*	*	10
Upper East	36.1	38.9	16.7	47.2	22.2	16.7	0.0	38.9	8.3	36
Mother's education										
No education	22.0	22.0	14.1	25.7	52.4	31.4	1.0	34.6	19.4	191
Primary	21.7	28.9	12.0	21.7	50.6	32.5	1.2	43.4	8.4	83
Middle/JSS	29.0	37.9	14.5	16.1	42.7	21.8	2.4	41.9	13.7	124
Secondary/Higher	*	*	*	*	*	*	*	*	*	12
All children	24.1	28.5	13.7	22.2	48.8	29.3	1.5	38.8	15.1	410

[1]Includes health post, health centre, hospital, and private doctor
* Fewer than 25 children

About 29 percent of the children with diarrhoea in the preceding two weeks were treated with prepackaged rehydration solution. Children in urban areas are twice as likely to receive packaged ORS as those in rural areas. Children between 6 and 17 months are more likely to be treated with packaged ORS. There is no clear-cut differential use of ORS by region, except that packaged ORS is more commonly used in all regions than the home-made solution. Mothers at all educational levels are more likely to use packaged ORS. For packaged ORS, the more educated the mother the more likely she is to use. There is no clear pattern for RHS.

About 22 percent of mothers increased the amount of fluids they give the children. More than 48 percent of all children were given neither solutions nor increased liquids during their episode of diarrhoea.

Apart from ORS, children often are given other medication. This could be a prescribed or a home remedy. Older children (27-37 percent) and children living in urban (35 percent) areas are more likely to be given antibiotics. The older the child the more likely he/she is to be given a home remedy for diarrhoea.

Rural children are also more likely to be given home remedies (41 percent). Only 1.5 percent of children were given some form of injection for their diarrhoea. Fifteen percent were not treated at all. The younger the child the more likely he/she is to be given nothing. For instance, 28 percent of children under 6 months were not given any treatment.

Table 8.15 shows the practices mothers adopted for their breastfed children when they experienced episodes of diarrhoea in the two weeks before the survey. The table indicates that among breastfed children, 65 percent adhere to their usual breastfeeding schedules during the period whereas 16 percent have their feeding times reduced. Similarly, 6 out of 10 children have the amount of fluids usually given to them maintained, whereas 1 out of 5 have theirs reduced.

Table 8.15 Feeding practices during diarrhoea

Percent distribution of children under three years who had diarrhoea in the two weeks preceding the survey, by feeding practices during diarrhoea, Ghana 1993

Feeding practices	Percent
Breastfeeding frequency[1]	
Same as usual	65.1
Increased	15.6
Reduced	16.3
Stopped	1.0
Don't know/Missing	2.1
Total	100.0
Number of children	297
Amount of fluids given	
Same as usual	63.4
More	14.1
Less	20.5
Don't know/Missing	2.0
Total	100.0
Number of children with diarrhoea[2]	410

[1]Applies only to children who are still breastfed.
[2]Children born in the period 1-35 months preceding the survey.

CHAPTER 9

MATERNAL AND CHILD NUTRITION

9.1 Breastfeeding and Food Supplementation

Breastfeeding is important to both the child and the mother. It prolongs the duration of postpartum amenorrhoea, thereby widening the birth interval. It is the best source of nourishment for infants, especially in the first six months of life. Infants who are not breastfed and who live in environments where adequate breast milk substitutes are not available are often at risk of both malnutrition and disease. Apart from providing nourishment, breast milk also contains important immunoglobulins that protect the child from infections. Therefore, children who are not breastfed lack this protection, are more prone to disease and are at greater risk of dying.

Table 9.1 shows the percentage of all children, born in the last three years, who have ever been breastfed. It also shows the distribution of all last births, born in the same period, by onset of breastfeeding. Ninety-seven percent of all children born in the past three years were breastfed for some time. The proportion ever breastfed does not vary much by either sex or residence. Except for the Northern Region, more than 95 percent of children in every other region have ever been breastfed. There are essentially no differences in the likelihood of breastfeeding by any of the remaining background characteristics: mother's education, type of delivery assistance, and place of delivery.

Among last births born in the three years before the survey, only 16 percent were breastfed within 1 hour of birth. Less than half (44 percent) were breastfed within one day of birth. Female children, those born in urban areas, those born in a health facility, those treated by a health professional, and those whose mothers have primary or middle/JSS education, are slightly more likely to be breastfed within the first hour after birth. Except for Central, Greater Accra and Upper East regions, less than 20 percent of first births in all other regions were breastfed within the first hour of birth. The characteristics of children likely to be breastfed within the first day of birth are similar to that for those likely to be breastfed within the first hour.

Breast milk provides all of the child's nutritional requirements until the age of 4-6 months when food supplementation becomes necessary. Even at this stage breastfeeding may continue until after the child's second birthday. Table 9.2 shows the distribution of children under age three years by breastfeeding status at the time of the survey. At the time of the survey, 50 percent of all children under three were on breast milk and food supplements and 35 percent were not breastfeeding. Only 2 percent were on exclusive breastfeeding. Another 14 percent were on breast milk and water.

By age 2-3 months, only 5 percent of all children are exclusively breastfed. Food supplementation starts very early. By age 2-3 months, 45 percent of children are breastfeeding and having some form of food supplementation. This proportion increases with the age of the child to reach a maximum at around 12-13 months and then declines as more and more children are weaned. More than 58 percent of all children stop breastfeeding of any kind by age 22-23 months. By 34-35 months of age, only 10 percent are still receiving some type of breastfeeding.

Table 9.1 Initial breastfeeding

Percentage of children born in the three years preceding the survey who were ever breastfed, and the percentage of last-born children who started breastfeeding within one hour of birth and within one day of birth, by selected background characteristics, Ghana 1993

Background characteristic	Among all children:		Among last-born children, percentage who started breastfeeding:		
	Percentage ever breastfed	Number of children	Within 1 hour of birth	Within 1 day of birth	Number of children
Sex					
Male	96.7	1131	14.0	42.1	1049
Female	97.6	1072	17.3	46.1	978
Residence					
Urban	97.7	613	18.2	50.4	581
Rural	96.9	1590	14.5	41.5	1446
Region					
Western	97.6	206	14.9	30.4	181
Central	96.5	231	30.0	57.1	210
Greater Accra	96.5	199	20.5	58.4	185
Volta	97.1	239	12.7	63.6	220
Eastern	97.1	238	11.7	45.7	223
Ashanti	97.7	399	12.5	39.8	359
Brong-Ahafo	98.1	211	16.0	45.9	194
Northern	94.5	255	4.5	23.6	242
Upper West	100.0	77	18.3	28.2	71
Upper East	98.6	148	23.9	41.5	142
Mother's education					
No education	96.8	876	14.1	37.0	809
Primary	95.9	410	17.1	46.1	369
Middle/JSS	98.0	795	16.8	50.5	733
Secondary/Higher	98.4	122	13.8	46.6	116
Assistance at delivery					
Medically trained person	97.8	964	17.7	50.8	894
Traditional birth attendant	96.9	676	11.9	37.7	621
Other or none	97.0	559	16.4	40.1	511
Place of delivery					
Health facility	98.1	928	17.2	51.1	861
At home	97.4	1256	14.4	38.9	1156
All children	97.1	2203	15.6	44.1	2027

Table 9.2 Breastfeeding status

Percent distribution of living children by breastfeeding status, according to child's age in months, Ghana 1993

Age in months	Percentage of living children who are:					Number of living children
			Breastfeeding and:			
	Not breast-feeding	Exclusively breast-fed	Plain water only	Supple-ments	Total	
<2	0.0	11.7	53.4	35.0	100.0	103
2-3	0.0	5.3	49.6	45.0	100.0	131
4-5	1.3	2.0	33.6	63.2	100.0	152
6-7	1.3	3.3	19.3	76.0	100.0	150
8-9	1.0	1.9	15.2	81.9	100.0	105
10-11	3.0	3.0	12.1	81.8	100.0	99
12-13	3.7	0.0	10.2	86.1	100.0	108
14-15	8.0	0.0	9.0	83.0	100.0	100
16-17	13.2	4.1	9.1	73.6	100.0	121
18-19	26.7	1.7	6.9	64.7	100.0	116
20-21	36.4	0.9	3.7	58.9	100.0	107
22-23	57.6	1.0	3.0	38.4	100.0	99
24-25	73.4	1.1	0.0	25.5	100.0	94
26-27	82.5	0.8	1.6	15.1	100.0	126
28-29	82.2	0.8	0.0	17.1	100.0	129
30-31	85.1	0.9	0.0	14.0	100.0	114
32-33	84.1	0.0	0.0	15.9	100.0	107
34-35	90.4	0.0	1.1	8.5	100.0	94
Total	34.7	2.2	13.5	49.6	100.0	2055

Note: Breastfeeding status refers to preceding 24 hours. Children classified as *breastfeeding and plain water only* receive no supplements.

The type of food supplements given to children in Ghana include infant formula, fruit juice, porridge and mushy foods. Of particular importance is the prevalence of bottle feeding with a nipple. It has several drawbacks and could constitute health risk to the child. In particular, inadequate bottle cleaning techniques could predispose a child to infection. In addition, inappropriate reconstitution of formula could lead to nutritional problems.

Table 9.3 shows the distribution of children by type of food supplement. Approximately one-quarter of children under 8 months of age were using a bottle with a nipple, but this proportion drops rapidly for older children. By the age of one year, roughly 6 in 10 children receive both liquids other than milk and solid or mushy food in addition to breast milk. The percentage receiving solid/mushy foods increases from 1 percent at 0-1 month of age to 58 percent by 10-11 months and to 74 percent by 14-15 months.

Table 9.3 Breastfeeding and supplementation by age

Percentage of breastfeeding children who are receiving specific types of food supplementation, and the percentage who are using a bottle with a nipple, by age in months, Ghana 1993

Age in months	Percentage of breastfeeding children who are: Receiving supplement: Infant formula	Other milk	Other liquid	Solid/ Mushy	Using a bottle with a nipple	Number of children
<2	5.8	3.9	33.0	1.0	32.0	103
2-3	4.6	3.1	44.3	3.8	18.3	131
4-5	10.7	4.7	59.3	10.7	30.0	150
6-7	3.4	6.8	70.9	29.7	22.3	148
8-9	9.6	8.7	72.1	45.2	14.4	104
10-11	11.5	6.3	63.5	58.3	8.3	96
12-13	7.7	7.7	61.5	64.4	4.8	104
14-15	8.7	8.7	77.2	73.9	4.3	92
16-17	6.7	6.7	58.1	69.5	6.7	105
18-19	2.4	9.4	78.8	77.6	10.6	85
20-21	0.0	7.4	69.1	77.9	0.0	68
22-23	2.4	9.5	69.0	81.0	2.4	42
24-25	4.0	4.0	68.0	92.0	4.0	25

Note: Breastfeeding status refers to the preceding 24 hours. Percents by type of supplement among breastfeeding children may sum to more than 100 percent because children may have received more than one type of supplement.

Table 9.4 presents the median duration of breastfeeding for children born in the past three years who have had any, exclusive or full breastfeeding. It also shows the percentage of children under 6 months who were breastfed 6 or more times in the 24 hours preceding the interview.

For children born in the last three years, the median duration of breastfeeding is 21 months. The median duration of breastfeeding is longer for rural children, female children, and those delivered by a traditional birth attendant. It is 23 months for women with no education, 20 months for those with middle school education and 17 months for those with secondary or higher education. There are considerable differences among the regions. Greater Accra and Eastern regions have median durations of under 20 months whereas Upper East and West regions have median durations approaching 30 months.

For children under 6 months, 94 percent were breastfed 6 or more times in the 24 hours preceding the interview. There is not much variability by background characteristics. Greater Accra is the only region where less than 90 percent of children were breastfed 6 or more times in the preceding 24 hours.

Table 9.4 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and full breastfeeding among children under three years of age, and the percentage of children under 6 months of age who were breastfed six or more times in the 24 hours preceding the interview, according to background characteristics, Ghana 1993

Background characteristic	Median duration in months[1]			Number of children under 3 years of age	Children under 6 months	
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding[2]		Breastfed 6+ times in preceding 24 hours	Number of children
Residence						
Urban	18.9	0.5	1.5	613	93.1	101
Rural	22.8	0.4	2.3	1590	94.4	285
Region						
Western	20.3	0.4	1.5	206	94.3	35
Central	20.5	0.5	3.2	231	91.7	36
Greater Accra	15.8	0.5	1.2	199	88.9	36
Volta	21.8	0.4	0.5	239	93.6	47
Eastern	18.7	0.4	2.0	238	94.3	35
Ashanti	21.3	0.5	3.2	399	95.5	67
Brong-Ahafo	22.8	0.4	0.5	211	96.2	26
Northern	23.3	0.4	6.1	255	92.3	52
Upper West	29.7	0.4	5.3	77	*	16
Upper East	28.8	0.4	4.7	148	97.2	36
Education						
No education	23.2	0.4	3.5	876	94.4	160
Primary	22.6	0.4	1.4	410	94.2	69
Middle/JSS	19.6	0.4	1.7	795	93.9	132
Secondary/Higher	16.5	0.6	0.6	122	92.0	25
Assistance at delivery						
Health professional	19.6	0.5	1.5	964	94.8	153
Trad. birth attendant	23.3	0.4	3.4	676	92.5	120
Other or none	22.6	0.4	2.4	559	94.7	113
Sex of child						
Male	21.0	0.4	1.9	1131	97.2	180
Female	22.2	0.4	2.1	1072	91.3	206
Total	21.4	0.4	2.0	2203	94.0	386
Mean	21.8	1.4	5.5	-	-	-
Prevalence/Incidence[3]	21.6	0.7	5.2	-	-	-

[1]Medians and means are based on current status
[2]Either exclusive breastfeeding or breastfeeding and plain water only
[3]Prevalence-incidence mean
* Based on fewer than 25 children

9.2 Child Nutritional Status

Severe malnutrition could lead to death. But, even mild malnutrition could predispose the child to the risk of contracting other diseases. The height-for-age (H/A), weight-for-height (W/H) and weight-for-age (W/A) indices are used as measures of stunting, wasting and undernutrition, respectively. These indices are based on the anthropometric data (weight and height measurements) collected for all children under three years of age. They are expressed in standard deviation (SD) units from the median of the NCHS/CDC/WHO International Reference Population. Stunting describes the effect of prolonged undernutrition whereas wasting is an indicator of current or short-term undernutrition.

Of the 2024 living children age 1-35 months, 1819 are included in the analysis of nutritional status. Of the 205 children excluded from the analysis, 83 were not measured, usually due to the child's absence; 52 were excluded because complete and consistent information on date of birth had not been provided; and 70 were excluded because of faulty measurement on the part of the anthropometrist. Table 9.5 shows the percentage of children who were more than two standard deviations below the median of the reference population, by all three indices, according to various background characteristics.

Children whose height-for-age is more than two standard deviations below the median are described as stunted and those with a weight-for-height index more than two standard deviations below the median are referred to as wasted. Table 9.5 shows that 26 percent of the children under consideration were stunted. This figure is lower than the 30 percent recorded in the 1988 GDHS (GDHS and IRD, 1989). The level of stunting increased with age from 6 percent of children under 6 months to 39 percent of children age 24-35 months. A slightly higher percentage of males (28 percent) were stunted than females (24 percent). There is no clear relationship between stunting and birth order.

The data show an inverse relationship between the length of birth interval and the level of stunting. Children born within 24 months of a preceding birth, for example, were approximately twice as likely to be stunted as those born 48 months or more after the preceding birth. One-third of the stunted children (9 percent of all children) were severely stunted, i.e., they fell below minus 3 standard deviations from the median of the reference population.

Table 9.5 further shows that the prevalence of stunting is higher in the rural areas (30 percent versus 16 percent in urban) and among children of uneducated mothers (31 percent versus 10 percent for those with secondary). Among the regions, stunting is commonest in Northern (36 percent), Upper West (33 percent), Western (33 percent), and Ashanti (28 percent, respectively). Greater Accra has the lowest prevalence (16 percent).

The prevalence of wasting (W/H) is lower than that of stunting. Some 11 percent of the children show evidence of wasting. This means an increase of about 40 percent over the 1988 level of 8 percent, and indicates a worsening of the nutritional status of Ghanaian children. Of those with signs of wasting, 20 percent (2 percent of all children) show evidence of severe wasting.

The proportion of wasted children increases steeply with age, from 5 percent under 6 months to 15 percent at 6-11 months and 17 percent at age 12-23 months. It drops dramatically to 7 percent for those over two years (Figure 9.1). Stunting increases with increasing birth order. For example, sixth or higher birth-order children were almost twice as likely to be wasted than first-order births. Wasting is more prevalent in rural (13 percent) than urban (9 percent) areas.

Wasting is more prevalent in the northern than in the southern part of the country. For example, while a fifth of the children in the Northern and Upper West regions were wasted the figure was only 6 percent for those resident in the Eastern Region. As expected, the lower the educational level of the mother the higher the incidence of wasting among the children.

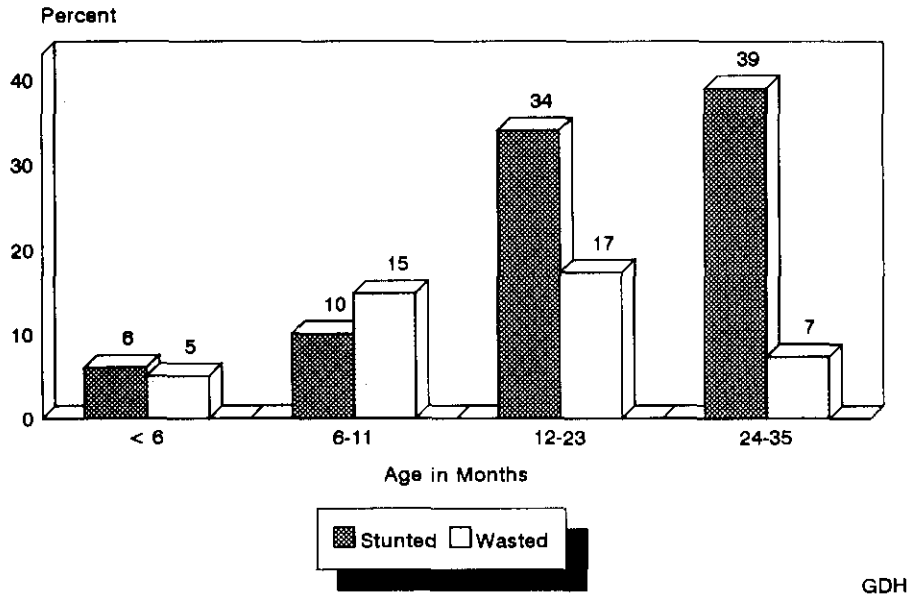
Table 9.5 Nutritional status by demographic and background characteristics

Percentage of children 1-35 months of age who are classified as undernourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by demographic and background characteristics, Ghana 1993

Demographic/Other characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below - 2 SD[1]	
Age							
<6 months	1.5	5.7	0.9	5.1	1.8	5.7	334
6-11 months	1.8	9.7	3.9	14.8	5.1	21.8	331
12-23 months	10.2	34.3	3.1	17.3	11.0	34.6	589
24-35 months	16.6	38.9	1.2	7.1	10.3	35.9	565
Sex							
Male	9.2	28.0	2.7	12.1	8.6	28.8	919
Female	8.9	24.0	1.8	10.8	7.4	25.9	900
Birth order							
1	10.4	27.8	0.8	8.3	7.0	23.5	374
2-3	7.1	25.3	2.1	10.7	7.0	26.0	676
4-5	8.2	21.8	3.8	12.7	7.8	24.5	449
6+	12.8	31.3	2.2	15.0	11.9	38.7	320
Birth interval[2]							
First birth	10.5	28.6	0.8	8.1	7.3	24.1	381
< 24 months	14.7	32.7	2.0	11.3	10.0	34.7	150
24-47 months	9.8	28.1	2.9	13.1	9.4	29.4	837
48+ months	4.7	17.7	2.4	11.1	5.3	23.9	451
Residence							
Urban	4.6	15.7	1.9	8.6	3.1	17.5	521
Rural	10.9	30.1	2.4	12.6	10.0	31.4	1298
Region							
Western	7.7	33.1	1.8	13.0	9.5	33.1	169
Central	7.3	23.0	2.6	11.5	6.3	21.5	191
Greater Accra	5.1	15.7	0.6	7.9	3.4	16.9	178
Volta	6.3	19.8	1.0	10.4	7.3	24.0	192
Eastern	8.3	25.0	0.0	5.9	3.4	20.6	204
Ashanti	10.5	27.9	1.9	8.4	6.5	22.6	323
Brong-Ahafo	8.7	24.5	1.6	13.0	8.7	33.2	184
Northern	15.2	35.9	7.6	19.0	19.6	41.3	184
Upper West	14.3	33.3	4.8	20.6	9.5	47.6	63
Upper East	9.9	26.0	3.1	14.5	9.2	32.8	131
Education							
No education	10.7	30.5	3.2	14.2	10.6	33.9	691
Primary	10.7	26.8	3.0	13.4	10.1	29.2	336
Middle/JSS	7.9	23.6	1.3	8.8	5.7	22.7	683
Secondary/Higher	0.9	10.1	0.0	4.6	0.0	10.1	109
Total	9.1	26.0	2.3	11.4	8.0	27.4	1819

Note: Figures are for children born in the period 1-35 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as undernourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.
[1]Includes children who are below -3 SD
[2]Excludes first births

Figure 9.1
Percent Stunted and Wasted Children By Age Group in Months



The weight-for-age index is another indicator for measuring nutritional deficiencies and combines the effects of both chronic and recent undernutrition. About 27 percent of the children are underweight. The corresponding figure for the 1988 GDHS was 31 percent (GDHS and IRD, 1989). The results indicate an increase in prevalence of undernutrition with increasing age of the child. In other words, the younger children are less likely to be underweight. Also, male children are more likely to be underweight (29 percent) than female children (26 percent).

The prevalence of undernutrition increases with birth order of the child, from 24 percent for first-order births to 39 percent for sixth-order or higher births. The proportion of underweight children decreases with longer birth intervals. Children living in rural areas are much more likely to be underweight than urban children. Children living in the northern part of the country have a higher prevalence of undernutrition than those in the southern part. The higher the level of maternal education the lower the prevalence of undernutrition.

9.3 Maternal Anthropometry

Indicators that could be used to assess maternal nutritional status include maternal height, weight, body mass index and mid-arm circumference. Table 9.6 shows the percentage distribution of mothers according to these four anthropometric indicators.

Current maternal height is an indicator of the cumulative effect of past nutritional history. Thus, it is closely related to past socioeconomic status and, therefore, with nutritional history during childhood and adolescence. It is used as an indicator of the risk of difficult delivery since short stature is linked to small pelvic size. Evidence suggests the existence of an association between low birth weight and maternal height. The mean height for women in the GDHS data is 159 cm with a standard deviation of 6 cm. More than 90

percent of the women are between 150 and 170 cm. Seven percent of women fall under the cut-off point of 150 cm and are, therefore, considered at risk of delivery problems. Of these, less than 1 percent are below the minimum recommended cut-off point of 140 cm.

The mean weight of the women was 55 kg. Body mass index (BMI) is defined as the weight in kilograms divided by the square of the height in metres, i.e., BMI=(kg/m^2). It is one of the indicators of maternal nutritional status with a suggested cut-off point around 18.5 kg/m^2. Figures below this number indicate chronic undernutrition for non-pregnant women. The mean BMI for non-pregnant Ghanaian women with living children is around 22, i.e., about 20 percent above the recommended minimum. About 11 percent of the women have BMI values below 18.5, indicating a large number of chronically malnourished women. About 26 percent have BMI values well above the average of 22 kg/m^2 for the country.

Maternal upper arm circumference is highly correlated with maternal weight-for-height. It is used as an index of nutritional status in pregnant and non-pregnant women. During pregnancy, it is employed as a screening tool for identifying women at risk of low birth weight or late fetal death. The recommended lower cut-off point is between 21 and 23 cm. The mean value for the Ghanaian women under consideration is 27 cm. Roughly 7 percent fall below 23 cm. Less than 1 percent had a mid-arm circumference of less than 21 cm. These figures suggest very low prevalence of chronic malnutrition among the women surveyed.

Table 9.7 presents women with children under age three by mean height, percent with height below 145, mean BMI, percent with BMI below 18.5 kg/m^2, mean mid-arm circumference and percent with mid-arm circumference below 23 cm, according to various background characteristics. There are no demonstrable differentials in mean height by any of the background characteristics included in the table.

The BMI shows a much more discernible relationship with the selected characteristics. More educated women tend to have higher BMI. In particular, women with secondary education have a mean BMI that is 12 percent above the overall mean. Urban residents have a higher BMI (23 kg/m^2) than rural residents (21 kg/m^2). BMI increases with age. The regions can be broadly separated into three groups on the basis of the BMI. Upper East, Northern, Brong-Ahafo and Volta regions have BMIs of 21 kg/m^2. Upper West, Ashanti, Central, Eastern and Western regions have BMIs of 22. Greater Accra has the

Table 9.6 Anthropometric indicators of maternal nutritional status

Percent distribution and mean and standard deviation for women who had a birth in the three years preceding the survey, by selected anthropometric indicators (height, weight, body mass index (BMI) and arm circumference), Ghana 1993

Indicator	Total	Distribution including missing
Height (cm)		
< 140	0.3	0.2
140-144	0.9	0.8
145-149	5.3	5.2
150-159	54.5	53.2
160-169	35.8	34.9
170-179	3.0	2.9
≥180	0.3	0.3
Missing	-	2.5
Total	100.0	100.0
Mean	158.5	-
Standard deviation	6.4	-
Number of women	1961	2011
Weight (kg)		
< 40	2.1	2.0
40-49	30.1	29.4
50-59	45.9	44.9
60-69	15.0	14.6
≥70	6.9	6.8
Missing	-	2.3
Total	100.0	100.0
Mean	54.8	-
Standard deviation	9.9	-
Number of women	1792	1834
BMI (kg/m^2)		
< 16.0	0.7	0.7
16.0-18.4	10.7	10.4
18.5-19.9	20.2	19.7
20.0-22.9	42.1	41.1
23.0-25.9	16.4	16.0
26.0-28.9	5.3	5.1
≥ 29.0	4.7	4.6
Missing	-	2.5
Total	100.0	100.0
Mean	21.8	-
Standard deviation	3.6	-
Number of women	1789	1834
Arm circumference (cm)		
<21.0	0.8	0.8
21.0-21.9	1.9	1.9
22.0-22.9	4.5	4.4
23.0-23.9	9.1	8.9
24.0-24.9	12.8	12.5
25.0-25.9	17.6	17.2
26.0-26.9	15.3	14.9
27.0-27.9	10.7	10.4
28.0-28.9	9.5	9.3
29.0-29.9	5.9	5.8
≥30.0	11.8	11.5
Missing	-	2.4
Total	100.0	100.0
Mean	26.6	-
Standard deviation	3.2	-
Number of women	1963	2,011

Note: The weight and BMI measures exclude pregnant women and those who are less than 3 months postpartum.

highest BMI, 24 kg/m^2. The percentage with a mean BMI of less than 18.5 increase with age from 8 percent for women younger than 20 years to 12 percent for women 35 years or older.

The mean mid-arm circumference is higher for the best educated women and for urban residents. The mean mid-arm circumference is also positively related to both age and parity; the older the woman and the higher the parity, the higher the mean mid-arm circumference. There is no clear relation between the proportion with mean mid-arm circumference of less than 23 cm and any of the background covariates, except that the best educated women have the lowest percentage under 23 cm.

Table 9.7 Differentials in maternal anthropometric indicators

Mean height and percentage of women shorter than 145 centimetres, mean body mass index (BMI) and the percentage of women whose BMI is less than 18.5, and mean arm circumference and the percentage of women whose arm circumference is less than 23 centimetres, according to selected background characteristics, Ghana 1993

Background characteristic	Height			BMI			Arm circumference		
	Mean	Percent <145 cm	Number	Mean	Percent <18.5	Number	Mean	Percent <23.0	Number
Age									
< 20	157.4	0.0	140	21.0	8.3	121	25.5	10.7	140
20-34	158.6	1.1	1403	21.8	11.3	1279	26.5	6.8	1404
>= 35	158.7	1.4	418	22.1	12.3	389	27.3	7.6	419
Children ever born									
1	158.1	1.0	401	21.2	13.8	362	25.7	10.7	401
2-3	158.8	0.8	708	21.9	9.9	644	26.6	6.2	709
4-5	158.5	1.6	486	22.1	8.9	440	27.0	6.4	486
6+	158.6	1.1	366	21.8	14.6	343	27.0	6.8	367
Residence									
Urban	158.6	0.9	564	23.2	9.9	513	28.0	4.6	564
Rural	158.5	1.2	1397	21.2	11.9	1276	26.0	8.4	1399
Region									
Western	157.4	1.2	165	21.5	13.0	154	25.6	15.1	166
Central	158.4	1.0	204	21.8	13.1	176	26.6	8.3	205
Greater Accra	157.8	0.5	183	24.4	5.5	163	29.1	4.4	183
Volta	158.4	0.9	211	21.3	8.9	192	26.7	3.8	212
Eastern	157.9	1.4	221	22.3	12.7	205	26.6	6.8	220
Ashanti	158.0	1.7	355	21.9	11.0	327	26.4	8.7	355
Brong-Ahafo	158.5	2.7	186	21.0	16.2	179	26.3	4.3	186
Northern	159.9	0.4	233	21.0	12.5	208	25.9	8.2	233
Upper West	159.7	0.0	66	21.6	3.2	63	26.7	3.0	66
Upper East	160.6	0.0	137	20.8	12.3	122	25.8	7.3	137
Education									
No education	159.0	0.9	775	21.2	12.8	704	26.1	7.4	775
Primary	158.0	1.7	358	21.8	9.2	326	26.6	8.4	359
Middle/JSS	158.2	1.3	712	21.9	12.0	650	26.6	7.6	713
Secondary/Higher	159.1	0.0	116	24.5	4.6	109	29.0	1.7	116
Total	158.5	1.1	1961	21.8	11.3	1789	26.6	7.3	1963

Note: Table includes only women who had a birth in the three years preceding the survey. The BMI index excludes pregnant women and those who are less than 3 months postpartum.

CHAPTER 10

KNOWLEDGE OF AIDS

AIDS has become a leading cause of death in many countries, especially some developing ones. It is a disease that is principally transmitted through sexual intercourse with an infected individual. Infection can also occur through the use of infected syringes and the transfusion of infected blood products such as plasma, platelets, etc. Other modes of transmission include intravenous drug use with infected needles and via the placenta from an infected mother to the fetus. Although it may appear plausible to the average person, there are currently no *established* cases of AIDS transmission through kissing, handshakes, sharing of utensils and insect bites.

Although the current prevalence of AIDS is relatively low in Ghana, the future course of the worldwide epidemic depends to a considerable extent on the level of awareness among the general public. The GDHS provides a unique opportunity for determining the level of individual awareness. Specifically, both male and female respondents were asked a series of questions to determine the degree of awareness of HIV infection and its source, perceived risk, knowledge of preventive measures, and general attitudes toward those with AIDS. Information was also obtained on condom use because of its relevance to planning of health education programs and the crucial role condoms play in AIDS prevention.

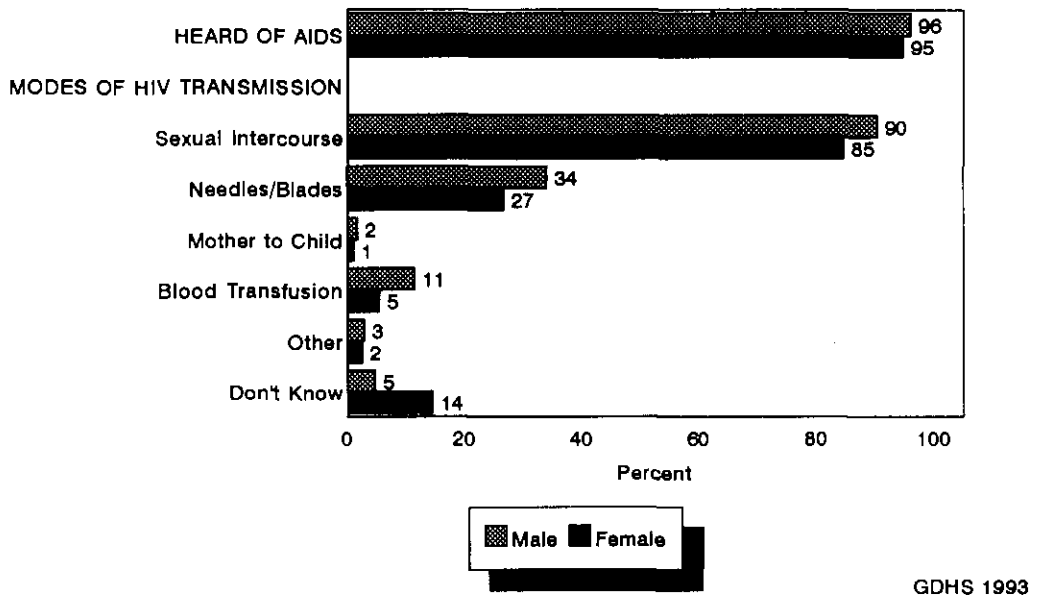
Table 10.1 and Figure 10.1 present the distribution of men and women with respect to knowledge of the mode of transmission. Overall, about 95 percent of both male and female respondents have heard of AIDS. The data indicate that the level of male awareness is slightly higher than that of females. For instance, the percentage who identifies sexual intercourse as a means of transmission is higher among males (90 percent) than females (85 percent). The percentage who believes AIDS can be transmitted via needles and blades is 34 percent among men and 27 percent among women. The corresponding figures for blood transfusion are 11 and 5 percent, respectively. Less than 2 percent of both men and women spontaneously mentioned that AIDS could be transmitted from mother to child. The percentage of women who do not know how AIDS is transmitted is much higher (14 percent) than that of men (5 percent).

Table 10.1 AIDS transmission

Percentage of women and men who have ever heard of AIDS and how it is transmitted, Ghana 1993

	Women	Men
Ever heard of AIDS	94.7	96.0
Modes of HIV transmission:		
Sexual intercourse	84.6	90.2
Needles/Blades	26.7	34.0
Mother to child	1.0	1.7
Blood transfusion	5.4	11.4
Other	2.4	2.8
Don't know	14.4	4.6

Figure 10.1
AIDS Awareness and Knowledge of Modes of HIV Transmission



Tables 10.2.1 and 10.2.2 present the percentage distribution of women and men by knowledge of specific modes of AIDS transmission, according to selected background characteristics. Eighty-nine percent of men and 84 percent of women recognise failure to use a condom as an important mechanism for AIDS transmission. There are no clear differentials by age, but those in the intermediate ages are more likely to recognise the condom as being important in AIDS prevention. Also, among both men and women, urban residence as well as increase in level of education are associated with greater awareness of the preventive benefit of condom use. Among both men and women, knowledge of the benefits of condom use in AIDS prevention is lowest in the Upper West and Upper East regions.

Ninety-five percent of women and 97 percent of men recognise the role of sexual intercourse in AIDS transmission. Over 90 percent of men and women in each category of the background characteristics know that intercourse can lead to AIDS.

Sixty-four percent of men and 69 percent of women believe AIDS can be transmitted through insect bites. There are no remarkable differentials by age. The relationship between level of education and recognition of insect bites as a means of AIDS transmission is not clear. Seventy-five percent of women with middle school education believe insect bites are important compared to 60 percent of women with no education. The corresponding figures for men are 71 and 62 percent, respectively. In general, men and women with secondary education and those with no education are less likely to suggest insect bites as a mode of AIDS transmission. Urban men are less likely than rural men to indicate insect bites as a means of AIDS transmission. There are no similar residential differences among women.

Fifty-four percent of women and 53 percent of men believe one could get AIDS through kissing. Men and women with secondary education are the least likely to believe that kissing results in AIDS transmission. Those in urban areas are also less likely to indicate that kissing leads to AIDS transmission.

Table 10.2.1 Knowledge of AIDS

Percentage of women age 15-49 reporting various modes of AIDS transmission, by selected background characteristics, Ghana 1993

Background characteristic	Hand-shaking	Sharing eating utensils	Kissing	Insect bites	Not using a condom	Sexual inter-course
Age						
15-19	20.0	39.8	52.9	68.0	83.5	93.3
20-24	18.6	38.6	54.7	70.8	86.7	95.7
25-29	20.2	42.2	55.9	71.3	88.3	95.7
30-34	17.4	38.6	52.2	65.8	83.2	95.3
35-39	16.3	39.3	54.5	69.5	85.6	94.9
40-44	18.4	42.6	52.2	63.8	80.6	95.4
45-49	22.9	45.0	55.9	66.8	76.2	94.9
Residence						
Urban	14.8	34.5	51.7	68.6	91.3	96.9
Rural	21.7	44.3	55.5	68.4	79.9	93.8
Region						
Western	18.6	43.9	51.5	66.6	84.9	95.9
Central	20.4	33.0	49.9	58.5	84.9	94.7
Greater Accra	15.2	35.9	52.5	64.2	91.7	96.2
Volta	34.5	55.8	69.3	77.3	83.3	94.7
Eastern	12.5	38.9	54.0	76.3	93.2	96.5
Ashanti	16.4	40.2	56.7	78.3	88.5	94.6
Brong-Ahafo	9.9	34.0	51.0	77.2	94.4	96.1
Northern	33.7	57.7	57.6	68.1	85.7	91.8
Upper West	15.5	30.4	39.9	41.9	35.1	92.6
Upper East	20.3	31.6	42.6	38.3	46.9	93.0
Education						
None	24.6	46.0	53.2	60.3	70.4	91.3
Primary	22.9	44.8	59.6	73.0	84.5	96.4
Middle/JSS	15.9	38.6	54.6	74.9	91.8	96.3
Secondary/Higher	7.9	24.0	45.9	61.4	97.4	99.1
Total	19.0	40.4	54.0	68.5	84.4	95.0

Fully 40 percent of women and 36 percent of men indicated that sharing eating utensils is a mode of AIDS transmission. This sentiment is shared largely by those who live in rural areas and those with no education or with primary school education.

A relatively small proportion of women (19 percent) and men (15 percent) believe handshaking can lead to AIDS transmission. Men and women who live in rural areas and those with less education are more likely to hold this view.

Table 10.2.2 Knowledge of AIDS

Percentage of men age 15-59 reporting various modes of AIDS transmission, by selected background characteristics, Ghana 1993

Background characteristic	Hand-shaking	Sharing eating utensils	Kissing	Insect bites	Not using a condom	Sexual inter-course
Age						
15-19	17.0	37.3	45.3	65.1	82.1	92.9
20-24	13.1	35.8	47.2	62.5	90.9	98.9
25-29	15.0	37.8	52.3	66.8	92.2	98.4
30-34	16.0	38.9	61.1	66.0	92.0	96.3
35-39	13.0	32.1	53.3	59.8	88.2	97.6
40-44	17.0	36.8	54.7	60.4	93.4	98.1
45-49	16.0	35.8	55.6	65.4	88.9	98.8
50-54	15.6	26.7	54.4	62.2	85.6	96.7
55-59	19.7	42.6	63.9	65.6	83.6	95.1
Residence						
Urban	14.0	29.6	50.2	59.6	93.9	97.8
Rural	16.2	39.7	54.3	66.2	85.8	96.3
Region						
Western	21.2	46.9	57.5	65.5	87.6	96.5
Central	19.3	32.5	44.7	63.2	92.1	98.2
Greater Accra	10.4	26.6	43.9	50.9	94.8	97.7
Volta	28.2	50.3	62.6	69.5	83.3	96.0
Eastern	7.6	35.3	58.8	74.7	94.7	98.2
Ashanti	13.1	33.0	54.5	72.2	90.9	96.6
Brong-Ahafo	6.7	20.8	46.7	57.5	95.0	99.2
Northern	24.5	49.1	54.7	69.8	93.4	92.5
Upper West	13.3	37.8	44.4	55.6	53.3	95.6
Upper East	6.8	25.4	49.2	35.6	64.4	96.6
Education						
None	20.8	40.9	54.1	61.6	74.9	93.5
Primary	19.2	49.2	60.0	62.3	85.4	96.9
Middle/JSS	15.1	37.3	53.8	71.4	91.7	97.5
Secondary/Higher	8.8	22.1	46.0	51.1	98.2	98.9
Total	15.4	36.0	52.8	63.8	88.7	96.9

Both men and women were asked whether they believe a healthy-looking person could have AIDS and whether it is possible for a pregnant woman with AIDS to transmit it to the child. Table 10.3 shows the responses for women and men. The proportion of men who answered "yes" to the first of these questions (77 percent) is higher than that of the women (70 percent), further suggesting a greater awareness of AIDS among men.

Among women, age appears to be an important factor in AIDS awareness. Women of age 15-19 years and older women are the least knowledgeable about AIDS. The age pattern is not obvious among men. There are considerable regional variations, but AIDS awareness appears to be particularly low in the Northern, Upper West and Upper East regions. There is a positive relationship between the level of education and the likelihood of saying "yes" to both questions, among both men and women.

Table 10.3 Beliefs concerning AIDS

Percentage of women and men who responded "yes" to two questions concerning AIDS by selected background characteristics, Ghana 1993

	Women		Men	
	Is it possible for a healthy-looking person to have the AIDS virus?	Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus?	Is it possible for a healthy-looking person to have the AIDS virus?	Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus?
Age				
15-19	69.9	76.8	66.2	79.2
20-24	74.2	84.2	85.1	84.1
25-29	71.6	84.3	78.6	87.6
30-34	71.9	84.6	76.4	85.8
35-39	69.3	83.4	83.4	86.4
40-44	66.0	81.1	76.4	86.8
45-49	61.8	79.2	77.8	80.2
50-54	-	-	76.7	88.9
55-59	-	-	68.9	83.6
Residence				
Urban	81.0	89.9	86.4	93.6
Rural	63.3	77.2	71.4	79.5
Region				
Western	69.8	79.8	77.9	78.8
Central	78.0	76.1	87.6	80.7
Greater Accra	81.6	91.5	92.5	91.3
Volta	55.6	82.7	54.9	84.5
Eastern	80.5	87.4	87.0	91.2
Ashanti	72.6	85.4	76.6	85.8
Brong-Ahafo	78.4	87.5	90.8	90.8
Northern	57.7	67.4	64.2	76.4
Upper West	29.9	63.5	53.3	73.3
Upper East	53.0	71.2	58.6	72.9
Education				
None	55.7	70.6	59.4	71.0
Primary	67.7	81.7	74.4	80.0
Middle/JSS	77.8	87.9	79.8	88.0
Secondary/Higher	88.6	95.9	90.1	93.8
Total	70.3	82.2	76.9	84.6

Men and women were asked to suggest what the government should do for people with the AIDS virus. They were also asked to indicate their preference regarding who should care for their relatives if they were suffering from AIDS. Table 10.4 shows the responses for women and men.

In response to the first question, 42 percent of the women thought the government should provide AIDS sufferers with free medical care. The corresponding number for men is 37 percent. Thirty-three percent of the women suggested that AIDS patients should be isolated or quarantined. In comparison, more than 41 percent of the men believed they should be quarantined. A surprisingly large number of women (11 percent) and men (9 percent) believed AIDS patients should be eliminated/killed. Only 4 percent of the women and 3 percent of the men thought the government should help relatives to provide care.

With regard to their preference regarding who should care for their own relatives if they should have AIDS, a large proportion of both men and women believe either relatives or some government organization should care for them. Nine percent of women and 7 percent of men suggested that such relatives should be abandoned. These latter figures are in close agreement with the proportion of women and men who believe AIDS sufferers should be eliminated/killed, i.e., 11 and 9 percent, respectively.

In summary, the level of overall AIDS awareness is high among both men and women, but higher among men than women. More than 95 percent of both men and women believe sexual intercourse is a means of AIDS transmission. More than 80 percent also believe condom use is an effective way of preventing AIDS. However, these impressive figures are overshadowed by the corresponding high level of ignorance. More than half of the men and women interviewed believe kissing can result in HIV transmission. The corresponding figure among those with secondary school education is 46 percent for both men and women.

More troubling, though, is the relatively large percentage who believe sharing utensils can result in HIV transmission. This comprises 40 percent of women and 36 percent of men. Among those with secondary education, the corresponding figures are 22 percent for men and 24 percent for women. These figures have serious implications for the care of individuals with AIDS. There is little doubt that the government alone cannot provide nursing homes for those afflicted with the disease. Consequently, there is a very important role for immediate family members. Their readiness to provide the needed care will depend greatly on their beliefs and perception of risk. This is further aggravated by the significant proportion of individuals advocating abandonment, isolation and elimination of people with AIDS.

Table 10.4 Treatment of AIDS

Women's and men's responses to two questions concerning care for AIDS patients

Question/ Response	Percentage	
	Women	Men
What do you suggest is the most important thing the government should do for people who have AIDS?		
Provide free medical treatment	42.0	36.8
Help relatives provide care	3.8	2.8
Isolate/Quarantine	33.4	41.4
Should not be involved	3.7	2.4
Eliminate (kill) them	10.7	8.5
Other	6.5	8.0
Total	100.0	100.0
If your relative is suffering from AIDS, who would you prefer to care for him/her?		
Relatives	48.2	43.9
Friends	0.7	0.9
Government organisation	39.9	43.3
Religious organisation/Mission	0.3	0.2
Nobody/Abandon	9.2	6.9
Other	1.6	4.7
Total	100.0	100.0

Therefore, there is a great need for public education about the various documented ways by which HIV can be transmitted. This education is imperative if there is to be a reduction in the level of stigmatization of individuals with AIDS. The lack of very large differentials in AIDS awareness suggests that the public education should be directed towards all segments of the population.

APPENDIX A

SAMPLE DESIGN AND IMPLEMENTATION

APPENDIX A

SAMPLE DESIGN AND IMPLEMENTATION

A.1 Objectives of the Sample Design

- The 1993 Ghana Demographic and Health Survey (GDHS) was designed to sustain a variety of analyses at the various domains of interest.
- The major domains to be distinguished in the tabulation of important characteristics were:

  - Ghana as a whole,
  - Urban and rural areas (each as a separate domain),
  - Each of the 10 regions, with a minimal sample size of 500 cases.

- The major focus of the 1993 GDHS was to provide estimates with acceptable precision for important population characteristics such as fertility, infant and child mortality, contraceptive prevalence, and health indicators.
- The population was surveyed by designing a sample of households and interviewing all women of ages 15-49 years who had slept in the residence the night before the interviewer's visit. In addition, all males age 15-59 years from the same households were interviewed in one-third of the selected Enumeration Areas (EAs).

A.2 Sampling Frame

The Ghana Statistical Service (GSS) maintains a complete list of censal EAs with population and household information from the 1984 Population Census. This information was used as a sampling frame for the 1993 GDHS.

A.3 Stratification

The censal EAs maintained by the GSS have been stratified into nine explicit geographical strata. These are based first on three ecological zones (coastal, forest, savannah), and then, within each such zone, on size of locality (rural, semi-urban, urban). In addition, the natural grouping of the EAs into the 10 regions was taken into account.

A.4 Sample Allocation

With the intent of having a proportional representation of each geographical area in the country, a sampling fraction of 0.002 was used. This fraction would provide an expected sample of about 5,400 women age 15-49 years with complete interviews in about 6,000 selected households, from 400 selected EAs. Each EA was divided into a number of standard segments (each comprising 200 households). This sample design resulted in an average of about 15 households per standard segment. On such a basis, the total number of selected standard segments by region is shown as follows:

Region	No. of segments
Western	45
Central	43
Greater Accra	57
Eastern	59
Volta	39
Ashanti	72
Brong-Ahafo	37
Northern	22
Upper West	9
Upper East	17
Total	**400**

A.5 Sample Selection

The GDHS was based on a nationally representative sample. Specifically, the sample was a stratified, two-stage cluster sample consisting of 400 EAs. Since it was not feasible to have a list of well-defined standard segments (200 households each) with very clear boundaries for a direct selection, the first sampling stage was done by selecting EAs with probability proportional to size (size being the number of households in each EA according to 1984 census information). The decision of having 200 households per standard segment rather than the usual 100 households was based on the reasoning that the census material is almost 10 years old. Therefore, it probably has undergone substantial changes, which would be less accentuated if the unit sizes were larger. From a statistical viewpoint, some of the selected EAs were found to be too small (some had only 30 households). Such EAs were amalgamated with neighbouring EAs to reach at least 90 households. The estimated EA selection probability was given by

$$P_{1i} = (a * M_i) / (\Sigma M_i)$$

where

a is the number of designated standard segments to be selected in the country, i.e., 400

M_i is the 1984 household total of the i-th EA,

ΣM_i is the total number of households in Ghana according to the 1984 Population Census.

Each selected EA was assigned a measure of size according to the number of standard segments (200 households) in it. A field operation was mounted to divide each selected EA into equal parts depending on the number of standard segments, and only one segment was randomly selected for a complete household listing exercise. With this procedure, suppose the i-th EA has "s_i" standard segments. Then the selection probability of the corresponding standard segment is expressed as

$$P_{si} = P_{1i} * (1 / s_i) \ .$$

The final sample of households is selected according to the following procedure

$$P_{si} * P_{2i} = f$$

then

$$P_{2i} = f/P_{si} \ .$$

On the other hand,

$$P_{2i} = n_i / L_i$$

where

n_i is the number of households to be selected in the i-th EA and

L_i is the number of households listed in the entire i-th standard segment. Hence, the number of households to be selected in the i-th standard segment is given by

$$n_i = (f * L_i) / P_{si} \ .$$

A.6 Sample Implementation

Table A.1 provides a summary of the sample implementation. A total sample of 6,161 households was selected, of which 5,919 were contacted for interview. The household response rate is 98.4 percent. This rate represents the percentage of households successfully interviewed out of those eligible. Thus, it excludes from the denominator destroyed and vacant dwellings, addresses other than dwellings and households that were absent the night before the interview. The household response rate shows only moderate variations between regions. The lowest household response rate was recorded in the Eastern Region.

Of all eligible women, 97.1 percent were successfully interviewed. Only 0.3 percent of the women refused to be interviewed, and 1.5 percent were not at home. A tiny percentage (0.2 percent) of the interviews with eligible women were partly completed.

Of the eligible men, 96.2 percent were successfully interviewed. The percentage of interviews completed for men is lower than for women, because although only an insignificant percentage (0.2 percent) refused to be interviewed, approximately 3 percent were not at home. The percentage of male interviews completed is slightly higher in the rural areas (96.6 percent) than in urban areas (95.4 percent).

Table A.1 Sample implementation

Percent distribution of households and eligible women and men in the DHS sample by result of the interview and household, eligible women and eligible men response rates, according to region and urban-rural area, Ghana 1993

Result	Region										Residence		
	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong-Ahafo	Northern	Upper West	Upper East	Urban	Rural	Total
Selected households													
Completed (C)	89.5	98.2	95.0	96.1	90.5	93.3	97.0	95.5	97.8	99.0	95.0	94.2	94.5
Household present but no competent respondent at home (HP)	1.8	0.6	1.4	0.7	2.5	1.7	0.2	0.0	1.1	0.3	1.3	1.2	1.2
Refused (R)	0.2	0.1	0.1	0.2	0.6	0.3	0.2	0.2	0.0	0.0	0.2	0.2	0.2
Dwelling not found (DNF)	0.3	0.0	0.1	0.2	0.0	0.2	0.3	0.0	0.0	0.3	0.2	0.1	0.1
Household absent (HA)	5.6	0.9	2.0	2.2	4.9	3.1	2.2	3.3	0.6	0.0	2.1	3.3	2.8
Dwelling vacant/Address not a dwelling (DV)	2.5	0.1	1.2	0.4	1.2	1.3	0.2	0.8	0.6	0.0	1.1	0.9	0.9
Dwelling destroyed (DD)	0.2	0.0	0.1	0.2	0.4	0.1	0.0	0.2	0.0	0.3	0.0	0.2	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	609	682	735	540	854	1156	604	490	178	313	2198	3963	6161
Household response rate (HRR)[1]	97.5	99.3	98.3	98.9	96.7	97.7	99.3	99.8	98.9	99.4	98.2	98.4	98.4
Eligible women													
Completed (EWC)	95.2	94.6	96.6	98.2	97.4	97.8	97.7	98.7	96.4	97.2	97.1	97.0	97.1
Not at home (EWNH)	1.4	3.0	1.7	0.8	1.3	1.2	1.5	0.9	3.0	1.8	1.7	1.4	1.5
Postponed (EWP)	0.0	0.0	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Refused (EWR)	1.2	0.0	0.3	0.0	0.6	0.1	0.2	0.0	0.0	0.0	0.4	0.2	0.3
Partly completed (EWPC)	0.2	0.2	0.3	0.0	0.4	0.3	0.2	0.2	0.0	0.0	0.2	0.2	0.2
Incapacitated (EWI)	1.9	2.2	0.9	0.8	0.4	0.5	0.4	0.2	0.6	1.1	0.5	1.1	0.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	418	463	640	500	533	767	480	450	165	284	1771	2929	4700
Eligible woman response rate (EWRR)[2]	95.2	94.6	96.6	98.2	97.4	97.8	97.7	98.7	96.4	97.2	97.1	97.0	97.1
Eligible men													
Completed (EMC)	91.9	95.9	98.3	96.2	92.0	96.7	99.2	99.3	96.0	96.9	95.4	96.6	96.2
Not at home (EMNH)	7.3	1.7	1.1	1.6	4.8	3.3	0.8	0.7	4.0	3.1	3.1	2.5	2.7
Postponed (EMP)	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Refused (EMR)	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.2
Partly completed (EMPC)	0.0	0.0	0.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Incapacitated (EMI)	0.8	2.5	0.0	0.5	1.6	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	124	121	176	184	188	183	124	139	50	65	482	872	1354
Eligible man response rate (EMRR)[2]	91.9	95.9	98.3	96.2	92.0	96.7	99.2	99.3	96.0	96.9	95.4	96.6	96.2

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, postponed, refused, and dwelling not found. The eligible woman response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed, incapacitated and "other." The overall response rate is the product of the household and woman response rates.

[1]Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + R + DNF}$$

[2]Using the number of eligible women or men falling into specific response categories, the response rate (EWRR or EMRR) is calculated as:

$$\frac{EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI}$$

APPENDIX B

QUALITY OF THE DATA: NONSAMPLING ERRORS

APPENDIX B

QUALITY OF THE DATA: NONSAMPLING ERRORS

This appendix provides data users with an overview of the data quality. Nonsampling errors arise in surveys from a variety of causes, such as the failure to locate and interview the selected household, mistakes in the way questions are asked, misunderstanding on the part of either the interviewer or respondent, coding errors, data entry errors, etc. Although it is impossible to avoid nonsampling errors entirely, great efforts were expended in the GDHS to keep them under control. These efforts included very careful questionnaire design; a pretest of survey instruments to guarantee their functionality; a four-week interviewers' training course; careful fieldwork supervision, including field visits by headquarters' personnel; a swift editing process prior to data entry; and, finally, the use of interactive data entry software to keep keying errors to a minimum. Nevertheless, there is still a need to investigate content errors such as misreporting of ages, ignorance of dates of birth or marriage, and other recall problems.

Table B.1 shows the distribution of the household population by single years of age. There is rather substantial heaping on ages ending in 0 and 5 throughout the distribution, and it is somewhat more pronounced for females than for males. Errors are particularly notable in the age reporting of females around the borders of eligibility for the individual questionnaire, i.e., ages 15 and 49. Both this table and Table B.2 show an evident deficit of women at ages 15-17 years and a corresponding surplus at ages 12-14. At the other extreme, many women of ages 45-49 have been classified as being 50-54 years old.

Little difference can be seen between the age distribution of women recorded in the household schedule and those interviewed with the individual questionnaire, indicating that response rates vary little across the age of respondents (Table B.2).

Information on the completeness of reporting in connection with a set of important variables is provided in Table B.3. The month of birth was missing for nearly 18 percent of births reported in the birth history for the most recent 15-year period; however, both month and year were missing for less than 1 percent of these births. For the remaining variables, the percentage of cases with missing information is low.

According to Table B.4, information on month and year of birth is available for 78 percent of all children included in the birth history; the figure for living children is 81 percent, and for dead children is only 62 percent. However, reporting is much better for recent births. For children born since 1990, complete dates are given for over 93 percent; the figure reaches 95 percent for living children, but falls to 75 percent for dead children. Table B.4 also shows that the overall sex ratio at birth is 106; from year to year there are random fluctuations around this value without any indication of bias. The sex ratio for dead children (119) is much higher than for surviving children (104), indicating higher mortality among male children.

Another aspect of Table B.4 is the heavy concentration of births in 1989 (965) relative to 1990 (605). This may represent displacement by some interviewers so as to avoid having to ask the long sequence of questions in Section 4 of the interview. The calendar-year ratio at 1990 is 72, versus 150 at 1989. The effect is to produce a spike in the distribution of births at the fourth year prior to the survey (see Figure B.1). Though the displacement is serious, there is no indication of omission of births from the birth history. For this reason, a 5-year reference period for the measurement of current fertility was adopted in Chapter 3. A 3-year rate would have been artificially low.

Table B.1 Household age distribution

Single-year age distribution of the de facto household population by sex, Ghana 1993

	Males		Females			Males		Females	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
<1	391	3.8	374	3.4	37	86	0.8	72	0.6
1	346	3.3	306	2.8	38	85	0.8	143	1.3
2	344	3.3	366	3.3	39	64	0.6	74	0.7
3	310	3.0	325	2.9	40	149	1.4	157	1.4
4	487	4.7	457	4.1	41	56	0.5	54	0.5
5	343	3.3	370	3.3	42	70	0.7	95	0.9
6	427	4.1	337	3.0	43	57	0.6	66	0.6
7	353	3.4	362	3.3	44	37	0.4	61	0.6
8	375	3.6	381	3.4	45	126	1.2	119	1.1
9	324	3.1	292	2.6	46	54	0.5	67	0.6
10	399	3.9	371	3.3	47	47	0.5	42	0.4
11	274	2.7	244	2.2	48	54	0.5	71	0.6
12	312	3.0	285	2.6	49	37	0.4	38	0.3
13	292	2.8	305	2.8	50	87	0.8	113	1.0
14	295	2.9	274	2.5	51	36	0.3	78	0.7
15	232	2.2	138	1.2	52	69	0.7	116	1.0
16	208	2.0	172	1.6	53	45	0.4	59	0.5
17	177	1.7	167	1.5	54	53	0.5	78	0.7
18	201	1.9	205	1.9	55	69	0.7	92	0.8
19	132	1.3	160	1.4	56	36	0.3	72	0.6
20	165	1.6	222	2.0	57	25	0.2	28	0.3
21	101	1.0	133	1.2	58	42	0.4	48	0.4
22	124	1.2	188	1.7	59	24	0.2	17	0.2
23	129	1.2	165	1.5	60	101	1.0	99	0.9
24	120	1.2	153	1.4	61	30	0.3	20	0.2
25	159	1.5	247	2.2	62	51	0.5	57	0.5
26	118	1.1	164	1.5	63	29	0.3	31	0.3
27	122	1.2	164	1.5	64	31	0.3	20	0.2
28	125	1.2	179	1.6	65	61	0.6	66	0.6
29	100	1.0	118	1.1	66	10	0.1	20	0.2
30	181	1.8	260	2.3	67	22	0.2	13	0.1
31	75	0.7	105	0.9	68	36	0.3	31	0.3
32	137	1.3	159	1.4	69	7	0.1	15	0.1
33	67	0.6	121	1.1	70+	242	2.3	254	2.3
34	81	0.8	109	1.0	Don't know/				
35	179	1.7	188	1.7	Missing	1	0.0	2	0.0
36	101	1.0	124	1.1					
					Total	10335	100.0	11078	100.0

Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

Table B.2 Age distribution of eligible and interviewed women

Percent distribution of the de facto household population of women age 10-54 and of interviewed women age 15-49, and the percentage of eligible women who were interviewed, by five-year age groups, Ghana 1993

Age	Household population of women		Interviewed women		Percent interviewed
	Number	Percent	Number	Percent	
10-14	1479	NA	NA	NA	NA
15-19	842	17.9	805	17.6	95.6
20-24	861	18.3	834	18.3	96.9
25-29	872	18.6	839	18.4	96.2
30-34	754	16.0	744	16.3	98.7
35-39	601	12.8	582	12.8	96.8
40-44	433	9.2	424	9.3	97.9
45-49	337	7.2	334	7.3	99.1
50-54	444	NA	NA	NA	NA
15-49	4700	NA	4562	NA	97.1

NA = Not applicable
Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

Table B.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions, Ghana 1993

Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in last 15 years		
Month only		17.8	9957
Month and year		0.1	9957
Age at death	Deaths to births in last 15 years	0.1	1285
Age/date at first union[1]	Ever-married women	1.0	3672
Respondent's education	All women	0.0	4562
Successfully measured	Living children age 1-35 months	10.1	2024
Diarrhoea in last 2 weeks	Living children age 1-35 months	0.5	2024

[1]Both year and age missing

Table B.4 Births by calendar year of birth

Distribution of births by calendar year of birth for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Ghana 1993

	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar ratio[3]			Male			Female		
Year	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T
94	1	0	1	100.0	NA	100.0	NA	NA	NA	NA	NA	NA	1	0	1	0	0	0
93	682	54	736	97.5	87.0	96.7	98.8	80.0	97.3	206.0	300.0	210.9	339	24	363	343	30	373
92	661	36	697	96.7	63.9	95.0	114.6	140.0	115.8	98.5	68.6	96.3	353	21	374	308	15	323
91	660	51	711	93.3	68.6	91.6	101.2	168.4	104.9	110.2	98.1	109.2	332	32	364	328	19	347
90	537	68	605	92.0	76.5	90.2	100.4	172.0	106.5	71.1	81.9	72.2	269	43	312	268	25	293
89	850	115	965	85.4	74.8	84.1	96.3	113.0	98.2	151.1	139.4	149.6	417	61	478	433	54	487
88	588	97	685	81.8	67.0	79.7	104.9	79.6	100.9	80.7	89.0	81.7	301	43	344	287	54	341
87	608	103	711	78.6	68.9	77.2	121.9	90.7	116.8	99.8	106.2	100.6	334	49	383	274	54	328
86	631	97	728	82.9	63.9	80.4	96.0	70.2	92.1	106.9	90.2	104.4	309	40	349	322	57	379
85	572	112	684	81.6	63.4	78.7	91.3	138.3	97.7	NA	NA	NA	273	65	338	299	47	346
90-94	2541	209	2750	95.0	75.1	93.5	103.8	134.8	105.8	NA	NA	NA	1294	120	1414	1247	89	1336
85-89	3249	524	3773	82.3	67.7	80.3	101.2	97.0	100.6	NA	NA	NA	1634	258	1892	1615	266	1881
80-84	2433	475	2908	77.9	64.0	75.7	104.6	130.6	108.5	NA	NA	NA	1244	269	1513	1189	206	1395
75-79	1614	346	1960	73.7	55.8	70.6	112.6	120.4	114.0	NA	NA	NA	855	189	1044	759	157	916
< 75	1508	399	1907	66.4	51.1	63.2	98.7	126.7	104.0	NA	NA	NA	749	223	972	759	176	935
All	11345	1953	13298	80.9	62.1	78.1	103.7	118.5	105.8	NA	NA	NA	5776	1059	6835	5569	894	6463

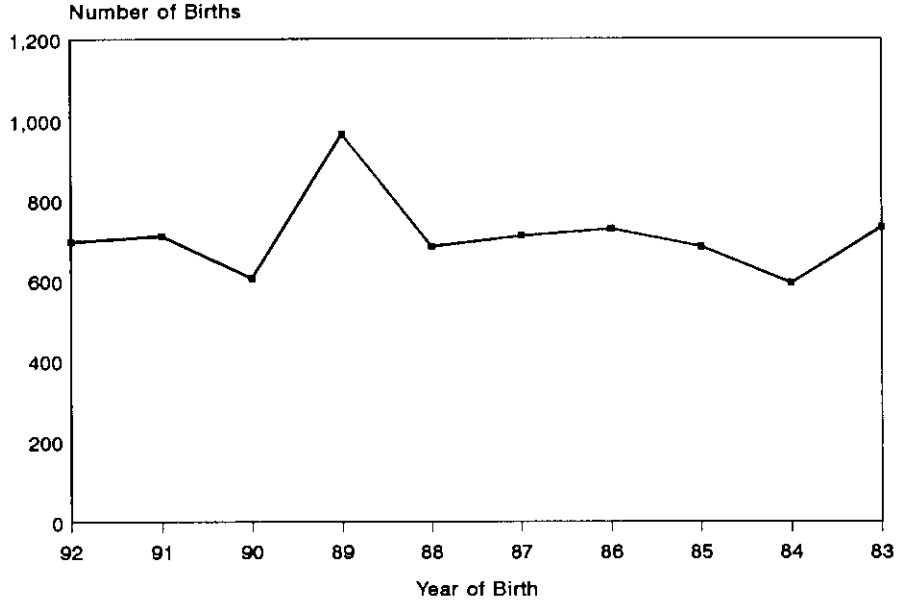
NA = Not applicable

[1]Both year and month of birth given

[2]$(B_m/B_f)*100$, where B_m and B_f are the numbers of male and female births, respectively

[3]$[2B_x/(B_{x-1}+B_{x+1})]*100$, where B_x is the number of births in calendar year x

Figure B.1
Number of Births by Calendar Year of Birth



GDHS 1993

The percentage of early neonatal deaths (deaths within the first 7 days after birth) among all neonatal deaths (deaths within the first month of birth) increases over time (see Table B.5). Both the level and trend in early neonatal deaths are consistent with a fall in the infant mortality rate. The same can be deduced from the increasing proportion of neonatal among infant deaths shown in Table B.6. From this same table it can be seen that although there is some heaping at age 12 months, it is less serious for the most recent period than for earlier periods. It is also less serious than for many DHS and other fertility and mortality surveys.

As in many countries, the quality of data gathered in household surveys in Ghana has been improving over time. This is in part due to improved survey procedures, but is mainly attributable to the increasing educational attainment of the respondents. The levels and trends of both fertility and child mortality reported in the 1993 GDHS are incontrovertible.

Table B.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 preceding the survey, Ghana 1993

Age at death (in days)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1	30	25	14	13	82
1	39	56	41	22	158
2	8	10	13	6	37
3	9	15	4	5	33
4	8	9	4	3	24
5	9	5	7	1	22
6	9	4	7	1	21
7	15	20	15	10	60
8	2	5	3	4	14
9	1	1	3	0	5
10	2	4	3	1	10
12	2	0	2	1	5
13	1	0	2	1	4
14	5	12	5	6	28
15	0	0	1	1	2
16	0	1	0	0	1
17	0	1	0	1	2
20	1	1	0	1	3
21	9	7	1	0	17
22	1	0	0	0	1
23	0	0	1	0	1
24	0	1	1	0	2
25	0	1	0	0	1
26	0	1	0	0	1
27	1	0	0	0	1
30	1	1	0	1	3
Total 0-30	153	180	127	78	538
Percent early neonatal[1]	73.2	68.9	70.9	65.4	70.1

[1](0-6 days/0-30 days) * 100

Table B.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 ages under one month, for five-year periods preceding the survey, Ghana 1993

Age at death (in months)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1[a]	153	181	127	78	539
1	6	18	10	9	43
2	9	10	9	3	31
3	12	18	14	13	57
4	13	12	3	4	32
5	4	10	3	1	18
6	14	8	13	7	42
7	4	4	7	7	22
8	6	10	3	7	26
9	6	6	7	4	23
10	4	5	3	3	15
11	6	8	7	5	26
12	23	49	35	20	127
13	4	3	3	1	11
14	1	5	0	6	12
15	1	3	1	1	6
16	1	2	3	1	7
17	2	0	0	1	3
18	10	4	15	8	37
19	0	2	0	1	3
20	1	2	1	1	5
21	1	2	0	1	4
22	0	0	1	0	1
23	1	1	0	0	2
24+	1	1	0	0	2
1 year	0	2	0	3	5
Total 0-11	237	290	206	141	874
Percent neonatal[b]	64.6	62.4	61.7	55.3	61.7

[a]Includes deaths under 1 month reported in days
[b](Under 1 month/under 1 year) * 100

APPENDIX C

ESTIMATES OF SAMPLING ERRORS

APPENDIX C

ESTIMATES OF SAMPLING ERRORS

The results from sample surveys are affected by two types of errors, nonsampling error and sampling error. Nonsampling error is due to mistakes made in carrying out field activities, such as failure to locate and interview the correct household, errors in the way the questions are asked, misunderstanding on the part of either the interviewer or the respondent, data entry errors, etc. Although efforts were made during the design and implementation of the 1993 GDHS to minimise this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be measured statistically. The sample of eligible women selected in the 1993 GDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each one would have yielded results that differed somewhat from the actual sample selected. The sampling error is a measure of the variability between all possible samples; although it is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of *standard error* of a particular statistic (mean, percentage, etc.), which is the square root of the variance of the statistic. The standard error can be used to calculate confidence intervals within which, apart from nonsampling errors, 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 same statistic as measured in 95 percent of all possible samples with the same design (and expected size) will fall within a range of plus or minus two times the standard error of that statistic.

If the sample of women had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 1993 GDHS sample design depended on stratification, stages and clusters. Consequently, it was necessary to utilize more complex formulas. The computer package CLUSTERS, developed for the World Fertility Survey program by the International Statistical Institute, was used to assist in computing the sampling errors with the proper statistical methodology.

The CLUSTERS program 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:

$$var(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - r.x_{hi} \text{ , and } z_h = y_h - r.x_h$$

where h represents the stratum, which varies from 1 to H,
m_h is the total number of EAs selected in the h^{th} stratum,
y_{hi} is the sum of the values of variable y in the i^{th} EA in the h^{th} stratum,
x_{hi} is the sum of the number of cases (women) in the i^{th} EA in the h^{th} stratum, and
f is the overall sampling fraction, which is so small that CLUSTERS ignores it.

In addition to the standard errors, CLUSTERS computes the design effect (DEFT) for each estimate, 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, whereas 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. CLUSTERS also computes the relative error and confidence limits for the estimates.

Sampling errors are presented in Tables C.2 - C.21 for variables considered to be of major interest. Results are presented for the whole country, for urban and rural areas separately, for each of four education groups, for each of three age groups, and for each of ten regions. For each variable, the type of statistic (mean or proportion) and the base population are given in Table C.1. For each variable, Tables C.2 - C.21 present the value of the statistic (R), its standard error (SE), the number of cases (N), the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE).

The confidence limits have the following interpretation. For the proportion of currently married women currently using a contraceptive method (CUSIN), the overall average from the sample is .203 and its standard error is 0.008. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., .203 ± (2 x 0.008), which means that there is a high probability (95 percent) that the *true* proportion currently using is between .187 and .219.

The relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. The magnitude of the error increases as estimates for subpopulations such as geographical areas are considered. For the variable *CUSIN*, for instance, the relative standard error (as a percentage of the estimated proportion) for the whole country and for urban and rural areas is 3.9 percent, 4.9 percent, and 5.8 percent, respectively.

Table C.1 List of selected variables for sampling errors, Ghana 1993

Variable	Description		Base population
URBAN	Urban	Proportion	All women
XNOEDU	With no education	Proportion	All women
SECON	With secondary or higher	Proportion	All women
CWORK	Currently working	Proportion	All women
EVBOR	Children ever born	Mean	All women
EVB40	Children ever born to women over 40	Mean	Women 40-49
SURVI	Children surviving	Mean	All women
KMETH	Knows any method	Proportion	Women in union
KMDME	Knows any modern method	Proportion	Women in union
EVUSE	Ever use any contraceptive method	Proportion	Women in union
CUSIN	Currently using any method	Proportion	Women in union
CUMOD	Currently using any modern method	Proportion	Women in union
CUPIL	Currently using pill	Proportion	Women in union
CUIUD	Currently using IUD	Proportion	Women in union
CUCON	Currently using condom	Proportion	Women in union
CUSTE	Currently using female sterilisation	Proportion	Women in union
CUPAB	Currently using periodic abstinence	Proportion	Women in union
PSOUR	Public source user	Proportion	User modern method
NOMOR	Want no more children	Proportion	Women in union
DELAY	Want to delay next birth at least 2 yrs.	Proportion	Women in union
IDEAL	Ideal number of children	Proportion	All women
ANTCA	Antenatal care before birth	Proportion	Births last 3 years
TETAN	Mother received tetanus injection	Proportion	Births last 3 years
MEDEL	Received medical care at birth	Proportion	Births last 3 years
RESPI	With acute respiratory infection in last 2 weeks	Proportion	Children less than 3 years
FEVER	Having fever in last 2 weeks	Proportion	Children less than 3 years
DIAR2	Having diarrhoea in last 2 weeks	Proportion	Children less than 3 years
ORSTR	Received ORS treatment	Proportion	Children < 3 years with diarrhoea
MEDTR	Received medical treatment	Proportion	Children < 3 years with diarrhoea
HCARD	Having health card	Proportion	Children 12-23 months
BCG12	Received BCG vaccination	Proportion	Children 12-23 months
DPT12	Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
POL12	Received polio vaccination (3 doses)	Proportion	Children 12-23 months
MEASL	Received measles vaccination	Proportion	Children 12-23 months
FULVA	Fully immunized	Proportion	Children 12-23 months
WGXAG	Weight for age <-2 standard dev.	Proportion	Measured children less than 3 years
HGXAG	Height for age <-2 standard dev.	Proportion	Measured children less than 3 years
WGXHG	Weight for height <-2 standard dev.	Proportion	Measured children less than 3 years

Table C.2 Sampling errors - National sample, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
						R-2SE	R+2SE
URBAN	.377	.014	4562	1.925	.037	.349	.405
XNOEDU	.350	.012	4562	1.688	.034	.326	.374
SECON	.103	.006	4562	1.341	.059	.091	.115
CWORK	.745	.009	4562	1.343	.012	.727	.762
EVBOR	2.915	.044	4562	1.117	.015	2.827	3.003
EVB40	6.179	.107	761	1.093	.017	5.965	6.393
SURVI	2.487	.035	4562	1.057	.014	2.417	2.557
KMETH	.913	.008	3204	1.688	.009	.896	.930
KMDME	.907	.009	3204	1.751	.010	.889	.925
EVUSE	.458	.012	3204	1.312	.025	.435	.481
CUSIN	.203	.008	3204	1.102	.039	.187	.219
CUMOD	.101	.005	3204	.971	.051	.091	.111
CUPIL	.032	.003	3204	.942	.091	.026	.038
CUIUD	.009	.002	3204	.926	.174	.006	.012
CUCON	.022	.003	3204	.966	.113	.017	.028
CUSTE	.009	.002	3204	.917	.167	.006	.012
CUPAB	.075	.005	3204	1.003	.062	.066	.085
PSOUR	.433	.025	423	1.016	.057	.384	.482
NOMOR	.330	.009	3204	1.035	.026	.313	.347
DELAY	.393	.009	3204	1.048	.023	.375	.411
IDEAL	4.421	.042	4228	1.375	.010	4.337	4.505
ANTCA	.872	.010	2168	1.391	.012	.851	.893
TETAN	.767	.011	2168	1.120	.014	.745	.788
MEDEL	.439	.016	2168	1.376	.036	.407	.470
RESPI	.101	.007	2024	1.063	.073	.087	.116
FEVER	.278	.010	2024	1.028	.038	.257	.299
DIAR2	.203	.009	2024	1.031	.046	.184	.221
ORSTR	.285	.023	410	1.032	.081	.239	.331
MEDTR	.241	.023	410	1.090	.096	.195	.288
HCARD	.682	.020	651	1.106	.030	.641	.723
BCG12	.831	.016	651	1.090	.019	.799	.863
DPT12	.624	.021	651	1.078	.033	.582	.665
POL12	.624	.021	651	1.083	.033	.582	.665
MEASL	.644	.021	651	1.091	.032	.602	.685
FULVA	.548	.021	651	1.071	.039	.506	.591
WGXAG	.274	.010	1819	.928	.036	.254	.293
HGXAG	.260	.011	1819	1.026	.041	.239	.281
WGXHG	.114	.007	1819	.994	.065	.099	.129

Table C.3 Sampling errors - Urban areas, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
						R-2SE	R+2SE
XNOEDU	.165	.014	1720	1.599	.087	.136	.193
SECON	.212	.014	1720	1.378	.064	.185	.239
CWORK	.665	.013	1720	1.167	.020	.638	.691
EVBOR	2.193	.062	1720	1.093	.028	2.070	2.316
EVB40	5.349	.210	235	1.213	.039	4.929	5.769
SURVI	1.963	.053	1720	1.060	.027	1.858	2.069
KMETH	.981	.005	1025	1.140	.005	.972	.991
KMDME	.977	.006	1025	1.183	.006	.965	.988
EVUSE	.626	.018	1025	1.204	.029	.590	.663
CUSIN	.306	.015	1025	1.047	.049	.276	.337
CUMOD	.158	.010	1025	.851	.061	.139	.177
CUPIL	.044	.006	1025	.938	.137	.032	.056
CUIUD	.018	.004	1025	.893	.209	.010	.025
CUCON	.043	.006	1025	.943	.139	.031	.055
CUSTE	.014	.003	1025	.934	.248	.007	.020
CUPAB	.122	.010	1025	.979	.082	.102	.142
PSOUR	.395	.034	215	1.024	.087	.327	.464
NOMOR	.356	.016	1025	1.055	.044	.325	.388
DELAY	.349	.017	1025	1.112	.047	.316	.382
IDEAL	3.741	.054	1631	1.467	.014	3.634	3.848
ANTCA	.968	.008	600	1.037	.008	.953	.984
TETAN	.907	.011	600	.877	.012	.885	.928
MEDEL	.812	.021	600	1.307	.026	.769	.855
RESPI	.070	.012	568	1.075	.168	.047	.094
FEVER	.218	.019	568	1.069	.086	.181	.256
DIAR2	.176	.016	568	.972	.090	.144	.208
ORSTR	.440	.050	100	.982	.113	.341	.539
MEDTR	.350	.053	100	1.083	.151	.244	.456
HCARD	.751	.034	197	1.109	.046	.682	.820
BCG12	.934	.019	197	1.073	.020	.896	.972
DPT12	.787	.032	197	1.081	.041	.722	.851
POL12	.792	.032	197	1.093	.041	.727	.857
MEASL	.802	.033	197	1.154	.041	.736	.868
FULVA	.711	.037	197	1.121	.052	.637	.785
WGXAG	.175	.014	521	.864	.082	.146	.203
HGXAG	.157	.016	521	.958	.099	.126	.189
WGXHG	.086	.011	521	.915	.130	.064	.109

Table C.4 Sampling errors - Rural areas, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
XNOEDU	.462	.016	2842	1.715	.035	.430	.494
SECON	.036	.005	2842	1.336	.129	.027	.046
CWORK	.793	.011	2842	1.461	.014	.771	.815
EVBOR	3.352	.055	2842	1.076	.017	3.241	3.463
EVB40	6.549	.118	526	1.026	.018	6.313	6.786
SURVI	2.804	.043	2842	1.005	.015	2.717	2.890
KMETH	.881	.012	2179	1.723	.014	.857	.905
KMDME	.875	.013	2179	1.794	.015	.849	.900
EVUSE	.379	.015	2179	1.398	.038	.350	.408
CUSIN	.154	.009	2179	1.145	.058	.136	.171
CUMOD	.074	.006	2179	1.052	.080	.063	.086
CUPIL	.027	.003	2179	.944	.122	.020	.033
CUIUD	.005	.001	2179	.999	.315	.002	.007
CUCON	.013	.002	2179	.941	.177	.008	.017
CUSTE	.007	.002	2179	.890	.222	.004	.011
CUPAB	.053	.005	2179	1.082	.098	.043	.064
PSOUR	.471	.036	208	1.039	.077	.399	.543
NOMOR	.318	.010	2179	1.043	.033	.297	.339
DELAY	.413	.011	2179	1.055	.027	.391	.435
IDEAL	4.848	.057	2597	1.351	.012	4.734	4.962
ANTCA	.835	.014	1568	1.405	.017	.808	.863
TETAN	.713	.014	1568	1.163	.020	.685	.741
MEDEL	.296	.018	1568	1.476	.062	.259	.333
RESPI	.113	.009	1456	1.048	.080	.095	.131
FEVER	.302	.013	1456	1.042	.043	.276	.327
DIAR2	.213	.011	1456	1.058	.054	.190	.236
ORSTR	.235	.025	310	1.028	.105	.186	.285
MEDTR	.206	.025	310	1.073	.119	.157	.256
HCARD	.652	.025	454	1.117	.039	.602	.702
BCG12	.786	.021	454	1.109	.027	.744	.829
DPT12	.553	.026	454	1.094	.047	.501	.605
POL12	.551	.026	454	1.094	.047	.499	.602
MEASL	.575	.026	454	1.123	.046	.522	.628
FULVA	.478	.026	454	1.090	.054	.426	.530
WGXAG	.314	.012	1298	.945	.039	.289	.338
HGXAG	.301	.013	1298	1.036	.044	.275	.328
WGXHG	.126	.010	1298	1.025	.076	.107	.145

Table C.5 Sampling errors - Women with no education, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
						R-2SE	R+2SE
URBAN	.177	.016	1597	1.701	.092	.145	.210
CWORK	.842	.015	1597	1.592	.017	.812	.871
EVBOR	4.036	.077	1597	1.096	.019	3.882	4.190
EVB40	6.658	.120	441	.968	.018	6.418	6.897
SURVI	3.311	.062	1597	1.062	.019	3.186	3.435
KMETH	.828	.017	1356	1.652	.020	.794	.862
KMDME	.818	.018	1356	1.720	.022	.782	.854
EVUSE	.226	.014	1356	1.209	.061	.199	.254
CUSIN	.082	.007	1356	.986	.090	.067	.097
CUMOD	.036	.005	1356	1.023	.144	.026	.047
CUPIL	.010	.003	1356	.999	.266	.005	.016
CUIUD	.002	.001	1356	1.002	.578	.000	.005
CUCON	.006	.002	1356	.997	.352	.002	.010
CUSTE	.006	.002	1356	.942	.332	.002	.010
CUPAB	.035	.005	1356	.971	.138	.026	.045
PSOUR	.583	.065	60	1.019	.112	.452	.714
NOMOR	.310	.014	1356	1.082	.044	.283	.338
DELAY	.385	.015	1356	1.148	.039	.355	.415
IDEAL	5.488	.084	1405	1.298	.015	5.320	5.657
ANTCA	.768	.021	865	1.388	.027	.726	.810
TETAN	.658	.019	865	1.103	.029	.620	.696
MEDEL	.238	.018	865	1.154	.075	.203	.274
RESPI	.124	.014	797	1.187	.112	.097	.152
FEVER	.322	.016	797	.950	.050	.290	.355
DIAR2	.240	.018	797	1.178	.075	.204	.276
ORSTR	.220	.031	191	1.019	.140	.159	.281
MEDTR	.220	.031	191	1.024	.143	.157	.283
HCARD	.574	.031	256	1.003	.055	.511	.637
BCG12	.734	.030	256	1.089	.041	.674	.795
DPT12	.492	.032	256	1.004	.065	.428	.556
POL12	.492	.032	256	1.004	.065	.428	.556
MEASL	.523	.034	256	1.072	.065	.455	.592
FULVA	.422	.031	256	.992	.074	.359	.485
WGXAG	.339	.019	691	1.037	.055	.301	.376
HGXAG	.305	.018	691	1.041	.060	.269	.342
WGXHG	.142	.013	691	1.020	.095	.115	.169

Table C.6 Sampling errors - Women with primary school, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
						R-2SE	R+2SE
URBAN	.347	.022	729	1.266	.064	.302	.392
CWORK	.796	.016	729	1.043	.020	.764	.827
EVBOR	3.016	.097	729	1.004	.032	2.823	3.210
EVB40	6.337	.316	92	1.124	.050	5.704	6.970
SURVI	2.561	.083	729	1.015	.033	2.394	2.728
KMETH	.959	.009	516	1.008	.009	.942	.977
KMDME	.955	.009	516	1.010	.010	.937	.974
EVUSE	.488	.021	516	.965	.044	.446	.531
CUSIN	.223	.018	516	.991	.082	.187	.259
CUMOD	.124	.015	516	1.013	.119	.095	.153
CUPIL	.043	.009	516	1.038	.217	.024	.061
CUIUD	.010	.004	516	.985	.439	.001	.018
CUCON	.017	.006	516	.990	.328	.006	.029
CUSTE	.014	.005	516	1.003	.377	.003	.024
CUPAB	.062	.010	516	.952	.163	.042	.082
PSOUR	.459	.062	74	1.066	.135	.335	.584
NOMOR	.353	.020	516	.952	.057	.313	.393
DELAY	.411	.022	516	1.006	.053	.367	.454
IDEAL	4.312	.064	674	1.055	.015	4.183	4.440
ANTCA	.898	.015	402	.934	.016	.869	.927
TETAN	.761	.023	402	1.001	.030	.716	.807
MEDEL	.413	.027	402	1.045	.066	.358	.468
RESPI	.104	.020	374	1.132	.187	.065	.143
FEVER	.297	.025	374	1.032	.084	.247	.347
DIAR2	.222	.022	374	.995	.098	.178	.265
ORSTR	.289	.054	83	1.080	.187	.181	.397
MEDTR	.217	.049	83	1.078	.226	.119	.315
HCARD	.672	.048	122	1.113	.071	.576	.768
BCG12	.828	.038	122	1.114	.046	.751	.904
DPT12	.549	.050	122	1.092	.092	.448	.650
POL12	.541	.050	122	1.092	.093	.440	.642
MEASL	.598	.049	122	1.085	.082	.500	.697
FULVA	.443	.049	122	1.070	.112	.344	.542
WGXAG	.292	.023	336	.912	.079	.246	.338
HGXAG	.268	.024	336	.992	.090	.220	.316
WGXHG	.134	.018	336	.970	.137	.097	.171

Table C.7 Sampling errors - Women with middle/JSS education, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.463	.020	1768	1.682	.043	.423	.503
CWORK	.669	.013	1768	1.195	.020	.642	.696
EVBOR	2.236	.057	1768	1.026	.025	2.123	2.349
EVB40	5.661	.196	174	1.001	.035	5.269	6.052
SURVI	2.000	.050	1768	1.036	.025	1.900	2.100
KMETH	.977	.004	1092	.877	.004	.969	.985
KMDME	.975	.004	1092	.899	.004	.967	.984
EVUSE	.647	.014	1092	.993	.022	.618	.675
CUSIN	.281	.014	1092	1.044	.051	.253	.310
CUMOD	.138	.011	1092	1.017	.077	.117	.160
CUPIL	.047	.006	1092	.882	.121	.035	.058
CUIUD	.012	.003	1092	1.004	.277	.005	.018
CUCON	.038	.006	1092	.989	.152	.026	.049
CUSTE	.009	.003	1092	.899	.283	.004	.014
CUPAB	.104	.010	1092	1.042	.092	.085	.124
PSOUR	.387	.033	199	.964	.086	.320	.454
NOMOR	.334	.014	1092	1.012	.043	.305	.363
DELAY	.407	.016	1092	1.080	.039	.374	.439
IDEAL	3.850	.033	1692	.957	.009	3.784	3.916
ANTCA	.956	.007	781	1.003	.008	.941	.971
TETAN	.863	.012	781	.982	.014	.838	.888
MEDEL	.612	.022	781	1.163	.036	.568	.656
RESPI	.080	.011	735	1.029	.135	.059	.102
FEVER	.237	.016	735	1.032	.069	.204	.269
DIAR2	.169	.014	735	1.004	.083	.141	.197
ORSTR	.379	.042	124	.991	.112	.294	.464
MEDTR	.290	.041	124	1.004	.140	.209	.372
HCARD	.781	.029	228	1.044	.037	.723	.838
BCG12	.908	.018	228	.960	.020	.871	.945
DPT12	.754	.026	228	.901	.034	.703	.806
POL12	.759	.026	228	.905	.034	.707	.810
MEASL	.746	.027	228	.948	.037	.691	.800
FULVA	.684	.027	228	.891	.040	.629	.739
WGXAG	.227	.016	683	.988	.071	.195	.259
HGXAG	.236	.016	683	.983	.069	.203	.268
WGXHG	.088	.012	683	1.054	.132	.065	.111

Table C.8 Sampling errors - Women with secondary or more education, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.780	.028	468	1.457	.036	.724	.836
CWORK	.620	.027	468	1.190	.043	.566	.673
EVBOR	1.496	.081	468	.975	.054	1.334	1.658
EVB40	3.667	.320	54	1.018	.087	3.027	4.306
SURVI	1.400	.077	468	.990	.055	1.246	1.553
KMETH	1.000	.000	240	.000	.000	1.000	1.000
KMDME	1.000	.000	240	.000	.000	1.000	1.000
EVUSE	.842	.024	240	1.019	.029	.794	.890
CUSIN	.483	.028	240	.872	.058	.427	.540
CUMOD	.250	.024	240	.855	.096	.202	.298
CUPIL	.067	.014	240	.880	.213	.038	.095
CUIUD	.029	.009	240	.862	.322	.010	.048
CUCON	.058	.013	240	.881	.229	.032	.085
CUSTE	.021	.009	240	.989	.438	.003	.039
CUPAB	.196	.024	240	.931	.122	.148	.244
PSOUR	.411	.051	90	.970	.123	.310	.512
NOMOR	.375	.034	240	1.079	.090	.307	.443
DELAY	.333	.032	240	1.063	.097	.268	.398
IDEAL	3.416	.067	457	1.107	.020	3.283	3.549
ANTCA	.992	.008	120	.990	.008	.975	1.000
TETAN	.942	.021	120	.999	.023	.899	.984
MEDEL	.842	.039	120	1.063	.046	.764	.919
RESPI	.068	.025	118	.995	.373	.017	.118
FEVER	.178	.036	118	.998	.204	.105	.251
DIAR2	.102	.028	118	1.012	.279	.045	.158
ORSTR	.333	.136	12	.999	.408	.061	.605
MEDTR	.250	.125	12	.999	.500	.000	.500
HCARD	.822	.058	45	1.001	.070	.706	.938
BCG12	1.000	.000	45	NA	.000	1.000	1.000
DPT12	.911	.052	45	1.008	.057	.808	1.000
POL12	.911	.052	45	1.008	.057	.808	1.000
MEASL	.933	.038	45	1.008	.040	.858	1.000
FULVA	.867	.059	45	1.015	.068	.749	.984
WGXAG	.101	.031	109	.990	.304	.040	.162
HGXAG	.101	.029	109	1.009	.287	.043	.159
WGXHG	.046	.020	109	.984	.431	.006	.085

Table C.9 Sampling errors - Women age 15-24, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.423	.018	1632	1.491	.043	.387	.460
XNOEDU	.222	.014	1632	1.374	.064	.194	.251
SECON	.115	.010	1632	1.228	.085	.095	.134
CWORK	.508	.015	1632	1.228	.030	.478	.538
EVBOR	.689	.024	1632	1.063	.035	.640	.738
SURVI	.615	.021	1632	1.036	.035	.572	.657
KMETH	.897	.016	711	1.377	.017	.866	.929
KMDME	.889	.016	711	1.353	.018	.857	.921
EVUSE	.425	.020	711	1.064	.046	.385	.464
CUSIN	.160	.013	711	.958	.082	.134	.187
CUMOD	.076	.009	711	.908	.119	.058	.094
CUPIL	.032	.006	711	.923	.189	.020	.045
CUIUD	.006	.003	711	1.008	.503	.000	.011
CUCON	.030	.006	711	.995	.214	.017	.042
CUSTE	.001	.001	711	1.001	1.001	.000	.004
CUPAB	.055	.008	711	.981	.153	.038	.072
PSOUR	.229	.042	109	1.031	.182	.146	.313
NOMOR	.096	.012	711	1.076	.124	.072	.119
DELAY	.660	.019	711	1.043	.028	.623	.697
IDEAL	3.781	.047	1545	1.167	.012	3.688	3.875
ANTCA	.878	.015	646	1.088	.017	.848	.907
TETAN	.751	.019	646	1.072	.026	.712	.789
MEDEL	.449	.024	646	1.174	.054	.400	.497
RESPI	.096	.012	605	1.010	.130	.071	.121
FEVER	.255	.019	605	1.033	.073	.217	.292
DIAR2	.220	.017	605	.989	.076	.186	.253
ORSTR	.323	.040	133	.988	.124	.243	.403
MEDTR	.263	.039	133	1.016	.147	.186	.341
HCARD	.672	.039	198	1.166	.058	.594	.750
BCG12	.813	.031	198	1.117	.038	.751	.875
DPT12	.596	.036	198	1.035	.061	.524	.668
POL12	.596	.037	198	1.047	.061	.523	.669
MEASL	.636	.035	198	1.029	.055	.566	.707
FULVA	.530	.036	198	1.010	.068	.458	.602
WGXAG	.255	.020	538	1.049	.079	.214	.295
HGXAG	.290	.020	538	1.003	.068	.250	.329
WGXHG	.082	.012	538	.979	.141	.059	.105

Table C.10 Sampling errors - Women age 25-34, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.365	.016	1588	1.332	.044	.333	.397
XNOEDU	.361	.015	1588	1.209	.040	.332	.391
SECON	.102	.009	1588	1.144	.085	.085	.119
CWORK	.849	.011	1588	1.191	.013	.827	.870
EVBOR	3.029	.044	1588	.996	.014	2.942	3.116
SURVI	2.633	.038	1588	.992	.014	2.557	2.709
KMETH	.936	.010	1359	1.459	.010	.917	.955
KMDME	.934	.010	1359	1.534	.011	.913	.954
EVUSE	.479	.015	1359	1.122	.032	.449	.509
CUSIN	.208	.011	1359	1.002	.053	.186	.230
CUMOD	.104	.008	1359	.967	.077	.088	.120
CUPIL	.038	.005	1359	.946	.130	.028	.047
CUIUD	.009	.003	1359	1.000	.288	.004	.014
CUCON	.022	.004	1359	.996	.180	.014	.030
CUSTE	.003	.001	1359	1.006	.503	.000	.006
CUPAB	.078	.007	1359	.995	.093	.064	.092
PSOUR	.457	.039	164	1.010	.086	.379	.536
NOMOR	.266	.013	1359	1.065	.048	.240	.291
DELAY	.464	.014	1359	1.053	.031	.436	.493
IDEAL	4.568	.052	1492	1.047	.011	4.463	4.673
ANTCA	.876	.012	1070	1.083	.013	.853	.899
TETAN	.793	.013	1070	.966	.016	.768	.819
MEDEL	.455	.020	1070	1.184	.043	.416	.494
RESPI	.107	.011	997	1.104	.105	.085	.130
FEVER	.280	.015	997	1.008	.052	.251	.309
DIAR2	.195	.013	997	1.012	.066	.169	.220
ORSTR	.263	.031	194	.989	.118	.201	.325
MEDTR	.242	.032	194	1.010	.130	.179	.305
HCARD	.705	.027	325	1.049	.038	.651	.758
BCG12	.862	.019	325	1.006	.022	.823	.900
DPT12	.652	.028	325	1.034	.043	.597	.708
POL12	.652	.027	325	1.015	.042	.598	.707
MEASL	.665	.028	325	1.053	.042	.609	.721
FULVA	.572	.029	325	1.019	.050	.515	.629
WGXAG	.269	.015	908	1.019	.056	.239	.299
HGXAG	.243	.014	908	.962	.057	.216	.271
WGXHG	.123	.010	908	.928	.084	.103	.144

Table C.11 Sampling errors - Women age 35-49, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
						R-2SE	R+2SE
URBAN	.335	.017	1342	1.289	.050	.301	.368
XNOEDU	.492	.018	1342	1.306	.036	.456	.527
SECON	.089	.007	1342	.924	.081	.074	.103
CWORK	.909	.010	1342	1.217	.011	.890	.928
EVBOR	5.487	.080	1342	1.127	.015	5.328	5.647
EVB40	6.179	.107	761	1.093	.017	5.965	6.393
SURVI	4.591	.066	1342	1.100	.014	4.459	4.723
KMETH	.895	.009	1134	1.004	.010	.877	.913
KMDME	.887	.009	1134	1.002	.011	.868	.906
EVUSE	.453	.016	1134	1.101	.036	.421	.486
CUSIN	.222	.012	1134	.998	.055	.198	.247
CUMOD	.114	.009	1134	.910	.076	.097	.131
CUPIL	.026	.005	1134	.980	.180	.016	.035
CUIUD	.011	.003	1134	.916	.263	.005	.016
CUCON	.019	.004	1134	.960	.208	.011	.026
CUSTE	.022	.004	1134	.893	.177	.014	.030
CUPAB	.085	.008	1134	.945	.092	.069	.100
PSOUR	.553	.041	150	.998	.073	.472	.635
NOMOR	.555	.017	1134	1.136	.030	.521	.588
DELAY	.139	.012	1134	1.132	.084	.116	.163
IDEAL	5.066	.080	1191	1.206	.016	4.907	5.226
ANTCA	.856	.020	452	1.133	.023	.817	.896
TETAN	.726	.022	452	.961	.030	.682	.769
MEDEL	.385	.026	452	1.090	.068	.333	.437
RESPI	.095	.014	422	.934	.144	.068	.122
FEVER	.308	.023	422	.974	.073	.263	.353
DIAR2	.197	.021	422	1.050	.105	.155	.238
ORSTR	.277	.053	83	1.074	.192	.171	.384
MEDTR	.205	.046	83	1.043	.227	.112	.298
HCARD	.641	.042	128	.984	.066	.556	.725
BCG12	.781	.039	128	1.049	.049	.704	.858
DPT12	.594	.047	128	1.063	.079	.499	.688
POL12	.594	.047	128	1.063	.079	.499	.688
MEASL	.602	.042	128	.957	.070	.517	.686
FULVA	.516	.048	128	1.062	.093	.420	.612
WGXAG	.314	.026	373	1.059	.082	.262	.365
HGXAG	.257	.023	373	.989	.088	.212	.303
WGXHG	.139	.018	373	1.038	.132	.103	.176

Table C.12 Sampling errors - Western region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.307	.039	398	1.699	.128	.228	.385
XNOEDU	.274	.027	398	1.184	.097	.221	.327
SECON	.095	.017	398	1.153	.178	.061	.130
CWORK	.739	.028	398	1.248	.037	.684	.794
EVBOR	2.874	.118	398	.906	.041	2.638	3.110
EVB40	6.119	.326	59	.979	.053	5.468	6.770
SURVI	2.425	.098	398	.893	.040	2.229	2.620
KMETH	.964	.015	250	1.257	.015	.934	.994
KMDME	.964	.015	250	1.257	.015	.934	.994
EVUSE	.496	.028	250	.890	.057	.440	.552
CUSIN	.264	.035	250	1.241	.131	.195	.333
CUMOD	.144	.022	250	1.005	.155	.099	.189
CUPIL	.052	.014	250	1.022	.277	.023	.081
CUIUD	.008	.006	250	1.011	.714	.000	.019
CUCON	.040	.010	250	.813	.252	.020	.060
CUSTE	.012	.007	250	.993	.571	.000	.026
CUPAB	.084	.018	250	1.033	.216	.048	.120
PSOUR	.357	.067	42	.892	.187	.224	.491
NOMOR	.300	.028	250	.952	.092	.245	.355
DELAY	.340	.028	250	.931	.082	.284	.396
IDEAL	4.047	.097	380	1.287	.024	3.853	4.242
ANTCA	.892	.028	204	1.213	.032	.835	.949
TETAN	.799	.031	204	1.006	.039	.737	.861
MEDEL	.397	.051	204	1.355	.129	.295	.499
RESPI	.065	.012	185	.659	.184	.041	.089
FEVER	.281	.035	185	1.009	.124	.211	.351
DIAR2	.205	.028	185	.946	.139	.148	.262
ORSTR	.184	.065	38	1.025	.353	.054	.314
MEDTR	.184	.070	38	1.002	.380	.044	.324
HCARD	.661	.078	59	1.257	.117	.506	.816
BCG12	.814	.060	59	1.174	.073	.694	.933
DPT12	.559	.084	59	1.303	.151	.391	.728
POL12	.559	.084	59	1.303	.151	.391	.728
MEASL	.593	.070	59	1.100	.119	.452	.734
FULVA	.492	.089	59	1.361	.180	.314	.669
WGXAG	.331	.029	169	.771	.089	.272	.390
HGXAG	.331	.037	169	.976	.112	.257	.405
WGXHG	.130	.022	169	.856	.171	.086	.175

Table C.13 Sampling errors - Central region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
						R-2SE	R+2SE
URBAN	.317	.052	438	2.343	.164	.213	.422
XNOEDU	.301	.028	438	1.255	.091	.246	.356
SECON	.075	.015	438	1.199	.201	.045	.106
CWORK	.735	.031	438	1.477	.042	.673	.798
EVBOR	3.075	.130	438	.973	.042	2.814	3.336
EVB40	6.794	.310	68	.949	.046	6.174	7.414
SURVI	2.639	.100	438	.881	.038	2.440	2.839
KMETH	.920	.020	301	1.259	.021	.881	.960
KMDME	.914	.021	301	1.276	.023	.872	.955
EVUSE	.409	.029	301	1.023	.071	.351	.467
CUSIN	.156	.019	301	.912	.122	.118	.194
CUMOD	.076	.012	301	.796	.160	.052	.101
CUPIL	.017	.008	301	1.039	.462	.001	.032
CUIUD	.013	.006	301	.973	.484	.000	.026
CUCON	.027	.007	301	.701	.245	.014	.040
CUSTE	.003	.003	301	.985	.985	.000	.010
CUPAB	.050	.010	301	.803	.202	.030	.070
PSOUR	.484	.089	31	.971	.183	.307	.661
NOMOR	.372	.027	301	.976	.073	.318	.427
DELAY	.346	.034	301	1.226	.097	.278	.413
IDEAL	3.959	.058	395	.848	.015	3.843	4.076
ANTCA	.866	.027	224	1.128	.031	.812	.920
TETAN	.795	.028	224	.958	.035	.738	.851
MEDEL	.375	.057	224	1.602	.151	.262	.488
RESPI	.043	.014	207	.959	.311	.016	.070
FEVER	.159	.030	207	1.191	.186	.100	.219
DIAR2	.174	.019	207	.705	.107	.137	.211
ORSTR	.250	.058	36	.804	.232	.134	.366
MEDTR	.306	.065	36	.846	.213	.175	.436
HCARD	.689	.056	74	1.044	.082	.577	.802
BCG12	.797	.051	74	1.084	.064	.696	.899
DPT12	.541	.069	74	1.189	.128	.403	.678
POL12	.541	.069	74	1.189	.128	.403	.678
MEASL	.473	.075	74	1.287	.158	.323	.623
FULVA	.392	.076	74	1.338	.194	.240	.544
WGXAG	.215	.028	191	.926	.130	.159	.270
HGXAG	.230	.037	191	1.205	.161	.156	.305
WGXHG	.115	.019	191	.797	.166	.077	.154

Table C.14 Sampling errors - Greater Accra region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.885	.011	618	.842	.012	.864	.907
XNOEDU	.131	.027	618	1.969	.204	.078	.185
SECON	.282	.027	618	1.469	.094	.228	.335
CWORK	.701	.026	618	1.421	.037	.648	.753
EVBOR	2.050	.099	618	1.117	.048	1.852	2.248
EVB40	4.534	.337	88	1.223	.074	3.861	5.207
SURVI	1.837	.081	618	1.030	.044	1.675	1.998
KMETH	.994	.006	356	1.406	.006	.983	1.000
KMDME	.983	.008	356	1.142	.008	.968	.999
EVUSE	.744	.028	356	1.231	.038	.687	.801
CUSIN	.368	.034	356	1.340	.093	.299	.437
CUMOD	.180	.022	356	1.062	.120	.136	.223
CUPIL	.031	.009	356	1.003	.298	.012	.049
CUIUD	.025	.007	356	.889	.293	.010	.040
CUCON	.065	.013	356	1.024	.207	.038	.091
CUSTE	.014	.005	356	.773	.344	.004	.024
CUPAB	.140	.020	356	1.073	.141	.101	.180
PSOUR	.293	.051	82	1.007	.174	.191	.395
NOMOR	.399	.028	356	1.085	.071	.342	.455
DELAY	.346	.028	356	1.118	.082	.289	.402
IDEAL	3.427	.060	581	1.065	.018	3.307	3.547
ANTCA	.964	.013	196	.957	.013	.939	.989
TETAN	.883	.021	196	.867	.024	.840	.925
MEDEL	.801	.029	196	.989	.037	.742	.860
RESPI	.097	.030	185	1.245	.304	.038	.157
FEVER	.162	.035	185	1.224	.213	.093	.231
DIAR2	.162	.031	185	1.131	.192	.100	.224
ORSTR	.367	.082	30	.930	.223	.203	.531
MEDTR	.300	.094	30	1.121	.313	.112	.488
HCARD	.781	.066	64	1.266	.085	.649	.913
BCG12	.891	.045	64	1.149	.051	.801	.981
DPT12	.781	.054	64	1.032	.069	.674	.889
POL12	.766	.055	64	1.036	.072	.655	.876
MEASL	.813	.059	64	1.192	.072	.695	.930
FULVA	.750	.061	64	1.115	.081	.628	.872
WGXAG	.169	.027	178	.913	.157	.115	.222
HGXAG	.157	.023	178	.813	.147	.111	.203
WGXHG	.079	.021	178	1.025	.263	.037	.120

Table C.15 Sampling errors - Volta region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.157	.053	491	3.212	.336	.051	.262
XNOEDU	.279	.031	491	1.519	.110	.217	.341
SECON	.071	.018	491	1.531	.250	.036	.107
CWORK	.758	.023	491	1.177	.030	.712	.803
EVBOR	3.061	.109	491	.905	.036	2.843	3.279
EVB40	5.706	.327	109	1.276	.057	5.052	6.361
SURVI	2.644	.099	491	.961	.038	2.445	2.843
KMETH	.940	.029	349	2.270	.031	.882	.998
KMDME	.931	.029	349	2.162	.031	.873	.990
EVUSE	.596	.029	349	1.092	.048	.539	.653
CUSIN	.252	.022	349	.965	.089	.207	.297
CUMOD	.077	.015	349	1.048	.194	.047	.107
CUPIL	.011	.007	349	1.236	.615	.000	.026
CUIUD	.003	.003	349	.985	.985	.000	.009
CUCON	.017	.007	349	.940	.381	.004	.030
CUSTE	.006	.004	349	.989	.698	.000	.014
CUPAB	.132	.019	349	1.031	.142	.094	.169
PSOUR	.439	.062	41	.785	.140	.316	.562
NOMOR	.424	.024	349	.907	.057	.376	.472
DELAY	.352	.026	349	1.015	.074	.300	.404
IDEAL	4.127	.097	458	1.268	.023	3.933	4.320
ANTCA	.872	.025	234	1.097	.029	.821	.923
TETAN	.692	.040	234	1.235	.058	.613	.772
MEDEL	.342	.053	234	1.575	.156	.235	.448
RESPI	.143	.024	223	.942	.167	.095	.192
FEVER	.480	.036	223	1.052	.076	.407	.553
DIAR2	.202	.029	223	1.071	.145	.143	.260
ORSTR	.156	.055	45	1.011	.353	.046	.265
MEDTR	.089	.038	45	.892	.427	.013	.165
HCARD	.662	.081	74	1.436	.123	.500	.824
BCG12	.784	.076	74	1.558	.097	.632	.935
DPT12	.581	.079	74	1.307	.136	.423	.739
POL12	.581	.079	74	1.307	.136	.423	.739
MEASL	.622	.089	74	1.502	.143	.444	.799
FULVA	.527	.082	74	1.348	.156	.362	.692
WGXAG	.240	.028	192	.881	.116	.184	.295
HGXAG	.198	.028	192	.973	.140	.143	.253
WGXHG	.104	.023	192	1.057	.223	.058	.151

Table C.16 Sampling errors - Eastern region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.451	.045	519	2.061	.100	.361	.541
XNOEDU	.224	.023	519	1.270	.104	.177	.270
SECON	.106	.015	519	1.090	.139	.076	.135
CWORK	.736	.023	519	1.184	.031	.690	.782
EVBOR	2.796	.143	519	1.242	.051	2.510	3.082
EVB40	6.190	.313	79	1.053	.051	5.564	6.815
SURVI	2.511	.124	519	1.217	.049	2.263	2.759
KMETH	.956	.012	340	1.068	.012	.932	.980
KMDME	.953	.012	340	1.046	.013	.929	.977
EVUSE	.556	.034	340	1.250	.061	.488	.623
CUSIN	.259	.028	340	1.174	.108	.203	.315
CUMOD	.129	.017	340	.918	.129	.096	.163
CUPIL	.050	.009	340	.782	.185	.031	.069
CUIUD	.006	.004	340	.991	.700	.000	.014
CUCON	.021	.009	340	1.136	.425	.003	.038
CUSTE	.009	.005	340	.996	.573	.000	.019
CUPAB	.097	.018	340	1.149	.190	.060	.134
PSOUR	.459	.069	61	1.075	.151	.321	.597
NOMOR	.379	.034	340	1.284	.089	.312	.447
DELAY	.362	.025	340	.970	.070	.311	.412
IDEAL	3.957	.090	490	1.278	.023	3.778	4.136
ANTCA	.941	.013	237	.871	.014	.914	.968
TETAN	.810	.023	237	.916	.028	.764	.856
MEDEL	.553	.045	237	1.318	.082	.462	.643
RESPI	.054	.017	221	1.135	.319	.020	.089
FEVER	.285	.034	221	1.109	.118	.218	.352
DIAR2	.136	.016	221	.695	.119	.104	.168
ORSTR	.333	.081	30	.939	.243	.172	.495
MEDTR	.300	.084	30	1.005	.280	.132	.468
HCARD	.719	.060	64	1.057	.083	.599	.838
BCG12	.875	.029	64	.689	.033	.818	.932
DPT12	.625	.061	64	1.001	.098	.503	.747
POL12	.625	.061	64	1.001	.098	.503	.747
MEASL	.688	.052	64	.886	.075	.584	.791
FULVA	.563	.060	64	.956	.107	.442	.683
WGXAG	.206	.024	204	.825	.116	.158	.254
HGXAG	.250	.034	204	1.103	.137	.182	.318
WGXHG	.059	.015	204	.931	.260	.028	.089

Table C.17 Sampling errors - Ashanti region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.396	.036	750	2.018	.091	.324	.468
XNOEDU	.284	.022	750	1.360	.079	.239	.329
SECON	.077	.012	750	1.255	.158	.053	.102
CWORK	.776	.016	750	1.082	.021	.743	.809
EVBOR	2.936	.095	750	.998	.033	2.745	3.127
EVB40	6.426	.284	115	1.091	.044	5.857	6.995
SURVI	2.584	.087	750	1.040	.034	2.410	2.758
KMETH	.904	.017	553	1.364	.019	.870	.938
KMDME	.904	.017	553	1.364	.019	.870	.938
EVUSE	.396	.026	553	1.253	.066	.344	.448
CUSIN	.137	.012	553	.807	.086	.114	.161
CUMOD	.080	.009	553	.776	.112	.062	.097
CUPIL	.031	.006	553	.849	.203	.018	.043
CUIUD	.002	.002	553	1.007	1.007	.000	.005
CUCON	.013	.005	553	1.024	.385	.003	.022
CUSTE	.018	.005	553	.895	.281	.008	.028
CUPAB	.047	.008	553	.910	.174	.031	.063
PSOUR	.569	.061	51	.875	.108	.446	.691
NOMOR	.349	.015	553	.752	.044	.318	.380
DELAY	.362	.017	553	.817	.046	.328	.395
IDEAL	4.367	.071	712	1.216	.016	4.225	4.509
ANTCA	.918	.013	391	.849	.014	.893	.944
TETAN	.798	.022	391	.990	.028	.754	.842
MEDEL	.558	.039	391	1.459	.071	.479	.636
RESPI	.086	.018	370	1.142	.210	.050	.123
FEVER	.178	.020	370	.955	.110	.139	.218
DIAR2	.168	.018	370	.918	.108	.131	.204
ORSTR	.403	.075	62	1.217	.185	.254	.552
MEDTR	.290	.072	62	1.240	.248	.146	.434
HCARD	.722	.044	115	1.041	.061	.634	.809
BCG12	.878	.028	115	.911	.032	.823	.934
DPT12	.722	.042	115	.987	.058	.639	.805
POL12	.722	.042	115	.987	.058	.639	.805
MEASL	.730	.034	115	.813	.046	.663	.798
FULVA	.643	.039	115	.874	.061	.565	.722
WGXAG	.226	.023	323	.991	.102	.180	.272
HGXAG	.279	.025	323	1.003	.090	.229	.329
WGXHG	.084	.019	323	1.189	.226	.046	.121

Table C.18 Sampling errors - Brong-Ahafo region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.360	.037	469	1.684	.104	.286	.435
XNOEDU	.279	.033	469	1.584	.118	.214	.345
SECON	.068	.008	469	.719	.123	.051	.085
CWORK	.725	.019	469	.940	.027	.686	.764
EVBOR	2.793	.101	469	.785	.036	2.591	2.995
EVB40	6.841	.372	63	1.007	.054	6.098	7.585
SURVI	2.454	.087	469	.792	.036	2.280	2.629
KMETH	.974	.012	307	1.369	.013	.949	.999
KMDME	.971	.014	307	1.421	.014	.943	.998
EVUSE	.609	.034	307	1.203	.055	.542	.676
CUSIN	.254	.023	307	.922	.090	.208	.300
CUMOD	.140	.019	307	.959	.136	.102	.178
CUPIL	.059	.013	307	.934	.214	.034	.084
CUIUD	.020	.004	307	.562	.227	.011	.028
CUCON	.013	.007	307	1.016	.506	.000	.026
CUSTE	.016	.007	307	.937	.416	.003	.030
CUPAB	.065	.012	307	.872	.189	.041	.090
PSOUR	.333	.075	63	1.250	.224	.184	.483
NOMOR	.345	.028	307	1.015	.080	.290	.400
DELAY	.430	.037	307	1.322	.087	.355	.505
IDEAL	4.453	.097	437	1.180	.022	4.258	4.648
ANTCA	.904	.024	209	1.084	.026	.857	.952
TETAN	.818	.023	209	.815	.029	.771	.865
MEDEL	.555	.048	209	1.310	.087	.459	.651
RESPI	.090	.015	199	.732	.165	.061	.120
FEVER	.186	.030	199	1.042	.162	.126	.246
DIAR2	.191	.033	199	1.142	.174	.125	.257
ORSTR	.368	.098	38	1.264	.266	.173	.564
MEDTR	.395	.084	38	1.062	.212	.228	.562
HCARD	.771	.052	70	1.036	.068	.666	.876
BCG12	.843	.055	70	1.245	.065	.734	.952
DPT12	.700	.054	70	.947	.077	.592	.808
POL12	.714	.055	70	.984	.078	.604	.825
MEASL	.600	.059	70	.971	.098	.483	.717
FULVA	.571	.053	70	.862	.092	.466	.676
WGXAG	.332	.029	184	.880	.089	.273	.390
HGXAG	.245	.031	184	.992	.128	.182	.307
WGXHG	.130	.029	184	1.182	.222	.072	.188

Table C.19 Sampling errors - Northern region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.203	.028	444	1.460	.138	.147	.258
XNOEDU	.811	.051	444	2.738	.063	.709	.913
SECON	.034	.014	444	1.682	.427	.005	.063
CWORK	.791	.042	444	2.188	.054	.706	.875
EVBOR	3.608	.212	444	1.554	.059	3.183	4.033
EVB40	7.435	.153	85	.758	.021	7.129	7.741
SURVI	2.748	.159	444	1.497	.058	2.430	3.065
KMETH	.750	.046	376	2.059	.061	.658	.842
KMDME	.734	.051	376	2.229	.069	.632	.836
EVUSE	.202	.034	376	1.621	.166	.135	.269
CUSIN	.112	.019	376	1.142	.166	.075	.149
CUMOD	.051	.011	376	1.017	.228	.028	.074
CUPIL	.019	.007	376	.997	.374	.005	.033
CUIUD	.003	.003	376	1.012	1.012	.000	.008
CUCON	.013	.005	376	.826	.367	.004	.023
CUSTE	.000	.000	376	NA	.000	.000	.000
CUPAB	.059	.010	376	.851	.176	.038	.079
PSOUR	.667	.108	21	1.021	.161	.451	.882
NOMOR	.173	.026	376	1.336	.151	.121	.225
DELAY	.524	.025	376	.982	.048	.473	.575
IDEAL	6.425	.207	419	1.479	.032	6.011	6.838
ANTCA	.677	.057	254	1.866	.085	.563	.792
TETAN	.571	.046	254	1.385	.080	.479	.663
MEDEL	.157	.026	254	1.087	.166	.105	.210
RESPI	.159	.031	226	1.261	.193	.098	.221
FEVER	.398	.034	226	1.044	.086	.329	.467
DIAR2	.376	.047	226	1.437	.124	.283	.469
ORSTR	.200	.025	85	.584	.127	.149	.251
MEDTR	.129	.039	85	1.072	.302	.051	.208
HCARD	.422	.047	64	.737	.110	.329	.515
BCG12	.656	.048	64	.794	.073	.561	.751
DPT12	.406	.064	64	1.016	.157	.279	.534
POL12	.406	.064	64	1.016	.157	.279	.534
MEASL	.609	.058	64	.943	.095	.493	.726
FULVA	.391	.064	64	1.028	.165	.262	.519
WGXAG	.413	.036	184	.983	.088	.341	.485
HGXAG	.359	.040	184	1.128	.111	.279	.439
WGXHG	.190	.024	184	.841	.128	.141	.239

Table C.20 Sampling errors - Upper West region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.082	.084	159	3.867	1.031	.000	.250
XNOEDU	.748	.069	159	2.011	.093	.610	.887
SECON	.031	.023	159	1.669	.737	.000	.078
CWORK	.742	.066	159	1.887	.089	.611	.874
EVBOR	3.553	.166	159	.756	.047	3.221	3.886
EVB40	6.108	.344	37	.743	.056	5.420	6.796
SURVI	2.843	.118	159	.667	.042	2.607	3.079
KMETH	.816	.042	136	1.271	.052	.731	.901
KMDME	.809	.036	136	1.077	.045	.736	.882
EVUSE	.162	.043	136	1.360	.266	.076	.248
CUSIN	.066	.031	136	1.435	.464	.005	.128
CUMOD	.051	.022	136	1.152	.426	.008	.095
CUPIL	.029	.015	136	1.047	.518	.000	.060
CUIUD	.000	.000	136	NA	.000	.000	.000
CUCON	.015	.010	136	.962	.678	.000	.035
CUSTE	.000	.000	136	NA	.000	.000	.000
CUPAB	.015	.011	136	1.036	.730	.000	.036
PSOUR	1.000	.000	8	NA	.000	1.000	1.000
NOMOR	.221	.042	136	1.174	.190	.137	.304
DELAY	.412	.049	136	1.155	.119	.314	.510
IDEAL	6.395	.245	119	1.067	.038	5.904	6.886
ANTCA	.740	.063	77	1.215	.086	.613	.867
TETAN	.662	.042	77	.786	.064	.577	.747
MEDEL	.221	.100	77	1.944	.453	.021	.421
RESPI	.070	.031	71	1.038	.438	.009	.132
FEVER	.239	.038	71	.723	.160	.163	.316
DIAR2	.141	.028	71	.669	.196	.086	.196
ORSTR	.300	.201	10	1.384	.671	.000	.702
MEDTR	.200	.118	10	.932	.592	.000	.437
HCARD	.520	.096	25	.958	.185	.328	.712
BCG12	.840	.053	25	.723	.063	.734	.946
DPT12	.480	.121	25	1.208	.252	.238	.722
POL12	.480	.121	25	1.208	.252	.238	.722
MEASL	.480	.139	25	1.385	.289	.202	.758
FULVA	.400	.101	25	1.026	.252	.198	.602
WGXAG	.476	.076	63	1.169	.160	.324	.628
HGXAG	.333	.060	63	1.001	.180	.213	.454
WGXHG	.206	.057	63	1.119	.276	.092	.320

Table C.21 Sampling errors - Upper East region, Ghana 1993

Variable	Value (R)	Standard error (SE)	Unweighted (N)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.116	.014	276	.709	.118	.089	.143
XNOEDU	.721	.076	276	2.818	.106	.569	.873
SECON	.083	.030	276	1.776	.355	.024	.143
CWORK	.736	.026	276	.993	.036	.683	.788
EVBOR	3.286	.171	276	1.183	.052	2.944	3.629
EVB40	5.879	.195	58	.624	.033	5.488	6.270
SURVI	2.634	.118	276	1.018	.045	2.398	2.870
KMETH	.881	.025	236	1.172	.028	.832	.931
KMDME	.881	.025	236	1.172	.028	.832	.931
EVUSE	.229	.043	236	1.576	.189	.142	.315
CUSIN	.102	.017	236	.883	.171	.067	.137
CUMOD	.072	.015	236	.885	.207	.042	.102
CUPIL	.030	.007	236	.664	.248	.015	.044
CUIUD	.008	.008	236	1.411	.995	.000	.025
CUCON	.000	.000	236	NA	.000	.000	.000
CUSTE	.004	.004	236	1.027	1.027	.000	.013
CUPAB	.025	.008	236	.797	.322	.009	.042
PSOUR	.478	.104	23	.981	.218	.269	.687
NOMOR	.246	.024	236	.859	.098	.198	.294
DELAY	.487	.029	236	.880	.059	.430	.545
IDEAL	5.325	.287	237	1.851	.054	4.750	5.899
ANTCA	.859	.031	142	1.000	.036	.798	.920
TETAN	.810	.024	142	.708	.030	.762	.858
MEDEL	.190	.036	142	1.087	.188	.119	.262
RESPI	.226	.043	137	1.203	.189	.141	.312
FEVER	.496	.023	137	.533	.047	.450	.543
DIAR2	.263	.026	137	.695	.099	.211	.315
ORSTR	.389	.079	36	.966	.202	.232	.546
MEDTR	.361	.089	36	1.110	.247	.183	.539
HCARD	.762	.056	42	.854	.074	.650	.874
BCG12	.952	.030	42	.907	.031	.893	1.000
DPT12	.714	.064	42	.911	.089	.587	.842
POL12	.714	.064	42	.911	.089	.587	.842
MEASL	.714	.062	42	.893	.087	.590	.839
FULVA	.643	.066	42	.891	.103	.511	.775
WGXAG	.328	.039	131	.960	.120	.249	.407
HGXAG	.260	.029	131	.761	.112	.201	.318
WGXHG	.145	.035	131	1.137	.243	.075	.215

APPENDIX D

SURVEY PERSONNEL

APPENDIX D

SURVEY PERSONNEL

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Mr. Sam Quashie, Field Co-ordinator
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APPENDIX E

QUESTIONNAIRES

REPUBLIC OF GHANA
GHANA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD SCHEDULE (ENGLISH)

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

E A NUMBER .....

STRUCTURE NUMBER.....

HOUSEHOLD NUMBER.....

REGION .....

URBAN/RURAL (urban=1, rural=2).....

FOR OFFICE USE
LARGE CITY/MEDIUM CITY/SMALL CITY/TOWN/VILLAGE.....
(large city=1, medium city=2, small city=3, town=4, village=5)

Large city 1,000,000 and over
Medium city 500,000 - 999,999
Small city 50,000 - 499,999
Town 5,000 - 49,999
Village < 5,000

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR
INTERVIEWER'S NAME				NAME
RESULT***				RESULT
NEXT VISIT: DATE / TIME				TOTAL NUMBER OF VISITS

***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
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND

9 OTHER _____
(SPECIFY)

TOTAL IN HOUSEHOLD

TOTAL ELIGIBLE WOMEN

TOTAL ELIGIBLE MEN

LINE NO. OF RESP. TO HOUSE-HOLD SCHEDULE

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME				
DATE				

1

Now we would like some information about the people who usually live in your household or who are staying with you now.

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	MARITAL STATUS AGE 12+	EDUCATION **IF AGED 6 YEARS OR OLDER			
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?	Does (NAME) usually live here?	Did (NAME) sleep here last night?	Is (NAME) male or female ?	How old is (NAME)?	What is (NAME)'S current marital status? MARRIED 1 CONSENSUAL 2 WIDOWED 3 DIVORCED 4 SEPARATED 5 NEVER MARRIED 6	Has (NAME) ever been to school? IF NO, SKIP TO →Q11b	IF ATTENDED SCHOOL: What is the highest level of school (NAME) attended? What is the highest grade (NAME) completed at that level?	IF AGED LESS THAN 25 YEARS: Is (NAME still in school? IF YES →Q12	If no, why? FINANCIAL CONSTRAINT..1 SCHOOL TOO FAR.....2 LACK OF INTEREST....3 DISABILITY..4 NEEDED TO HELP IN FAMILY BUSINESS....5 GRADUATED...6 OTHER.....7
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11a)	(11b)
			YES NO	YES NO	M F	IN YEARS		YES NO	LEVEL GRADE	YES NO	
01			1 2	1 2	1 2			1 2		1 2	
02			1 2	1 2	1 2			1 2		1 2	
03			1 2	1 2	1 2			1 2		1 2	
04			1 2	1 2	1 2			1 2		1 2	
05			1 2	1 2	1 2			1 2		1 2	
06			1 2	1 2	1 2			1 2		1 2	
07			1 2	1 2	1 2			1 2		1 2	
08			1 2	1 2	1 2			1 2		1 2	
09			1 2	1 2	1 2			1 2		1 2	
10			1 2	1 2	1 2			1 2		1 2	
11			1 2	1 2	1 2			1 2		1 2	
12			1 2	1 2	1 2			1 2		1 2	
13			1 2	1 2	1 2			1 2		1 2	
14			1 2	1 2	1 2			1 2		1 2	
15			1 2	1 2	1 2			1 2		1 2	

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:
01= HEAD
02= WIFE OR HUSBAND
03= SON OR DAUGHTER
04= SON OR DAUGHTER-IN-LAW
05= GRANDCHILD
06= PARENT
07= PARENT-IN-LAW
08= BROTHER OR SISTER
09= OTHER RELATIVE
10= ADOPTED
11= NOT RELATED
98= DK

** CODES FOR Q 10
LEVEL OF EDUCATION:
1= PRIMARY
2= MIDDLE/JSS
3= SSS/COMMERCIAL/TECHNICAL/4 YEAR TRG. COLL.
4= POST SEC./ NURSING TRG/ POLYTECHNIC
5= HIGHER
8= DK

GRADE:
00=LESS THAN 1 YEAR COMPLETED
98=DK

2

Line No.	FOR THOSE AGED 7 YEARS AND ABOVE O C C U P A T I O N								
	What work did (NAME) do during the past 7 days, even if (NAME) was not paid for it? Describe what (NAME) did in this work? **IF ONLY STUDENT/HOMEMAKER/ UNEMPLOYED SKIP TO** └→Q17		What kind of industry is it connected with?		In this work did (NAME) work on own account, as an employer, as unpaid family worker or for wages/salary? OWN ACCOUNT W/O EMPL.....1 EMPLOYER.....2 UNPAID FAMILY WORKER.....3 FOR WAGES/ SALARY.....4	For how many days during the past 7 days did (NAME) do this work?	During these days how many hours per day did (NAME) do this work? **RECORD HOURS WORKED AND SKIP TO** └→Q18.	Did (NAME) look for work during the past 7 days?	
	(12)		(13)		(14)	(15)	(16)	(17)	
	DESCRIPTION	CODE	TYPE	CODE				YES	NO
01								1	2
02								1	2
03								1	2
04								1	2
05								1	2
06								1	2
07								1	2
08								1	2
09								1	2
10								1	2
11								1	2
12								1	2
13								1	2
14								1	2
15								1	2

1) Are there any other persons such as small children or infants that we have not listed? YES ☐→ENTER EACH NO ☐

2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here? YES ☐→ENTER EACH NO ☐

3) Do you have any guests or temporary visitors staying here, or anyone else who slept here last night? YES ☐→ENTER EACH NO ☐

NAME	HEALTH				MIGRATION ALL USUAL RESIDENTS AGED 15 OR OLDER				
	During the past 2 weeks has (NAME) suffered from either an illness or an injury? (18)	Has (NAME) had a health consultation in the past 2 weeks? IF NO, SKIP ↓ Q21. (19)	In the past 2 weeks whom did (NAME) consult? DOCTOR.....01 DENTIST.....02 MEDICAL ASSISTANT....03 NURSE.....04 MIDWIFE.....05 PHARMACIST...06 DRUGGIST.....07 TRADITONAL HEALER.....08 T B A .....09 SPIRITUALIST.10 OTHER.....96 (20)	Did (NAME) pay anything for medical supplies or consultation in the past 2 weeks? IF YES: How much? IF NO: ENTER "0" (21)	Was (NAME) born in this locality? IF NO, SKIP ↓ Q24. (22)	Has (NAME) lived anywhere else for at least 6 months? (23)	At the time of (NAME's) birth was his/her birth-place a City....1 Town....2 Village.3 *** (24)	How old was (NAME) when he/she left his/her place of birth for the first time to live some-where else? (25)	What was the main reason (NAME) moved the first time? FOLLOW/JOIN FAMILY.....1 WORK RELATED.....2 MARRIAGE.....3 SCHOOL.....4 ADVENTURE/ BRIGHTLIGHTS.....5 ESCAPE FAMILY PROBLEMS.....6 OTHER_____7 (SPECIFY) (26)
	YES NO	YES NO		AMOUNT	YES NO	YES NO		IN YEARS	
01	1 2	1 2			1 2	1 2			
02	1 2	1 2			1 2	1 2			
03	1 2	1 2			1 2	1 2			
04	1 2	1 2			1 2	1 2			
05	1 2	1 2			1 2	1 2			
06	1 2	1 2			1 2	1 2			
07	1 2	1 2			1 2	1 2			
08	1 2	1 2			1 2	1 2			
09	1 2	1 2			1 2	1 2			
10	1 2	1 2			1 2	1 2			
11	1 2	1 2			1 2	1 2			
12	1 2	1 2			1 2	1 2			
13	1 2	1 2			1 2	1 2			
14	1 2	1 2			1 2	1 2			
15	1 2	1 2			1 2	1 2			

*** (Q24) CHECK IF YES IN Q22 AND NO IN Q23 THEN SKIP TO Q31

4

MIGRATION ALL USUAL RESIDENTS AGED 15 OR OLDER					DISABILITY											
How long has (NAME) lived in (PRESENT PLACE OF RESIDENCE) since his/ her last move? TIME IN YEARS IN MONTHS IF LESS THAN 1 YEAR.		What was the main reason (NAME) came to (PRESENT PLACE OF RESIDENCE) FOLLOW/JOIN FAMILY......1 WORK RELATED.....2 MARRIAGE....3 SCHOOLS.....4 BRIGHTLIGHT 5 ESCAPE FAMILY PROBLEMS....6 OTHER.......7 (SPECIFY)	Which region or country did (NAME) move from? WESTERN......01 CENTRAL......02 G/ACCRA......03 VOLTA........04 EASTERN......05 ASHANTI......06 B. AHAFO.....07 NORTHERN.....08 U. WEST......09 U. EAST......10 NIGERIA......11 C. D'IVORE...12 TOGO.........13 B. FASO......14 OTHER AFRICA.15 OUTSIDE AFRI.16	Was the place where (NAME) was living before coming here a city, town or village? CITY...1 TOWN...2 VILL-AGE....3	Does (NAME) have difficulty moving?		Does (NAME) have difficulty seeing?		Does (NAME) have difficulty hearing/ speaking?		Does (NAME) have difficulty learning?		Has (NAME) loss of feeling in the hand/ foot?		Does (NAME) have fits?	
(27)		(28)	(29)	(30)	(31)		(32)		(33)		(34)		(35)		(36)	
YEARS	MONTHS				YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2
					1	2	1	2	1	2	1	2	1	2	1	2

5

NAME	DISABILITY				CHECK Q 31-38: AT MOST ONE "YES" →40 MORE THAN ONE "YES" → V	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD***						ELIGIBILITY	
												(woman)	(man)
	Does (NAME) behave strangely?		Does (NAME) have any other difficulty?		Which is the main difficulty (NAME) has? MOVING.....1 SEEING.....2 HEARING/ SPEAKING.....3 LEARNING.....4 + HAND/FOOT..5 FITS.....6 BEHAVE STRANGELY....7 OTHER.....8	Is (NAME)'s natural mother alive IF NO OR DK SKIP TO →Q42			IF ALIVE Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER	Is (NAME)'s natural father alive? IF NO OR DK SKIP TO →Q44			IF ALIVE Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW (15-49) (YEARS)	CIRCLE LINE NUMBER OF MEN ELIGIBLE FOR INTERVIEW (15-59) (YEARS)
	(37)		(38)		(39)	(40)			(41)	(42)			(43)	(44)	(45)
	YES	NO	YES	NO		YES	NO	DK		YES	NO	DK			
01	1	2	1	2		1	2	8		1	2	8		01	01
02	1	2	1	2		1	2	8		1	2	8		02	02
03	1	2	1	2		1	2	8		1	2	8		03	03
04	1	2	1	2		1	2	8		1	2	8		04	04
05	1	2	1	2		1	2	8		1	2	8		05	05
06	1	2	1	2		1	2	8		1	2	8		06	06
07	1	2	1	2		1	2	8		1	2	8		07	07
08	1	2	1	2		1	2	8		1	2	8		08	08
09	1	2	1	2		1	2	8		1	2	8		09	09
10	1	2	1	2		1	2	8		1	2	8		10	10
11	1	2	1	2		1	2	8		1	2	8		11	11
12	1	2	1	2		1	2	8		1	2	8		12	12
13	1	2	1	2		1	2	8		1	2	8		13	13
14	1	2	1	2		1	2	8		1	2	8		14	14
15	1	2	1	2		1	2	8		1	2	8		15	15

+ CODE FOR Q39: 5= LOSS OF FEELING IN THE HAND/FOOT

TOTAL TOTAL

6

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
46	What is the source of water your household uses for laundry and dishwashing?	PIPED WATER PIPED INTO RESIDENCE/YARD/COMPOUND.....11 ——>48 PUBLIC TAP/NEIGHBOUR'S HSE....12 WELL WATER WELL IN RESIDENCE/YARD/COMP...21 ——>48 PUBLIC WELL.....22 BOREHOLE .....23 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 DUGOUT .....35 RAINWATER.....41 ——>48 TANKER TRUCK.....51 BOTTLED WATER.....61 ——>48 OTHER_____96 (SPECIFY)	
47	How long does it take to go there, get water, and come back? RECORD RESPONSE HOURS ..... MINUTES	MINUTES..... ☐☐☐ ON PREMISES.....996	
48	Does your household get drinking water from this same source?	YES.....1 ——>51 NO.....2	
49	What is the source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/YARD/COMPOUND.....11 ——>51 PUBLIC TAP/NEIGHBOUR'S HSE....12 WELL WATER WELL IN RESIDENCE/YARD/COMP...21 ——>51 PUBLIC WELL.....22 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 DUGOUT.....35 RAINWATER.....41 ——>51 TANKER TRUCK.....51 BOTTLED WATER.....61 ——>51 OTHER_____96 (SPECIFY)	
50	How long does it take to go there, get water, and come back? RECORD RESPONSE HOURS ..... MINUTES	MINUTES..... ☐☐☐ ON PREMISES.....996	
51	What kind of toilet facility does your household use?	FLUSH TOILET OWN WC .....11 SHARED WC .....12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 BUCKET/PAN .....31 NO FACILITY (BUSH/FIELD) .....41 OTHER _____96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
52	Does your household have: Electricity? A functioning radio? A functioning television? A functioning refrigerator? A functioning video?	YES NO ELECTRICITY.....1 2 RADIO.....1 2 TELEVISION.....1 2 REFRIGERATOR.....1 2 VIDEO 1 2	
53	How many rooms in your household are used for sleeping?	ROOMS..... ☐☐	
54	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR EARTH/SAND/MUD.....11 MUD MIXED WITH DUNG.....12 RUDIMENTARY FLOOR WOOD PLANKS.....21 PALM/BAMBOO.....22 FINISHED FLOOR PARQUET OR POLISHED WOOD.....31 LINOLEUM .....32 CERAMIC TILES.....33 CEMENT.....34 CARPET.....35 TERRAZO .....36 OTHER _____ 96 (SPECIFY)	
55	Does any member of your household own: A bicycle? A motorcycle? A motor vehicle? A tractor? A horse/cart?	YES NO BICYCLE.....1 2 MOTORCYCLE.....1 2 MOTOR VEHICLE.....1 2 TRACTOR .....1 2 HORSE/CART.....1 2	

8

REPUBLIC OF GHANA
GHANA DEMOGRAPHIC AND HEALTH SURVEY
WOMEN'S QUESTIONNAIRE (ENGLISH)
(FOR WOMEN OF AGES 15 - 49)

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

E A NUMBER .....

STRUCTURE NUMBER.....

HOUSEHOLD NUMBER.....

REGION.....

URBAN/RURAL (urban=1, rural=2).....

NAME AND LINE NUMBER OF WOMAN _____

NAME AND LINE NUMBER OF HUSBAND _____

ENTER '98', IF NOT MARRIED AND
'99' IF PARTNER IS NOT A MEMBER OF HOUSEHOLD

FOR OFFICE USE
LARGE CITY/MEDIUM CITY/SMALL CITY/TOWN/VILLAGE.....
(large city=1, medium city=2, small city=3, town=4, village=5)

large city 1,000,000 and over
medium city 500,000 - 999,999
small city 50,000 - 499,999
town 5,000 - 49,999
village < 5,000

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR
INTERVIEWER'S NAME				NAME
RESULT***				RESULT
NEXT VISIT: DATE / TIME				TOTAL NUMBER OF VISITS

***RESULT CODES:
1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ (SPECIFY)

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME / DATE				

1

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
101	**RECORD THE TIME.**	HOUR..... ☐☐ MINUTES..... ☐☐	
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in a village?	CITY.....1 TOWN.....2 VILLAGE 3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? **IF LESS THAN A YEAR, CODE "00"**	YEARS..... ☐☐ ALWAYS.....95 VISITOR.....96	→105
104	Just before you moved here, did you live in a city, in a town, or in a village?	CITY.....1 TOWN.....2 VILLAGE 3	
105	In what month and year were you born?	MONTH..... ☐☐ DK MONTH.....98 YEAR..... ☐☐ DK YEAR.....98	
106	How old were you at your last birthday? **COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.**	AGE IN COMPLETED YEARS..... ☐☐	
107	Have you ever attended school?	YES.....1 NO.....2	→111
108	What is the highest level of school you attended: primary, middle/jss, secondary or higher?	PRIMARY.....1 MIDDLE/JSS.....2 SSS/COMM./VOC/TECH.....3 POST SEC./NURSING/POLYTECH.....4 HIGHER 5	
109	What is the highest (grade/form/year) you completed at that level?	GRADE..... ☐☐	
110	**CHECK 108:** **PRIMARY OR MIDDLE/JSS** ☐ ↓ **SECONDARY /SSS OR HIGHER** ☐		→112
111	Can you read and understand a letter or newspaper easily, with difficulty, or not at all in any language?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	→113
112	Do you usually read a newspaper or magazine at least once a week?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
113	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
114	Do you usually watch television at least once a week?	YES.....1 NO.....2	
115	What is your religious denomination?	CATHOLIC .....01 ANGLICAN .....02 METHODIST .....03 PRESBYTERIAN.....04 PENTECOSTAL.....05 SPIRITUALIST.....06 OTHER CHRISTIAN .....07 MOSLEM .....08 TRADITIONAL .....09 NO RELIGION .....10 OTHER 96	
116	To which ethnic group do you belong?	ASANTE .....01 AKWAPIM .....02 FANTI .....03 OTHER AKAN .....04 GA/ADANGBE .....05 EWE .....06 GUAN .....07 MOLE-DAGBANI .....08 GRUSSI .....09 GURMA .....10 HAUSA .....11 OTHER 96	
117	**CHECK Q.4 IN THE HOUSEHOLD QUESTIONNAIRE** **THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT** ☐ ↓ **THE WOMAN INTERVIEWED IS A USUAL RESIDENT** ☐ →201		
118	Now I would like to ask about the place where you usually live. Do you usually live in a city, in a town, or in a village?	CITY .....1 TOWN .....2 VILLAGE 3	
119	In which region is that located? **IF USUAL RESIDENCE IS OUTSIDE GHANA, RECORD COUNTRY OF RESIDENCE** _____ **(COUNTRY)**	WESTERN .....01 CENTRAL .....02 GREATER ACCRA .....03 VOLTA .....04 EASTERN .....05 ASHANTI .....06 BRONG-AHAFO .....07 NORTHERN .....08 UPPER WEST .....09 UPPER EAST .....10 OUTSIDE GHANA 11	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
120	Now I would like to ask about the household in which you usually live. What is the source of water your household uses for laundry and dishwashing?	PIPED WATER PIPED INTO RESIDENCE/YARD/COMPOUND.....11 PUBLIC TAP.....12 WELL WATER WELL IN RESIDENCE/YARD/COMP...21 PUBLIC WELL.....22 BOREHOLE .....23 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 DUGOUT .....35 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER_____96 (SPECIFY)	>122 >122 >122 >122
121	How long does it take to go there, get water, and come back? HOURS _____ MINUTES _____	MINUTES..... ☐☐☐ ON PREMISES.....996	
122	Does your household get drinking water from this same source?	YES.....1 NO.....2	>125
123	What is the source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/YARD/COMPOUND.....11 PUBLIC TAP.....12 WELL WATER WELL IN RESIDENCE/YARD/COMP...21 PUBLIC WELL.....22 BOREHOLE .....23 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 DUGOUT .....35 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER_____96 (SPECIFY)	>125 >125 >125 >125
124	How long does it take to go there, get water, and come back? HOURS _____ MINUTES _____	MINUTES..... ☐☐☐ ON PREMISES.....996	
125	What kind of toilet facility does your household have?	FLUSH TOILET OWN W C .....11 SHARED W C .....12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 BUCKET/PAN .....31 NO FACILITY (BUSH/FIELD).....41 OTHER _____96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
126	Does your household have: Electricity? A functioning radio? A functioning television? A functioning refrigerator? A functioning video?	YES NO ELECTRICITY.....1 2 RADIO .....1 2 TELEVISION.....1 2 REFRIGERATOR.....1 2 VIDEO 1 2	
127	How many rooms in your household are used for sleeping?	ROOMS..... ☐☐	
128	Could you describe the main material of the floor of your home?	NATURAL FLOOR EARTH/SAND.....11 MUD MIXED WITH DUNG.....12 RUDIMENTARY FLOOR WOOD PLANKS.....21 PALM/BAMBOO.....22 FINISHED FLOOR PARQUET OR POLISHED WOOD.....31 LINOLEUM .....32 CERAMIC TILES.....33 CEMENT.....34 CARPET.....35 TERRAZO .....36 OTHER _____ 96 (SPECIFY)	
129	Does any member of your household own: A bicycle? A motorcycle? A motor vehicle? A tractor? A horse/cart?	YES NO BICYCLE.....1 2 MOTORCYCLE.....1 2 MOTOR VEHICLE.....1 2 TRACTOR .....1 2 HORSE/CART 1 2	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
	Now I would like to ask about all births you have had during your lifetime.		
201	Have you ever given birth?	YES.....1 NO.....2	→206
202	Do you have any sons or daughters to whom you have given birth 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 to whom you have given birth 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 given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Have you ever had any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208
207	In all, 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: Just to make sure that I have this right: you have had in total ____ births during your life. Is that correct? YES ☐ NO ☐ → **PROBE AND CORRECT 201-208 AS NECESSARY**		
210	**CHECK 208:** **ONE OR MORE BIRTHS** ☐ **NO BIRTHS** ☐		→223

211 Now I would like to talk to you about all of your births, whether still alive or not, starting with the first one you had.

RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

212	213	214	215	216	217	218	219	220
What name was given to your (first,next) baby?	Was (NAME) born single or as a twin triplet, etc. **RECORD SINGLE OR MULTIPLE BIRTH STATUS.**	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	Is (NAME) still alive?	**IF ALIVE:** How old was (NAME) at his/her last birthday? **RECORD AGE IN COMPLETED YEARS.**	**IF ALIVE:** Is (NAME) living with you?	**IF LESS THAN 15 YRS. OF AGE:** With whom does he/she live? IF 15+: GO TO NEXT BIRTH.	**IF DEAD:** How old was he/she 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.**
01 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
02 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
03 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
04 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
05 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3

212 What name was given to your next baby?	213 Was (NAME) born single or as a twin, triplet, etc. **RECORD SINGLE OR MULTIPLE BIRTH STATUS.**	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? **PROBE:** What is his/her birthday? OR: In what season?	216 Is (NAME) still alive?	217 **IF ALIVE:** How old was (NAME) at his/her last birthday? **RECORD AGE IN COMPLETED YEARS.**	218 **IF ALIVE:** Is (NAME) living with you?	219 **IF LESS THAN 15 YRS. OF AGE:** With whom does he/she live? **IF 15+: GO TO NEXT BIRTH.**	220 **IF DEAD:** How old was he/she 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.**
06 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
07 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
08 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
09 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
10 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
11 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3

8

212	213	214	215	216	217	218	219	220
What name was given to your next baby?	Was (NAME) born single or as a twin triplet, etc. RECORD SINGLE OR MULTIPLE BIRTH STATUS.	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	Is (NAME) still alive?	IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	IF ALIVE: Is (NAME) living with you?	IF LESS THAN 15 YRS. OF AGE: With whom does he/she live? IF 15+: GO TO NEXT BIRTH.	IF DEAD: How old was he/she 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.
12 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
13 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 ☐☐ MONTHS..2 YEARS...3
14 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. ☐☐ YEAR... ☐☐	YES...1 NO....2 → 220	AGE IN YEARS ☐☐	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO TO 221)	DAYS....1 ☐☐ MONTHS..2 YEARS...3

221 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 LIVING CHILD: CURRENT AGE IS RECORDED. ☐
FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. ☐
FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. ☐

222 CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1990. IF NONE, RECORD 0. ☐

9

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
223	Are you pregnant now?	YES.....1 NO.....2 UNSURE.....8	>226
224	How many months pregnant are you?	MONTHS..... ☐☐ DK 98	
225	At the time you became pregnant, did you want to become pregnant **then**, did you want to wait until **later**, or did you not want to become pregnant **at all**?	THEN.....1 LATER .....2 NOT AT ALL 3	
226	When did your last menstrual period start?	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO.....4 ☐☐ IN MENOPAUSE.....994 BEFORE LAST BIRTH.....995 NEVER MENSTRUATED.....996	
227	Between the first day of a woman's period and the first day of her next period, are there certain times when she has a greater chance of becoming pregnant than other times?	YES.....1 NO.....2 DK.....8	>301
228	During which times of the monthly cycle does a woman have the greatest chance of becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS...4 OTHER_____6 (SPECIFY) DK.....8	

10

301 Now I would like to talk about the various ways or methods that a couple can use to delay or avoid pregnancy. Which ways or methods have you heard about?

CIRCLE CODE 1 IN 302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 302, ASK 303-304 BEFORE PROCEEDING TO THE NEXT METHOD.

	302 Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD.	303 Have you and your partner ever used (METHOD)?	304 Do you know where a person could go to get (METHOD)?
01 **PILL** Women can take a pill every day.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
02 **IUD** Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
03 **INJECTIONS** Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
04 **DIAPHRAGM,FOAM,JELLY** Women can place a sponge, suppository, diaphragm, jelly or cream inside them before intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
05 **CONDOM** Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
06 **FEMALE STERILIZATION** Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
07 **IMPLANT** Women can have a NORPLANT inplant inserted under the skin of their upper arm.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
08 **MALE STERILIZATION** Men can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
09 **RHYTHM, PERIODIC ABSTINENCE** Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	Do you know where a person can obtain advice on how to use periodic abstinence? YES.....1 NO.....2
10 **WITHDRAWAL** Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	
11 Have you heard of any other ways or methods that women or men can use to avoid pregnancy? 1 _____ (SPECIFY) 2 _____ (SPECIFY) 3 _____ (SPECIFY)	YES/SPONT.....1 NO.....3	YES.....1 NO.....2 YES.....1 NO.....2 YES.....1 NO.....2	

305 CHECK 303: NOT A SINGLE "YES" (NEVER USED) ☐ AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO 308

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
306	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES ..... ☐ NO ..... ☐	→324
307	What have you used or done? CORRECT 303-305 (AND 302 IF NECESSARY).	_____ (ENTER WHAT WAS DONE)	
308	Now I would like to ask you about the time when you first did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN..... ☐☐	
309	CHECK 223: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→324
310	CHECK 303: WOMAN NOT STERILIZED ☐ WOMAN STERILIZED ☐		→312A
311	Are you (or your partner) currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2	→312
311A	What was the last method used?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 INPLANT.....07 MALE STERILIZATION.....08 PERIODIC ABSTINENCE.....09 WITHDRAWAL.....10 OTHER .....96 (SPECIFY)	
311B	For how many months did you use the method continuously?	☐☐	
311C	Why did you stop using method?	WANT CHILDREN.....01 LACK OF KNOWLEDGE.....02 PARTNER OPPOSED.....03 COST TOO MUCH.....04 SIDE EFFECTS.....05 HEALTH CONCERNS.....06 HARD TO GET METHODS.....07 RELIGION.....08 OPPOSED TO FAMILY PLANNING.....09 FATALISTIC.....10 OTHER PEOPLE OPPOSED.....11 INFREQUENT SEX.....12 DIFFICULT TO GET PREGNANT.....13 MENOPAUSAL/HAD WOMB REMOVED....14 INCONVENIENT.....15 NOT MARRIED.....16 BECAME PREGNANT.....17 OTHER .....96 (SPECIFY) DK.....98	→324

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
312	Which method are you using?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 INPLANT.....07 MALE STERILIZATION.....08 PERIODIC ABSTINENCE.....09 WITHDRAWAL.....10 OTHER _____ 96 (SPECIFY)	→318 →323
312A	CIRCLE '06' FOR FEMALE STERILIZATION.		
PILL 313	At the time you first started using the pill, did you consult a doctor, a nurse or a midwife for advice?	YES.....1 NO.....2 DK.....8	
314	At the time you last got pills, did you consult a doctor or a nurse?	YES.....1 NO.....2	
315	May I see the package of pills you are using now? RECORD NAME OF BRAND. _____ (NAME OF BRAND)	PACKAGE SEEN.....1 BRAND NAME _____ ☐☐☐ PACKAGE NOT SEEN.....2	→317
316	Do you know the brand name of the pills you are now using? RECORD NAME OF BRAND.	BRAND NAME _____ ☐☐ DK.....98	
317	How much does one (packet/cycle) of pills cost you?	COST..... ☐☐☐☐ FREE.....9996 DK.....9998	
317A	Have you experienced any side effects from the use of the pill?	YES.....1 NO.....2	→318
317B	What side effects have you experienced? CIRCLE ALL MENTIONED	DIZZINESS.....A WEIGHT GAIN.....B HEADACHES.....C EXCESSIVE BLEEDING.....D IRREGULAR CYCLE.....E PAINFUL PERIOD/CRAMPS.....F PALPITATION/IRREGULAR HEART BEAT.G OTHER (SPECIFY).....H NONE.....I	
318	CHECK 312: SHE/HE STERILIZED → Where did the sterilization take place? USING ANOTHER METHOD → Where did you obtain (METHOD) the last time? _____ (NAME OF SOURCE)	PUBLIC SECTOR GOVERNMENT HOSPITAL/POLYCLINIC.11 GOVERNMENT HEALTH CENTER.....12 FAMILY PLANNING CLINIC.....13 MOBILE CLINIC.....14 FIELD WORKER.....15 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....21 PHARMACY/CHEMIST/DRUG STORE....22 PRIVATE DOCTOR /CLINIC.....23 MOBILE CLINIC.....24 FIELD WORKER.....25 PRIVATE FP/PPAG CLINIC.....26 MATERNITY HOME.....27 OTHER PRIVATE SECTOR SHOP.....31 CHURCH.....32 FRIENDS/RELATIVES.....33 OTHER _____ 96 DK..... 98	→321 →321 →321
319	How long does it take to travel from your home to this place? IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS.	MINUTES.....1 ☐☐ HOURS.....2 0☐ DK.....9998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
320	Is it convenient or inconvenient to get there?	CONVENIENT.....1 INCONVENIENT.....2	
321	CHECK 312: SHE/HE STERILIZED ☐ → 322 USING ANOTHER METHOD ☐		→323
322	In what month and year was the sterilization operation performed?	MONTH..... YEAR.....	→334
323	For how many months have you been using (CURRENT METHOD) continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... 8 YEARS OR LONGER.....96	→329
324	Do you intend to use a method to delay or avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8	→326 →330
325	What is the main reason why you do not intend to use a method?	WANT CHILDREN.....01 LACK OF KNOWLEDGE.....02 PARTNER OPPOSED.....03 COST TOO MUCH.....04 SIDE EFFECTS.....05 HEALTH CONCERNS.....06 HARD TO GET METHODS.....07 RELIGION.....08 OPPOSED TO FAMILY PLANNING.....09 FATALISTIC.....10 OTHER PEOPLE OPPOSED.....11 INFREQUENT SEX.....12 DIFFICULT TO GET PREGNANT.....13 MENOPAUSAL/HAD WOMB REMOVED....14 INCONVENIENT.....15 NOT MARRIED.....16 BECAME PREGNANT WHILE USING....17 OTHER_____96 (SPECIFY) DK.....98	→330
326	Do you intend to use a method within the next 12 months?	YES.....1 NO.....2 DK.....8	
327	When you (or your partner) use a method, which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 INPLANT.....07 MALE STERILIZATION.....08 PERIODIC ABSTINENCE.....09 WITHDRAWAL.....10 OTHER_____96 (SPECIFY) UNSURE.....98	→330

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
328	Where can you get (METHOD MENTIONED IN 327)? (IF MORE THAN ONE, ASK FOR THE NEAREST) _____ (NAME OF SOURCE)	PUBLIC SECTOR GOVERNMENT HOSPITAL/POLYCLINIC.11 GOVERNMENT HEALTH CENTER.....12 >332 FAMILY PLANNING CLINIC.....13 MOBILE CLINIC.....14 FIELD WORKER.....15 >334 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL .....21 PHARMACY/CHEMIST/DRUG STORE....22 >332 PRIVATE DOCTOR/CLINIC.....23 MOBILE CLINIC.....24 FIELD WORKER.....25 >334 PRIVATE FP/PPAG CLINIC .....26 MATERNITY HOME .....27 >332 OTHER PRIVATE SECTOR SHOP.....31 >332 CHURCH.....32 FRIENDS/RELATIVES.....33 >334 OTHER_____96 DK.....98 >330	
329	CHECK 312: USING PERIODIC ABSTINENCE, WITHDRAWAL, OTHER TRADITIONAL METHOD ☐ ↓ USING A MODERN METHOD ☐ >334		
330	Do you know of a place where you can obtain a modern method of family planning?	YES.....1 NO.....2 >334	
331	Where is that? (IF MORE THAN ONE ASK FOR THE NEAREST) _____ (NAME OF SOURCE)	PUBLIC SECTOR GOVERNMENT HOSPITAL/POLYCLINIC..11 GOVERNMENT HEALTH CENTER.....12 FAMILY PLANNING CLINIC.....13 MOBILE CLINIC.....14 FIELD WORKER.....15 >334 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL OR CLINIC.....21 PHARMACY/CHEMIST/DRUG STORE ....22 PRIVATE DOCTOR/CLINIC.....23 MOBILE CLINIC.....24 FIELD WORKER.....25 >334 PRIVATE FP/PPAG CLINIC .....26 MATERNITY HOME .....27 OTHER PRIVATE SECTOR SHOP.....31 CHURCH.....32 FRIENDS/RELATIVES.....33 >334 OTHER_____96	
332	How long does it take to travel from your home to this place? IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS.	MINUTES.....1 ___ HOURS.....2 0 __ DK.....9998	
333	Is it convenient or inconvenient to get there?	CONVENIENT.....1 INCONVENIENT.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
334	In the last month, have you heard or seen a message about family planning : on the radio? on television? in a newspaper? on poster/billboard? from community health nurse? from family planning worker? from friends/relatives?	YES NO RADIO.....1 2 TELEVISION.....1 2 NEWSPAPER .....1 2 POSTER/BILLBOARD .....1 2 COMMUNITY HEALTH NURSE ....1 2 FAMILY PLANNING WORKER ....1 2 FRIENDS/RELATIVES 1 2	
335	Is it acceptable or not acceptable to you for family planning information to be provided on the radio or television?	ACCEPTABLE.....1 NOT ACCEPTABLE.....2 DK.....8	

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401	CHECK 222: ONE OR MORE BIRTHS SINCE JAN. 1990 [ ] ↓	NO BIRTHS SINCE JAN. 1990 [ ] → (SKIP TO 501)

402 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1990 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).

Now I would like to ask you some more questions about the health of all your children born in the past three years. (We will talk about one child at a time.)

	LINE NUMBER FROM Q. 212	[ ][ ]	[ ][ ]	[ ][ ]
	FROM Q. 212 AND Q. 216	LAST BIRTH NAME ________ ALIVE [ ] DEAD [ ]	NEXT-TO-LAST BIRTH NAME ________ ALIVE [ ] DEAD [ ]	SECOND-FROM-LAST BIRTH NAME ________ ALIVE [ ] DEAD [ ]
403	At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u>, did you want to wait until <u>later</u> or did you want <u>no (more)</u> children at all?	THEN....1 (SKIP TO 405) LATER....2 NO MORE....3 (SKIP TO 405)	THEN....1 (SKIP TO 405) LATER....2 NO MORE....3 (SKIP TO 405)	THEN....1 (SKIP TO 405) LATER....2 NO MORE....3 (SKIP TO 405)
404	How much longer would you like to have waited? RECORD IN MONTHS IF LESS THAN 2 YEARS	MONTHS....1 [ ][ ] YEARS....2 [ ][ ] DK....998	MONTHS....1 [ ][ ] YEARS....2 [ ][ ] DK....998	MONTHS....1 [ ][ ] YEARS....2 [ ][ ] DK....998
405	When you were pregnant with (NAME), did you see anyone for antenatal care for this pregnancy? IF YES, Whom did you see? Anyone else? RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR....A NURSE....B MIDWIFE....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT....D TRADITIONAL BIRTH ATTENDANT....E OTHER ________ F (SPECIFY) NO ONE....G (SKIP TO 409)	HEALTH PROFESSIONAL DOCTOR....A NURSE....B MIDWIFE....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT....D TRADITIONAL BIRTH ATTENDANT....E OTHER ________ F (SPECIFY) NO ONE....G (SKIP TO 409)	HEALTH PROFESSIONAL DOCTOR....A NURSE....B MIDWIFE....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT....D TRADITIONAL BIRTH ATTENDANT....E OTHER ________ F (SPECIFY) NO ONE....G (SKIP TO 409)
406	Were you given an antenatal ID card for this pregnancy?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
407	How many months pregnant were you when you first saw someone for an antenatal check on this pregnancy?	MONTHS.... [ ][ ] DK....98	MONTHS.... [ ][ ] DK....98	MONTHS.... [ ][ ] DK....98
408	How many antenatal visits did you have during this pregnancy?	NO. OF VISITS.... [ ][ ] DK....98	NO. OF VISITS.... [ ][ ] DK....98	NO. OF VISITS.... [ ][ ] DK....98
409	When you were pregnant with (NAME) were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES....1 NO....2 (SKIP TO 411) DK....8	YES....1 NO....2 (SKIP TO 411) DK....8	YES....1 NO....2 (SKIP TO 411) DK....8
410	During this pregnancy how many times did you get this injection?	TIMES.... [ ] DK....8	TIMES.... [ ] DK....8	TIMES.... [ ] DK....8

No.	Question	LAST BIRTH NAME __________	NEXT-TO-LAST BIRTH NAME __________	SECOND-FROM-LAST BIRTH NAME __________
411	Where did you give birth to (NAME)?	HOME YOUR HOME..............11 TBA'S HOME ....12 OTHER HOME.............13 PUBLIC SECTOR GVT. HOSPITAL/CLINIC...21 GVT. HEALTH CENTER.....22 GVT. HEALTH POST.......23 PRIVATE SECTOR PVT. HOSPITAL/CLINIC...31 MATERNITY HOME ....32 OTHER__________96 (SPECIFY)	HOME YOUR HOME..............11 TBA'S HOME ....12 OTHER HOME.............13 PUBLIC SECTOR GVT. HOSPITAL/CLINIC...21 GVT. HEALTH CENTER.....22 GVT. HEALTH POST.......23 PRIVATE SECTOR PVT. HOSPITAL/CLINIC...31 MATERNITY HOME ....32 OTHER__________96 (SPECIFY)	HOME YOUR HOME..............11 TBA'S HOME.............12 OTHER HOME.............13 PUBLIC SECTOR GVT. HOSPITAL/CLINIC...21 GVT. HEALTH CENTER.....22 GVT. HEALTH POST.......23 PRIVATE SECTOR PVT. HOSPITAL/CLINIC...31 MATERNITY HOME ....32 OTHER__________96 (SPECIFY)
412	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	HEALTH PROFESSIONAL DOCTOR..................A NURSE ....B MIDWIFE ....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT........D TRADITIONAL BIRTH ATTENDANT..............E RELATIVE................F OTHER__________G (SPECIFY) NO ONE....................H	HEALTH PROFESSIONAL DOCTOR..................A NURSE ....B MIDWIFE ....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT........D TRADITIONAL BIRTH ATTENDANT..............E RELATIVE................F OTHER__________G (SPECIFY) NO ONE....................H	HEALTH PROFESSIONAL DOCTOR..................A NURSE ....B MIDWIFE ....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT........D TRADITIONAL BIRTH ATTENDANT..............E RELATIVE................F OTHER__________G (SPECIFY) NO ONE....................H
413	Was (NAME) born on time or prematurely?	ON TIME..................1 PREMATURELY..............2 DK.......................8	ON TIME..................1 PREMATURELY..............2 DK.......................8	ON TIME..................1 PREMATURELY..............2 DK.......................8
414	Was (NAME) delivered by caesarian section?	YES......................1 NO.......................2	YES......................1 NO.......................2	YES......................1 NO.......................2
415	When (NAME) was born, was he/she: very large, larger than average, average, smaller than average, or very small?	VERY LARGE...............1 LARGER THAN AVERAGE......2 AVERAGE..................3 SMALLER THAN AVERAGE.....4 VERY SMALL...............5 DK.......................8	VERY LARGE...............1 LARGER THAN AVERAGE......2 AVERAGE..................3 SMALLER THAN AVERAGE.....4 VERY SMALL...............5 DK.......................8	VERY LARGE...............1 LARGER THAN AVERAGE......2 AVERAGE..................3 SMALLER THAN AVERAGE.....4 VERY SMALL...............5 DK.......................8
416	Was (NAME) weighed at birth?	YES......................1 NO.......................2 (SKIP TO 417B) <—	YES......................1 NO.......................2 (SKIP TO 417B) <—	YES......................1 NO.......................2 (SKIP TO 417B) <—
417A	How much did (NAME) weigh? ASK TO SEE THE WEIGHING CARD AND CORRECT WHERE NECESSARY	KILOGRAMS.........[ ].[ ] DK......................98	KILOGRAMS.........[ ].[ ] DK......................98	KILOGRAMS.........[ ].[ ] DK......................98
417B	Did you receive postnatal care within six weeks after delivery of (NAME)?	YES......................1 NO.......................2 (SKIP TO 418) <—	YES......................1 NO.......................2 (SKIP TO 419) <—	YES......................1 NO ....2 (SKIP TO 419 <—
417C	Who provided the postnatal care? Anyone else? PROBE FOR ALL PERSONS CONSULTED.	HEALTH PROFESSIONAL DOCTOR..................A NURSE ....B MIDWIFE ....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT........D TRADITIONAL BIRTH ATTENDANT..............E RELATIVE................F OTHER__________G (specify)	HEALTH PROFESSIONAL DOCTOR..................A NURSE ....B MIDWIFE ....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT........D TRADITIONAL BIRTH ATTENDANT..............E RELATIVE................F OTHER__________G (specify)	HEALTH PROFESSIONAL DOCTOR..................A NURSE ....B MIDWIFE ....C OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT........D TRADITIONAL BIRTH ATTENDANT..............E RELATIVE................F OTHER__________G (specify)

		LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
418	Have you had your menstrual period since birth of (NAME)?	YES ....1 (SKIP TO 420) NO....2 (SKIP TO 421)		
419	Did you have your menstrual period between the birth of (NAME) and your next pregnancy?		YES ....1 NO....2 (SKIP TO 423)	YES ....1 NO....2 (SKIP TO 423)
420	For how many months after the birth of (NAME) did you <u>not</u> have a menstrual period?	MONTHS.... [ ][ ] DK....98	MONTHS.... [ ][ ] DK....98	MONTHS.... [ ][ ] DK....98
421	CHECK 223: RESPONDENT PREGNANT?	NOT PREGNANT [ ] ↓ PREGNANT OR UNSURE [ ] (SKIP TO 423)		
422	Have you resumed sexual relations since the birth of (NAME)?	YES....1 NO....2 (SKIP TO 424)		
423	For how many months after the birth of (NAME) did you <u>not</u> have sexual relations?	MONTHS.... [ ][ ] DK....98	MONTHS.... [ ][ ] DK....98	MONTHS.... [ ][ ] DK....98
424	Did you ever breastfeed (NAME)?	YES....1 (SKIP TO 426) NO....2	YES....1 (SKIP TO 433) NO....2	YES....1 (SKIP TO 433) NO....2
425	Why did you not breastfeed (NAME)?	MOTHER ILL/WEAK....01 CHILD ILL/WEAK....02 CHILD DIED....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK....05 MOTHER WORKING....06 CHILD REFUSED....07 OTHER ______ 96 (SPECIFY) (SKIP TO 435)	MOTHER ILL/WEAK....01 CHILD ILL/WEAK....02 CHILD DIED....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK....05 MOTHER WORKING....06 CHILD REFUSED....07 OTHER ______ 96 (SPECIFY) (SKIP TO 435)	MOTHER ILL/WEAK....01 CHILD ILL/WEAK....02 CHILD DIED....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK....05 MOTHER WORKING....06 CHILD REFUSED....07 OTHER ______ 96 (SPECIFY) (SKIP TO 435)
426	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY....000 HOURS.... 1 [ ][ ] DAYS.... 2 [ ][ ]		
427	CHECK 216: CHILD ALIVE?	ALIVE [ ] ↓ DEAD [ ] (SKIP TO 433)		
428	Are you still breast-feeding (NAME)?	YES....1 NO....2 (SKIP TO 433)		

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		LAST BIRTH NAME ____________	NEXT-TO-LAST BIRTH NAME ____________	SECOND-FROM-LAST BIRTH NAME ____________
429	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS [ ][ ]		
430	How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS [ ][ ]		
431	At any time yesterday or last night was (NAME) given any of the following?: Plain water? Sugar water? Juice? Herbal tea? Baby formula? Fresh milk? Tinned or powdered milk? Other liquids? Any solid or mushy food?	YES NO PLAIN WATER..........1 2 SUGAR WATER..........1 2 JUICE................1 2 HERBAL TEA...........1 2 BABY FORMULA.........1 2 FRESH MILK...........1 2 TINNED/POWDERED MILK.1 2 OTHER LIQUIDS........1 2 SOLID/MUSHY FOOD.....1 2		
432	CHECK 431: FOOD OR LIQUID GIVEN YESTERDAY?	"YES" TO ONE OR MORE [ ] → (SKIP TO 437) "NO" TO ALL [ ] → (SKIP TO 436)		
433	For how many months did you breastfeed (NAME)?	MONTHS.............. [ ][ ] UNTIL DIED.............96 (SKIP TO 436)←	MONTHS.............. [ ][ ] UNTIL DIED.............96 (SKIP TO 436)←	MONTHS.............. [ ][ ] UNTIL DIED.............96 (SKIP TO 436)←
434	Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.......05 MOTHER WORKING..........06 CHILD REFUSED...........07 WEANING AGE.............08 BECAME PREGNANT.........09 STARTED USING CONTRACEPTION..........10 OTHER ____________ 96 (SPECIFY)	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.......05 MOTHER WORKING..........06 CHILD REFUSED...........07 WEANING AGE.............08 BECAME PREGNANT.........09 STARTED USING CONTRACEPTION..........10 OTHER ____________ 96 (SPECIFY)	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.......05 MOTHER WORKING..........06 CHILD REFUSED...........07 WEANING AGE.............08 BECAME PREGNANT.........09 STARTED USING CONTRACEPTION..........10 OTHER ____________ 96 (SPECIFY)
435	CHECK 216: CHILD ALIVE?	ALIVE [ ] → (SKIP TO 437) DEAD [ ] ↓	ALIVE [ ] → (SKIP TO 437) DEAD [ ] ↓	ALIVE [ ] → (SKIP TO 437) DEAD [ ] ↓
436	Was (NAME) ever given water or anything else to drink or eat (other than breastmilk)?	YES.....................1 NO......................2 (SKIP TO 440)←	YES.....................1 NO......................2 (SKIP TO 440)←	YES.....................1 NO......................2 (SKIP TO 440)←

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
437	How many months old was (NAME) when you started giving the following on a regular basis?: Formula or milk other than breastmilk?	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	Plain water? (water without any additive)	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	Other liquids? (Koko, rice water, etc)	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	Any solid or mushy food? (Weanimix, mashed yam, mpotompoto, etc.) IF LESS THAN 1 MONTH, RECORD '00'.	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96 (SKIP TO 440)	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96 (SKIP TO 440)
438	CHECK 216: CHILD ALIVE?	ALIVE ☐ DEAD ☐ (SKIP TO 440)		
439	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....1 NO.....2 DK.....8		
440	GO BACK TO 403 FOR NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO FIRST COLUMN OF 441			

441 ENTER THE LINE NUMBER AND NAME OF EACH BIRTH SINCE JANUARY 1990 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).

	LINE NUMBER FROM Q. 212			
		LAST BIRTH NAME _____ ALIVE ☐ DEAD ☐	NEXT-TO-LAST BIRTH NAME _____ ALIVE ☐ DEAD ☐	SECOND-FROM-LAST BIRTH NAME _____ ALIVE ☐ DEAD ☐
442	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it, please?	YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3	YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3	YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3
443	Did you ever have a vaccination card for (NAME)?	YES.....1 (SKIP TO 446) NO.....2	YES.....1 (SKIP TO 446) NO.....2	YES.....1 (SKIP TO 446) NO.....2
444	(1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE RECORDED. BCG POLIO 1 POLIO 2 POLIO 3 DPT 1 DPT 2 DPT 3 MEASLES	DAY MO YR BCG P1 P2 P3 D1 D2 D3 MEA	DAY MO YR BCG P1 P2 P3 D1 D2 D3 MEA	DAY MO YR BCG P1 P2 P3 D1 D2 D3 MEA
445	Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 1-3 AND/OR MEASLES VACCINE(S).	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 448)	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 448)	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 448)
446	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES.....1 NO.....2 (SKIP TO 448) DK.....8	YES.....1 NO.....2 (SKIP TO 448) DK.....8	YES.....1 NO.....2 (SKIP TO 448) DK.....8

		LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
447	Please tell me if (NAME) (has) received any of the following vaccinations:			
	A BCG vaccination against tuberculosis, that is, an injection in the right shoulder that caused a scar?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
	Polio vaccine, that is, drops in the mouth?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
	IF YES: How many times?	NUMBER OF TIMES....[ ]	NUMBER OF TIMES....[ ]	NUMBER OF TIMES....[ ]
	An injection against measles?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
448	CHECK 216: CHILD ALIVE?	ALIVE [ ] DEAD [ ] (SKIP TO 450)	ALIVE [ ] DEAD [ ] (SKIP TO 450)	ALIVE [ ] DEAD [ ] (SKIP TO 450)
449	GO BACK TO 442 FOR NEXT COLUMN; OR, IF NO MORE BIRTHS, SKIP TO 480.			
450	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES....1 NO....2 DK....3 (SKIP TO 455)	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
451	Was anything given to treat the fever?	YES....1 NO....2 (SKIP TO 453) DK....8	YES....1 NO....2 (SKIP TO 453) DK....8	YES....1 NO....2 (SKIP TO 453) DK....8
452	What was given to treat the fever? Anything else? RECORD ALL MENTIONED.	INJECTION....A ANTIBIOTIC (PILL OR SYRUP)....B ANTIMALARIAL (PILL OR SYRUP)....C COUGH SYRUP....D OTHER PILL OR SYRUP....E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE....G OTHER ____ H (SPECIFY)	INJECTION....A ANTIBIOTIC (PILL OR SYRUP)....B ANTIMALARIAL (PILL OR SYRUP)....C COUGH SYRUP....D OTHER PILL OR SYRUP....E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE....G OTHER ____ H (SPECIFY)	INJECTION....A ANTIBIOTIC (PILL OR SYRUP)....B ANTIMALARIAL (PILL OR SYRUP)....C COUGH SYRUP....D OTHER PILL OR SYRUP....E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE....G OTHER ____ H (SPECIFY)
453	Did you seek advice or treatment for the fever?	YES....1 NO....2 (SKIP TO 455)	YES....1 NO....2 (SKIP TO 455)	YES....1 NO....2 (SKIP TO 455)
454	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST./CHEMIST.G PRIVATE DOCTOR/CLINIC....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ____ M (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST./CHEMIST.G PRIVATE DOCTOR/CLINIC....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ____ M (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST./CHEMIST..G PRIVATE DOCTOR/CLINIC....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ____ M (SPECIFY)

		LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
455	Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES....1 NO....2 (SKIP TO 460) DK....8	YES....1 NO....2 (SKIP TO 460) DK....8	YES....1 NO....2 (SKIP TO 460) DK....8
456	Has (NAME) been ill with a cough in the last 24 hours?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
457	For how many days (has the cough lasted/did the cough last)? **IF LESS THAN 1 DAY, RECORD '00'.**	DAYS....[ ][ ]	DAYS....[ ][ ]	DAYS....[ ][ ]
458	When (NAME) had the illness with a cough, did he/she breathe faster than usual with short, rapid breaths?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
459A	Was anything given to treat the cough?	YES....1 NO....2 (SKIP TO 459C) DK....8	YES....1 NO....2 (SKIP TO 459C) DK....8	YES....1 NO....2 (SKIP TO 459C) DK....8
459B	What was given to treat the cough? Anything else? **RECORD ALL MENTIONED.**	INJECTION....A ANTIBIOTIC (PILL OR SYRUP)....B ANTIMALARIAL (PILL OR SYRUP)....C COUGH SYRUP....D OTHER PILL OR SYRUP....E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE....G OTHER ________ H (SPECIFY)	INJECTION....A ANTIBIOTIC (PILL OR SYRUP)....B ANTIMALARIAL (PILL OR SYRUP)....C COUGH SYRUP....D OTHER PILL OR SYRUP....E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE....G OTHER ________ H (SPECIFY)	INJECTION....A ANTIBIOTIC (PILL OR SYRUP)....B ANTIMALARIAL (PILL OR SYRUP)....C COUGH SYRUP....D OTHER PILL OR SYRUP....E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE....G OTHER ________ H (SPECIFY)
459C	Did you seek advice or treatment for the cough?	YES....1 NO....2 (SKIP TO 460)	YES....1 NO....2 (SKIP TO 460)	YES....1 NO....2 (SKIP TO 460)
459D	Where did you seek advice or treatment? Anywhere else? **RECORD ALL MENTIONED.**	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST./CHEMIST.G PRIVATE DOCTOR/CLINIC....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ________ M (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST./CHEMIST.G PRIVATE DOCTOR/CLINIC....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ________ M (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST/CHEMIST..G PRIVATE DOCTOR/CLINIC....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ________ M (SPECIFY)
460	Has (NAME) had diarrhoea in the last two weeks?	YES....1 (SKIP TO 462) NO....2 DK....8	YES....1 (SKIP TO 462) NO....2 DK....8	YES....1 (SKIP TO 462) NO....2 DK....8
461	**GO BACK TO 442 FOR NEXT COLUMN; OR, IF NO MORE BIRTHS, SKIP TO 480**			
462	Has (NAME) had diarrhoea in the last 24 hours?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8
463	For how many days (has the diarrhoea lasted/did the diarrhoea last)? **IF LESS THAN 1 DAY, RECORD '00'.**	DAYS....[ ][ ]	DAYS....[ ][ ]	DAYS....[ ][ ]

		LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
464	Was there any blood in the stools?	YES....1 NO....2 DK....8	YES....1 NO....2 DK....8 (SKIP TO 468)	YES....1 NO....2 DK....8 (SKIP TO 468)
465	**CHECK 424/428: LAST CHILD STILL BREASTFED?**	YES ☐ NO ☐ → (SKIP TO 468)		
466	During (NAME)'s diarrhoea, did you change the frequency of breastfeeding?	YES....1 NO....2 → (SKIP TO 468)		
467	Did you <u>increase</u> the number of breastfeeds or <u>reduce</u> them, or did you <u>stop completely</u>?	INCREASED....1 REDUCED....2 STOPPED COMPLETELY....3		
468	(Aside from breastmilk) Was he/she given the same amount to drink as before the diarrhoea, or more, or less?	SAME....1 MORE....2 LESS....3 DK....8	SAME....1 MORE....2 LESS....3 DK....8	SAME....1 MORE....2 LESS....3 DK....8
469	Was anything given to treat the diarrhoea?	YES....1 NO....2 DK....8 (SKIP TO 471)	YES....1 NO....2 DK....8 (SKIP TO 471)	YES....1 NO....2 DK....8 (SKIP TO 471)
470	What was given to treat the diarrhoea? Anything else? **RECORD ALL MENTIONED.**	FLUID FROM ORS PACKET....A RECOMMENDED HOME FLUID...B ANTIBIOTIC (PILL OR SYRUP)....C OTHER PILL OR SYRUP....D INJECTION....E (I.V.) INTRAVENOUS....F HOME REMEDIES/ HERBAL MEDICINES....G OTHER ______ H (SPECIFY)	FLUID FROM ORS PACKET....A RECOMMENDED HOME FLUID...B ANTIBIOTIC (PILL OR SYRUP)....C OTHER PILL OR SYRUP....D INJECTION....E (I.V.) INTRAVENOUS....F HOME REMEDIES/ HERBAL MEDICINES....G OTHER ______ H (SPECIFY)	FLUID FROM ORS PACKET....A RECOMMENDED HOME FLUID...B ANTIBIOTIC (PILL OR SYRUP)....C OTHER PILL OR SYRUP....D INJECTION....E (I.V.) INTRAVENOUS....F HOME REMEDIES/ HERBAL MEDICINES....G OTHER ______ H (SPECIFY)
471	Did you seek advice or treatment for the diarrhoea?	YES....1 NO....2 → (SKIP TO 473)	YES....1 NO....2 → (SKIP TO 473)	YES....1 NO....2 → (SKIP TO 473)
472	Where did you seek advice or treatment? Anywhere else? **RECORD ALL MENTIONED.**	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST/CHEMIST..G PRIVATE DOCTOR....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ______ M (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST/CHEMIST..G PRIVATE DOCTOR....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ______ M (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL/CLINIC....A GVT. HEALTH CENTER....B GVT. HEALTH POST....C MOBILE CLINIC....D COMMUNITY HEALTH WORKER..E MEDICAL PRIVATE SECTOR PVT. HOSPITAL....F PHARMACY/DRUGST/CHEMIST..G PRIVATE DOCTOR....H MOBILE CLINIC....I COMMUNITY HEALTH WORKER..J OTHER PRIVATE SECTOR SHOP....K TRADITIONAL PRACTITIONER....L OTHER ______ M (SPECIFY)
473	**CHECK 470:** **ORS FLUID FROM PACKET MENTIONED?**	NO, ORS FLUID NOT MENTIONED ☐ YES, ORS FLUID MENTIONED ☐ → (SKIP TO 475B)	NO, ORS FLUID NOT MENTIONED ☐ YES, ORS FLUID MENTIONED ☐ → (SKIP TO 475B)	NO, ORS FLUID NOT MENTIONED ☐ YES, ORS FLUID MENTIONED ☐ → (SKIP TO 475B)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
474	Was (NAME) given PHERMEROL when he/she had the diarrhoea?	YES.....1 (SKIP TO 475B) NO.....2 DK.....8	YES.....1 (SKIP TO 475B) NO.....2 DK.....8	YES.....1 (SKIP TO 475B) NO.....2 DK.....8
475A	Was (NAME) given ORS when he/she had the diarrhoea?	YES.....1 NO.....2 (SKIP TO 476) DK.....8	YES.....1 NO.....2 (SKIP TO 476) DK.....8	YES.....1 NO.....2 (SKIP TO 476) DK.....8
475B	For how many days was (NAME) given (PHERMEROL) (ORS)? IF LESS THAN 1 DAY, RECORD '00'.	DAYS..... ☐☐ DK.....98	DAYS..... ☐☐ DK.....98	DAYS..... ☐☐ DK.....98
476	CHECK 470: RECOMMENDED HOME FLUID MENTIONED?	NO, HOME FLUID NOT MENTIONED ☐ YES, HOME FLUID MENTIONED ☐ (SKIP TO 478)	NO, HOME FLUID NOT MENTIONED ☐ YES, HOME FLUID MENTIONED ☐ (SKIP TO 478)	NO, HOME FLUID NOT MENTIONED ☐ YES, HOME FLUID MENTIONED ☐ (SKIP TO 478)
477	Was (NAME) given a recommended home fluid made from eg. rice water, kenkey water when he/she had the diarrhoea?	YES.....1 NO.....2 (SKIP TO 479) DK.....8	YES.....1 NO.....2 (SKIP TO 479) DK.....8	YES.....1 NO.....2 (SKIP TO 479) DK.....8
478	For how many days was (NAME) given the fluid made from eg. rice water,kenkey water? IF LESS THAN 1 DAY, RECORD '00'.	DAYS..... ☐☐ DK.....98	DAYS..... ☐☐ DK.....98	DAYS..... ☐☐ DK.....98
479	GO BACK TO 442 FOR NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 480			

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
480	**CHECK 470, 474 AND 475A (ALL COLUMNS):** **ORS FLUID FROM PACKET GIVEN TO ANY CHILD** ☐	☐ **ORS FLUID FROM PACKET NOT GIVEN TO ANY CHILD OR 470, 474 AND 475A NOT ASKED**	→484
481	Have you ever heard of a special product called ORS which you can get for the treatment of diarrhoea?	YES.....1 NO.....2	→483
482	Have you ever seen a packet like this before? **SHOW PACKET.**	YES.....1 NO.....2	→487
483	Have you ever prepared a solution with one of these packets to treat diarrhoea in yourself or someone else? **SHOW PACKET.**	YES.....1 NO.....2	→486
484	The last time you prepared the ORS, did you prepare the whole packet at once or only part of the packet?	WHOLE PACKET AT ONCE.....1 PART OF PACKET.....2	→486
485	How much water did you use to prepare ORS the last time you made it?	1\2 LITER.....01 1 LITER.....02 1 1\2 LITERS.....03 1 BEER BOTTLE.....04 FOLLOWED PACKAGE INSTRUCTIONS..05 OTHER_____96 (SPECIFY) DK.....98	
486	Where can you get the ORS or PHERMEROL packet? **PROBE:** Anywhere else? **RECORD ALL PLACES MENTIONED.**	PUBLIC SECTOR GOVERNMENT HOSPITAL/CLINIC.....A GOVERNMENT HEALTH CENTER.....B GOVERNMENT HEALTH POST.....C MOBILE CLINIC.....D COMMUNITY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL .....F PHARMACY/DRUG STORE/CHEMIST....G PRIVATE CLINIC/DOCTOR.....H MOBILE CLINIC.....I COMMUNITY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L OTHER_____M (SPECIFY)	
487	**CHECK 470 AND 477 (ALL COLUMNS):** **HOME-MADE FLUID GIVEN TO ANY CHILD** ☐	☐ **HOME-MADE FLUID NOT GIVEN TO ANY CHILD OR 470 AND 477 NOT ASKED**	→501
488	Where did you learn to prepare the recommended home fluid made from sugar, salt and water given to (NAME) when he/she had diarrhoea?	PUBLIC SECTOR GOVERNMENT HOSPITAL/CLINIC....11 GOVERNMENT HEALTH CENTER.....12 GOVERNMENT HEALTH POST.....13 MOBILE PUBLIC SECTOR.....14 COMMUNITY HEALTH WORKER.....15 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL .....21 PHARMACY/DRUG STORE/CHEMIST...22 PRIVATE CLINIC/DOCTOR.....23 MOBILE CLINIC.....24 COMMUNITY HEALTH WORKER.....25 OTHER PRIVATE SECTOR TRADITIONAL PRACTITIONER.....31 SHOP.....32 OTHER_____96 (SPECIFY)	

SECTION 5. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	Have you ever been married or lived with a man?	YES.....1 NO.....2	>512
502	Are you now married or living with a man, or are you now widowed, divorced, or no longer living together?	MARRIED.....1 CONSENSUAL UNION.....2 WIDOWED.....3 DIVORCED.....4 SEPARATED.....5	>507
503	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER.....1 STAYING ELSEWHERE.....2	
504	Does your husband/partner have any other wives besides yourself?	YES.....1 NO.....2	>507
505	How many other wives does he have?	NUMBER..... DK.....98	>507
506	Are you the first, second,...wife?	RANK.....	
507	Have you been married or lived with a man only once, or more than once?	ONCE.....1 MORE THAN ONCE.....2	
508	In what month and year did you start living with your (first) husband/partner?	MONTH..... DK MONTH.....98 YEAR..... DK YEAR.....98	
509	How old were you when you started living with him?	AGE..... DK AGE.....98	
510	**CHECK 508 AND 509:** **YEAR AND AGE GIVEN?** YES ☐ NO ☐		>513

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
511	**CHECK CONSISTENCY OF 508 AND 509:** YEAR OF BIRTH (105) ☐☐ PLUS + AGE AT MARRIAGE (509) ☐☐ = CALCULATED YEAR OF MARRIAGE ☐☐ **IF NECESSARY, CALCULATE YEAR OF BIRTH** CURRENT YEAR 9 3 MINUS - CURRENT AGE (106) ☐☐ = CALCULATED YEAR OF BIRTH ☐☐ **IS THE CALCULATED YEAR OF MARRIAGE WITHIN ONE YEAR OF THE REPORTED YEAR OF MARRIAGE (508) ?** YES ☐ →(SKIP TO 513) NO ☐ →PROBE AND CORRECT 508 AND 509.		
512	**IF NEVER IN UNION:** Have you ever had sexual intercourse?	YES.....1 NO.....2	→517
513	Now I would like to talk to you about some aspects of your sexual life in order to get a better understanding of family planning and fertility. How many times did you have sexual intercourse in the last four weeks?	TIMES..... ☐☐	
514	How many times in a month do you usually have sexual intercourse?	TIMES..... ☐☐	
515	When was the last time you had sexual intercourse?	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO.....4 ☐☐ BEFORE LAST BIRTH.....996	
516	How old were you when you first had sexual intercourse?	AGE..... ☐☐ FIRST TIME WHEN MARRIED.....96	
517	**PRESENCE OF OTHERS AT THIS POINT.**	YES NO CHILDREN UNDER 10.....1 2 HUSBAND.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	

SECTION 6A. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
601	CHECK 312: NEITHER STERILIZED ☐ → v HE OR SHE STERILIZED ☐		→607
602	CHECK 502: CURRENTLY MARRIED OR LIVING TOGETHER ☐ → v NOT MARRIED/ NOT LIVING TOGETHER ☐		→614
603	CHECK 223: NOT PREGNANT OR UNSURE ☐ → v 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? PREGNANT ☐ → v Now I have some questions about the future. After the child you are expecting, 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 CANNOT GET PREGNANT.....3 UNDECIDED OR DK 8	→610
604	CHECK 223: NOT PREGNANT OR UNSURE ☐ → v How long would you like to wait from now before the birth of (a/another) child? PREGNANT ☐ → v How long would you like to wait after the birth of the child you are expecting before the birth of another child? (RECORD IN MONTHS IF LESS THAN 2 YEARS)	MONTHS.....1 ☐☐ YEARS.....2 NOW .....994 CANNOT GET PREGNANT .....995 OTHER _____ 996 (SPECIFY) DK.....998	→610
605	CHECK 216 AND 223: HAS LIVING CHILD(REN) OR PREGNANT? YES ☐ → v NO ☐		→610
606	CHECK 223: NOT PREGNANT OR UNSURE ☐ → v How old would you like your youngest child to be when your next child is born? PREGNANT ☐ → v How old would you like the child you are expecting to be when your next child is born?	AGE OF CHILD YEARS..... ☐☐ DK 98	→610
607	Given your present circumstances, if you had to do it over again, do you think (you/your husband/partner) would make the same decision to have an operation not to have any more children?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
608	Do you regret that (you/your husband/partner) had the operation not to have any (more) children?	YES.....1 NO.....2	→614
609	Why do you regret it?	RESPONDENT WANTS ANOTHER CHILD....1 PARTNER WANTS ANOTHER CHILD.....2 BOTH PARTNERS WANT ANOTHER CHILD .3 SIDE EFFECTS.....4 OTHER REASON_____6 (SPECIFY)	→614
610	Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8	
611	How often have you talked to your husband/partner about family planning in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3	
612	Have you and your husband/partner ever discussed the number of children you would like to have?	YES.....1 NO.....2	
613	Do you think your husband/partner wants the <u>same</u> number of children that you want, or does he want <u>more</u> or <u>fewer</u> than you want?	SAME NUMBER.....1 MORE CHILDREN.....2 FEWER CHILDREN.....3 DK.....8	
614	How long should a couple wait before starting sexual intercourse after the birth of a baby? **(RECORD IN MONTHS IF LESS THAN 2 YEARS)**	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ OTHER_____996 (SPECIFY)	
615	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2	
616	In general, do you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE.....1 DISAPPROVE.....2	→617
616B	Who do you think should decide on which method to use?	SELF.....01 SPOUSE.....02 BOTH OF US.....03 HEALTH PROFESSIONAL.....04 RELATIVE.....05 FRIEND.....06 OTHER_____96 (SPECIFY)	
617	**CHECK 216:** **HAS LIVING CHILD(REN)** ☐ → 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? **RECORD ONE NUMBER OR OTHER ANSWER.** **IF "NONE" CIRCLE 96 AND RECORD RESPONSE.**	NUMBER..... ☐☐ OTHER ANSWER_____96 (SPECIFY)	→619

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
618	How many of those children would be sons? And how many would be daughters?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ UP TO GOD.....999995 OTHER ANSWER_____999996	
619	What do you think is the best number of months or years between the birth of one child and the birth of the next child? **RECORD MONTHS IF LESS THAN 2 YEARS**	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ OTHER_____996 (SPECIFY)	

SECTION 6B. MATERNAL MORTALITY

Now I would like to ask you some questions about all female children born to your mother.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
620	How many daughters did your mother ever give birth to including yourself and those who are now dead?	DAUGHTERS ..... ☐☐ **IF 01, SKIP TO 701**
621	How many of these daughters born to your mother ever reached age 15? **CHECK THAT FEMALE RESPONDENT INCLUDES HERSELF AS ONE OF THE DAUGHTERS.**	REACHED AGE 15..... ☐☐ **IF 01, SKIP TO 701**
622	How many of these daughters who reached age 15 are alive now?	ALIVE ..... ☐☐
623	How many of these daughters who reached age 15 are dead? **CHECK THAT SUM OF Q622 AND Q623 IS EQUAL TO Q621.**	DEAD ..... ☐☐ **IF 00, SKIP TO 701**
624	How many of these dead daughters died during pregnancy?	DURING PREGNANCY ..... ☐☐
625	How many of these dead daughters died during childbirth?	DURING CHILDBIRTH..... ☐☐
626	How many of these dead daughters died during the six weeks after the end of a pregnancy?	AFTER PREGNANCY ..... ☐☐
627	**SUM ANSWERS TO Q624, Q625 AND Q626.**	SUM MATERNAL DEATHS..... ☐☐

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SECTION 7A. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701	CHECK 501: EVER MARRIED OR LIVED TOGETHER ☐ → ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER. NEVER MARRIED/ NEVER LIVED TOGETHER ☐		→708
702	Did your (last) husband/partner ever attend school?	YES.....1 NO.....2	→705
703	What was the highest level of school he attended: primary, middle/jss, secondary or higher?	PRIMARY .....1 MIDDLE/JSS.....2 SSS/COMM/VOC/TECH .....3 POST SEC./NURSING/POLYTECH.....4 HIGHER .....5 DK.....8	→705
704	What was the highest (grade/form/year) he completed at that level?	GRADE..... ☐☐ DK.....98	
705	What kind of work does (did) your (last) husband/partner mainly do? IF DK, RECORD RESPONSE AND SKIP TO 708	☐☐ _____ _____ _____	TO BE CODED BY EDITOR
706	CHECK 705: MAINLY WORKS (WORKED) IN FARMING ☐ → DOES (DID) NOT WORK MAINLT IN FARMING ☐		→708
707	(Does/did) your husband/partner work mainly on his own land or family land, or (does/did) he rent land, or (does/did) he work on someone else's land?	HIS/FAMILY LAND.....1 RENTED LAND.....2 SOMEONE ELSE'S LAND.....3	
708	Apart from your own housework, are you currently working?	YES.....1 NO.....2	→710
709	As you know, some women take up jobs for which they are paid in cash or in kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES.....1 NO.....2	→721
710	What is your occupation, that is, what kind of work do you do?	☐☐ _____ _____ _____	TO BE CODED BY EDITOR

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
711	In your current work, do you work for a member of your family, for someone else, or are you self-employed? **PROBE: FOR GOVERNMENT WORKER**	FOR FAMILY MEMBER.....1 FOR SOMEONE ELSE.....2 SELF-EMPLOYED.....3 FOR GOVERNMENT 4	
712	Do you earn cash for this work? **PROBE:** Do you make money for working?	YES.....1 NO.....2	
713	Do you do this work at home or away from home?	HOME.....1 AWAY.....2	
714	**CHECK 215/216/218:** **HAS WOMAN A CHILD BORN SINCE JAN. 1988 AND LIVING AT HOME?**	YES ☐ ↓ NO ☐	→721
715	While you are working, do you <u>usually</u> have (NAME OF YOUNGEST CHILD AT HOME) with you, <u>sometimes</u> have him/her with you, or <u>never</u> have him/her with you?	USUALLY.....1 SOMETIMES.....2 NEVER.....3	→721
716	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	HUSBAND/PARTNER.....01 OLDER CHILD(REN).....02 OTHER RELATIVES.....03 NEIGHBOURS.....04 FRIENDS.....05 SERVANTS/HIRED HELP.....06 CHILD IS IN SCHOOL.....07 CRECHE/NURSERY.....08 OTHER_____96 (SPECIFY)	

35

SECTION 7B. AIDS KNOWLEDGE AND OTHER SEXUALLY TRANSMITTED DISEASES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
721	Now I have a few questions about a very important topic. Have you heard of an illness called AIDS?	YES.....1 NO.....2 ——>729	
722	From which sources of information or persons have you heard about AIDS in the last month? **CIRCLE ALL MENTIONED.**	RADIO.....A TV.....B NEWSPAPERS.....C HEALTH WORKERS.....D MOSQUES/CHURCHES.....E FRIENDS/RELATIVES.....F SCHOOLS.....G SLOGANS/MUSIC .....H PAMPHLETS/POSTERS .....I COMMUNITY MEETINGS.....J OTHER_____K (SPECIFY) NONE.....L	
723	How is AIDS transmitted? **CIRCLE ALL MENTIONED.**	NEEDLES/BLADES/SKIN WOUND.....A MOTHER TO CHILD .....B SEXUAL INTERCOURSE.....C TRANSFUSION OF INFECTED BLOOD...D OTHER_____E (SPECIFY) DON'T KNOW.....F	
724	Do you think that you can get AIDS from	YES NO	
	shaking hands with someone who has AIDS?	HANDSHAKING.....1 2	
	hugging someone who has AIDS?	HUGGING.....1 2	
	kissing someone who has AIDS?	KISSING.....1 2	
	sexual intercourse with someone with AIDS?	SEXUAL INTERCOURSE.....1 2	
	wearing the clothes of someone who has AIDS?	SHARING CLOTHES.....1 2	
	sharing eating utensils with someone who has AIDS?	SHARING EATING UTENSILS....1 2	
	stepping on the saliva, urine or stool of someone who has AIDS?	STEPPING ON URINE/STOOL....1 2	
	mosquito, flea or bedbug bites?	MOSQUITO/FLEA/BEDBUG BITES.1 2	
	not using a condom?	NOT USING A CONDOM.....1 2	
725	Is it possible for a healthy looking person to have the AIDS virus?	YES.....1 NO.....2 DK.....8	
726	Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus?	YES.....1 NO.....2 DK.....8	
727	What do you suggest is the most important thing the government should do for people who have AIDS?	PROVIDE FREE MEDICAL TREATMENT..1 HELP RELATIVES PROVIDE CARE.....2 ISOLATE/QUARANTINE.....3 SHOULD NOT BE INVOLVED.....4 OTHER_____6 (SPECIFY)	
728	If your relative is suffering from AIDS, who would you prefer to care for him/her?	RELATIVES.....1 FRIENDS.....2 GOVERNMENT ORGANISATION.....3 RELIGIOUS ORG/MISSION.....4 NOBODY/ABANDON.....5 OTHER_____6 (SPECIFY)	

Now I would like to talk to you about other diseases apart from AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
729	Have you heard of other diseases apart from AIDS which could be transmitted through sexual intercourse?	YES.....1 NO.....2	——>737
730	Name the diseases. Any other? **CIRCLE AS MANY AS MENTIONED.**	GONORRHEA.....A SYPHILIS.....B HERPES.....C HEPATITIS.....D OTHER_____E (SPECIFY)	
731	**CHECK 730 FOR DISEASES MENTIONED AND ASK Q 732 - Q 736 WHERE APPROPRIATE.**		
732	Where can one go to treat gonorrhea? **CIRCLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MNTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MNTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)	

37

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
733	Where can one go to treat syphilis? **CIRCLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)
734	Where can one go to treat herpes? **CIRCLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
735	Where can one go to treat hepatitis? CIRCLE ALL MENTIONED	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)
736	Where can one go to treat .....? (NAME OF DISEASE RECORDED ON THE "OTHER SPECIFY" LINE OF Q 730). CIRCLE ALL MENTIONED	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)
737	RECORD THE TIME	HOUR..... ☐☐ MINUTES..... ☐☐

SECTION 8. LANGUAGE INFORMATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
801	WHAT IS THE RESPONDENT'S OWN LANGUAGE?	TWI.....01 FANTI .....02 GA-ADANGBE.....03 EWE .....04 NZEMA .....05 DAGBANI .....06 HAUSA .....07 ENGLISH .....08 OTHER_____96 (SPECIFY)	
802	IN WHAT LANGUAGE DID YOU CONDUCT THE INTERVIEW?	TWI.....01 FANTI.....02 GA-ADANGBE.....03 EWE.. .....04 NZEMA.....05 DAGBANI.....06 HAUSA.. .....07 ENGLISH.....08 OTHER_____96 (SPECIFY)	
803	FOR HOW MUCH OF THE INTERVIEW DID YOU DEPEND ON A THIRD PERSON TO INTERPRET FOR YOU?	NONE OF THE INTERVIEW .....1 A SMALL PORTION .....2 MOST OF THE INTERVIEW .....3 ALL OF THE INTERVIEW 4	>901
804	IF AN INTERPRETER WAS USED, INDICATE THE SEX AND APPROXIMATE AGE OF THE INTERPRETER.	ADULT FEMALE .....1 TEENAGE FEMALE .....2 ADULT MALE .....3 TEENAGE MALE .....4 CHILD 5	

SECTION 9. HEIGHT, WEIGHT AND ARM CIRCUMFERENCE

901	CHECK 222:			
	ONE OR MORE BIRTHS SINCE JAN. 1990	☐ V	NO BIRTHS SINCE JAN. 1990	☐ → END

INTERVIEWER: IN 902 (COLUMNS 2-4) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1990 AND STILL ALIVE. IN 903 AND 904 RECORD THE NAME AND BIRTH DATE FOR THE RESPONDENT AND FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1990. IN 906 AND 908 RECORD HEIGHT AND WEIGHT OF THE RESPONDENT AND THE LIVING CHILDREN. (NOTE: ALL RESPONDENTS WITH ONE OR MORE BIRTHS SINCE JANUARY 1990 SHOULD BE WEIGHED AND MEASURED EVEN IF ALL OF THE CHILDREN HAVE DIED. IF THERE ARE MORE THAN 3 LIVING CHILDREN BORN SINCE JANUARY 1990, USE ADDITIONAL FORMS).

	1 RESPONDENT	2 YOUNGEST LIVING CHILD	3 NEXT-TO-YOUNGEST LIVING CHILD	4 SECOND-TO-YOUNGEST LIVING CHILD
902 LINE NO. FROM Q.212		☐☐	☐☐	☐☐
903 NAME FROM Q.212 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
904 DATE OF BIRTH FROM Q.105 FOR RESPONDENT FROM Q.215 FOR CHILDREN, AND ASK FOR DAY OF BIRTH	MONTH.... ☐☐ YEAR..... ☐☐	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐
905 BCG SCAR ON TOP OF SHOULDER		SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2
906 HEIGHT (in centimeters)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
907 WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?		LYING.....1 STANDING.....2	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
908 WEIGHT (in kilograms)	☐☐☐.☐	0☐☐.☐	0☐☐.☐	0☐☐.☐
909 LEFT UPPER ARM CIRCUMFERENCE (in MM)	☐☐☐	☐☐☐	☐☐☐	☐☐☐
910 DATE WEIGHED AND MEASURED	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐
911 RESULT	MEASURED.....1 NOT PRESENT....3 REFUSED.....4 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)

912 NAME OF MEASURER: _____ ☐☐ NAME OF ASSISTANT: _____ ☐☐

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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: _____

REPUBLIC OF GHANA
GHANA DEMOGRAPHIC AND HEALTH SURVEY -1993.
MALE QUESTIONNAIRE (ENGLISH)

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

E A NUMBER ..... [ ][ ][ ]

STRUCTURE NUMBER..... [ ][ ][ ]

HOUSEHOLD NUMBER ..... [ ][ ]

REGION..... [ ][ ]

URBAN/RURAL (urban=1, rural=2)..... [ ]

NAME AND LINE NUMBER OF RESPONDENT _____ [ ][ ]
(copy from household schedule)

NAME AND LINE NUMBER OF WIFE _____ [ ][ ]

NAME AND LINE NUMBER OF SECOND WIFE _____ [ ][ ]

NAME AND LINE NUMBER OF THIRD WIFE _____ [ ][ ]

ENTER '98', IF NOT MARRIED AND
'99' IF PARTNER IS NOT A MEMBER OF HOUSEHOLD

FOR OFFICE USE

LARGE CITY/MEDIUM CITY/SMALL CITY/TOWN/VILLAGE..... [ ]
(large city=1, medium city=2, small city=3, town=4, village=5)

Large city	1,000,000 and over	Town	5,000 - 49,999
Medium city	500,000 - 999,999	Village	< 5,000
Small city	50,000 - 499,999		

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY [ ][ ]
				MONTH [ ][ ]
				YEAR [ ][ ]
INTERVIEWER'S NAME	_____	_____	_____	NAME [ ][ ]
RESULT *	_____	_____	_____	RESULT [ ]
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS [ ]
TIME	_____	_____		

* RESULT CODES:

1 COMPLETED	4 REFUSED	7 OTHER _____
2 NOT AT HOME	5 PARTLY COMPLETED	(SPECIFY)
3 POSTPONED	6 INCAPACITATED	

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME	_____	_____	_____	
DATE	_____	_____	_____	[ ][ ]

SECTION M1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M101	**RECORD THE TIME.**	HOUR..... ☐☐ MINUTES..... ☐☐	
M102	First I would like to ask some questions about your background. For most of the time until you were 12 years old, did you live in a city, in a town or in a village?	CITY .....1 TOWN .....2 VILLAGE 3	
M103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? **IF LESS THAN A YEAR, CODE "00"**	YEARS..... ☐☐ ALWAYS.....95 VISITOR.....96	>M105
M104	Just before you moved here, did you live in a city, town or village?	CITY .....1 TOWN .....2 VILLAGE.....3	
M105	In what month and year were you born?	MONTH..... ☐☐ DK MONTH.....98 YEAR..... ☐☐ DK YEAR.....98	
M106	How old were you at your last birthday? **COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.**	AGE IN COMPLETED YEARS..... ☐☐	
M107	Have you ever attended school?	YES.....1 NO.....2	>M111
M108	What was the highest level of school you attended: primary, middle/jss, secondary, or higher?	PRIMARY..... 1 MIDDLE/JSS..... 2 SSS/COMM/VOC/TECH..... 3 POST SEC./NURSING/POLYTECH..... 4 HIGHER..... 5	
M109	What was the highest (GRADE/FORM/YEAR) you completed at that level?	GRADE..... ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M110	CHECK 108: PRIMARY OR MIDDLE/JSS → M111 SECONDARY/SSS OR HIGHER → M112		
M111	Can you read and understand a letter or newspaper easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	→M113
M112	Do you usually read a newspaper or magazine at least once a week?	YES.....1 NO.....2	
M113	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
M114	Do you usually watch television at least once a week?	YES.....1 NO.....2	
M115	What is your religious denomination?	CATHOLIC ..... 01 ANGLICAN ..... 02 METHODIST ..... 03 PRESBYTERIAN ..... 04 PENTECOSTAL ..... 05 SPIRITUALIST ..... 06 OTHER CHRISTIAN ..... 07 MOSLEM ..... 08 TRADITIONAL ..... 09 NO RELIGION ..... 10 OTHER 96	
M116	To which ethnic group do you belong?	ASANTE ..... 01 AKWAPIM ..... 02 FANTI ..... 03 OTHER AKAN..... 04 GA-ADANGBE ..... 05 EWE ..... 06 GUAN..... 07 MOLE-DAGBANI..... 08 GRUSSI ..... 09 GURMA ..... 10 HAUSA ..... 11 OTHER 96	
M117	What kind of work do you mainly do?	____ ____ ____ ____	TO BE CODED BY EDITOR
M118	CHECK M117: WORKS IN FARMING → M119 DOES NOT WORK IN FARMING → M121		
M119	Do you work mainly on your own land or family land, or do you rent land, or do you work on someone else's land?	OWN/FAMILY LAND.....1 RENT LAND.....2 SOMEONE ELSE'S LAND.....3	→121
M120	Do you work mainly for money or do you work for a share of the crops?	MONEY.....1 A SHARE OF CROPS.....2	
M121	CHECK Q.4 IN THE HOUSEHOLD SCHEDULE: THE RESPONDENT IS NOT A USUAL RESIDENT OF THE HH → M201 THE RESPONDENT IS A USUAL RESIDENT OF THE HH → M201		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M122	Now I would like to ask about the place where you usually live. Do you usually live in a city, town or village?	CITY .....1 TOWN .....2 VILLAGE.....3	
M123	In which region is that located? **IF USUAL RESIDENCE IS OUTSIDE GHANA, RECORD COUNTRY OF RESIDENCE:** ---------- **(COUNTRY)**	WESTERN .....01 CENTRAL.....02 GREATER ACCRA .....03 VOLTA .....04 EASTERN .....05 ASHANTI .....06 BRONG-AHAFO .....07 NORTHERN .....08 UPPER WEST .....09 UPPER EAST .....10 OUTSIDE GHANA 11	
M124	Does the household in which you usually live have: Electricity? A functioning radio? A functioning television? A functioning refrigerator? A functioning video?	YES NO ELECTRICITY.....1 2 RADIO.....1 2 TELEVISION.....1 2 REFRIGERATOR.....1 2 VIDEO.....1 2	
M125	How many rooms in your household are used for sleeping?	ROOMS..... ☐☐	
M126	Could you describe the main material of the floor of your home?	NATURAL FLOOR EARTH/SAND/MUD.....11 MUD MIXED WITH DUNG.....12 RUDIMENTARY FLOOR WOOD PLANKS.....21 PALM/BAMBOO.....22 FINISHED FLOOR PARQUET OR POLISHED WOOD.....31 LINOLEUM.....32 CERAMIC TILES.....33 CEMENT.....34 CARPET.....35 TERRAZZO.....36 OTHER_____96 (SPECIFY)	
M127	Does any member of your household own: A bicycle? A motorcycle? A motor vehicle? A tractor? A cart/horse?	YES NO BICYCLE.....1 2 MOTORCYCLE.....1 2 MOTOR VEHICLE.....1 2 TRACTOR.....1 2 CART/HORSE 1 2	

Now I would like to ask about all the births you have fathered during your life time.

SECTION M2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M201	Do you have any sons or daughters that you have fathered who are now living with you?	YES.....1 NO.....2	→M203
M202	How many of your sons live with you? And how many of your daughters live with you? **IF NONE ENTER '00'.**	SONS AT HOME..... DAUGHTERS AT HOME.....	
M203	Do you have any of your own sons or daughters that are alive but are not living with you?	YES.....1 NO.....2	→M205
M204	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 ENTER '00'.**	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	
M205	Have you ever had a son or daughter born alive to you but who later died? **IF NO, PROBE:** Any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→M207
M206	In all, how many boys have died? And how many girls have died? **IF NONE ENTER '00'.**	BOYS DEAD..... GIRLS DEAD.....	
M207	**SUM ANSWERS TO M202, M204, AND M206, AND ENTER TOTAL.** **IF NONE ENTER '00'.**	TOTAL.....	
M208	CHECK M207: Just to make sure that I have this right: you have had in TOTAL ____ children born alive to you during your life. Is that correct? YES ☐ NO ☐ → **PROBE AND CORRECT M201-M207 AS NECESSARY**		
M209	Between the first day of a woman's period and the first day of her next period, is there a certain time when she has a greater chance of becoming pregnant?	YES.....1 NO.....2 DK.....3	→M301
M210	During which time between the first day of a woman's period and the first day of her next period does she have the greatest chance of becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS...4 OTHER_____6 (SPECIFY) DK.....8	

5

SECTION M3: CONTRACEPTION

M301 Now I would like to talk about the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about?

CIRCLE CODE 1 IN M302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN M302, ASK M303 AND M304 BEFORE PROCEEDING TO THE NEXT METHOD.

	M302 Have you ever heard of (METHOD)? **READ DESCRIPTION OF EACH METHOD.**	M303 Have you (or your wife/partner) ever used (METHOD)?	M304 Do you know where a person could go to get (METHOD)?
01 **PILL** Women can take a pill every day.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
02 **IUD** Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
03 **INJECTIONS** Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
04 **DIAPHRAGM,FOAM,JELLY** Women can place a sponge, suppository, diaphragm, jelly or cream inside them before intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
05 **CONDOM** Men can use a rubber sheath during sexual intercourse. The rubber sheath is used to avoid pregnancy, to prevent transmission of diseases such as AIDS, or for cleanliness.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
06 **FEMALE STERILIZATION** Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	Has (any of) your partner(s) ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
07 **IMPLANT** Women can have a NORPLANT inplant inserted under the skin of their upper arm.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
08 **MALE STERILIZATION** Men can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
09 **RHYTHM, PERIODIC ABSTINENCE** Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	Do you know where a person can obtain advice on how to use periodic abstinence? YES.....1 NO.....2

M301 CIRCLE CODE 1 IN M302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN M302, ASK M303 AND M304 BEFORE PROCEEDING TO THE NEXT METHOD.

	M302 Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD.	M303 Have you (or your wife/partner) ever used (METHOD)?	M304 Do you know where a person could go to get (METHOD)?
10 WITHDRAWAL Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	
11 Have you heard of any other ways or methods that women or men can use to avoid pregnancy? 1 _____ (SPECIFY) 2 _____ (SPECIFY)	YES.....1 NO.....3	YES.....1 NO.....2 YES.....1 NO.....2	

M305 CHECK M303: NOT A SINGLE "YES" (NEVER USED) ☐ AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO M308

M306 Have you (or your wife/partner) ever used anything or tried in any way to delay or avoid having a child?
YES..... ☐
NO..... ☐ →M322

M307 What have you used or done?
CORRECT M303-M305 (AND M302 IF NECESSARY).
_____ (ENTER WHAT WAS DONE)

M308 Now I would like to ask you about the time when you first did something or used a method to avoid getting your wife or partner pregnant?
How many living children did you have at that time, if any?
IF NONE, RECORD '00'.
NUMBER OF CHILDREN..... ☐☐

M309 CHECK M303:
MAN NOT STERILIZED ☐ MAN STERILIZED ☐ →M311A

M310 Are you (or your wife/partner) currently doing something or using any method to delay or avoid having a child?
YES.....1
NO.....2 →M316

M311 Which method are you using?

M311A CIRCLE '08' FOR MALE STERILIZATION.

PILL.....01
IUD.....02
INJECTIONS.....03
DIAPHRAGM/FOAM/JELLY.....04
CONDOM.....05
FEMALE STERILIZATION.....06
INPLANT.....07
MALE STERILIZATION.....08
PERIODIC ABSTINENCE.....09
WITHDRAWAL.....10 →M316
OTHER _____ 96
(SPECIFY)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M312	CHECK M311 SHE/HE STERILIZED ☐ → Where did the sterilization take place? USING ANOTHER METHOD ☐ → Where did you (or your wife/partner) obtain (METHOD) last time? (NAME OF PLACE)	PUBLIC SECTOR GOVT HOSPITAL/POLYCLINIC.....11 GOVERNMENT HEALTH CENTRE.....12 FAMILY PLANNING CLINIC.....13 MOBILE CLINIC.....14 VILLAGE H. POST/FIELD WORKER..15 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL .....21 PHARMACY/CHEMIST/DRUG STORE ..22 PRIVATE CLINIC/DOCTOR .....23 MOBILE CLINIC .....24 VILLAGE H. POST/FIELD WORKER..25 PPAG/FAMILY PLANNING CLINIC...26 MATERNITY HOME .....27 OTHER PRIVATE SECTOR SHOP .....31 CHURCH .....32 FRIENDS/RELATIVES .....33 OTHER _____ 96 DON'T KNOW 98	→M315 →M315 →M315
M313	How long does it take to travel from your home to this place? IF LESS THAN 2 HOURS, RECORD TIME IN MINUTES. OTHERWISE, RECORD TIME IN HOURS.	MINUTES.....1 HOURS.....2 0 DK.....9998	
M314	Is it convenient or inconvenient to get there?	CONVENIENT.....1 INCONVENIENT.....2	
M315	CHECK M310/M311: NOT CURRENTLY USING CONDOM ☐ USING CONDOM ☐		→M317
M316	Have you used a condom in the last four weeks?	YES.....1 NO.....2	→M321
M317	What is the brand name of the condom you last used?	BRAND _____ DK.....98	
M318	How much did a single condom cost you the last time you bought one?	COST..... PARTNER OBTAINED IT.....995 FREE.....996 DK.....998	
M319	Do you use more condoms now than a year ago, about the same number, or fewer?	MORE.....1 SAME NUMBER.....2 FEWER.....3	→M321
M320	What is the main reason why you use more condoms now than a year ago?	FEAR OF GETTING AIDS.....1 FEAR OF GETTING OTHER STD.....2 FAMILY PLANNING.....3 LESS EXPENSIVE NOW.....4 MORE AVAILABLE NOW.....5 OTHER _____ 6 (SPECIFY) DK.....8	
M321	CHECK M310: NOT CURRENTLY USING A METHOD ☐ USING A METHOD ☐		→M332
M322	Do you intend to use a method to delay or avoid having a child at any time in the future?	YES.....1 NO.....2 DK.....8	→M324 →M332

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M323	What is the main reason why you do not intend to use a method?	WANT CHILDREN.....01 LACK OF KNOWLEDGE.....02 PARTNER OPPOSED.....03 COST TOO MUCH.....04 SIDE EFFECTS.....05 HEALTH CONCERNS.....06 HARD TO GET METHODS.....07 RELIGION.....08 OPPOSED TO FAMILY PLANNING.....09 FATALISTIC.....10 OTHER PEOPLE OPPOSED.....11 INFREQUENT SEX.....12 WIFE/PARTNER INFECUND.....13 INCONVENIENT.....15 NOT MARRIED/NO PARTNER.....16 OTHER_____96 (SPECIFY) DK.....98	→M332
M324	Do you intend to use a method within the next 12 months?	YES.....1 NO.....2 DK.....8	
M325	When you (and your wife/partner) use a method, which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 INPLANT.....07 MALE STERILIZATION.....08 PERIODIC ABSTINENCE.....09 WITHDRAWAL.....10 OTHER_____96 (SPECIFY) UNSURE.....98	→M328
M326	Where can you get (METHOD MENTIONED IN M325)? _____ (NAME OF SOURCE)	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC.....11 GOVERNMENT HEALTH CENTRE.....12 FAMILY PLANNING CLINIC.....13 MOBILE CLINIC.....14 VILLAGE H. POST/FIELD WORKER..15 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....21 PHARMACY/CHEMIST/DRUG STORE...22 PRIVATE CLINIC/DOCTOR.....23 MOBILE CLINIC.....24 VILLAGE H. POST/FIELD WORKER..25 PPAG/FAMILY PLANNING CLINIC...26 MATERNITY HOME.....27 OTHER PRIVATE SECTOR SHOP.....31 CHURCH.....32 FRIENDS/RELATIVES .....33 OTHER_____ 96 DON'T KNOW.....98	→M330 →M332 →M330 →M332 →M330 →M330 →M332 →M328
M327	CHECK M325: INTENDS TO USE PERIODIC ABSTINENCE, WITHDRAWAL OR OTHER TRADITIONAL METHOD ☐ INTENDS TO USE A MODERN METHOD ☐		→M332
M328	Do you know of a place where you can obtain a method of family planning?	YES.....1 NO.....2	→M332

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M329	Where is that? IF MORE THAN ONE ASK FOR THE NEAREST _____ (NAME OF SOURCE)	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC.....11 GOVERNMENT HEALTH CENTRE.....12 FAMILY PLANNING CLINIC.....13 MOBILE CLINIC.....14 VILLAGE H. POST/FIELD WORKER..15 →M332 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....21 PHARMACY/CHEMIST/DRUG STORE...22 PRIVATE CLINIC/DOCTOR.....23 MOBILE CLINIC.....24 VILLAGE H. POST/FIELD WORKER..25 →M332 PPAG/FAMILY PLANNING CLINIC...26 MATERNITY HOME.....27 OTHER PRIVATE SECTOR SHOP.....31 CHURCH.....32 FRIENDS /RELATIVES .....33 OTHER_____ 96 →M332 DON'T KNOW.....98	
M330	How long does it take to travel from your home to this place? IF LESS THAN 2 HOURS RECORD TIME IN MINUTES. OTHERWISE, RECORD TIME IN HOURS.	MINUTES.....1 HOURS.....2 (0) DK.....9998	
M331	Is it convenient or inconvenient to get there?	CONVENIENT.....1 INCONVENIENT.....2	
M332	In the last month, have you heard or seen a message about family planning: on the radio? on television? in a newspeper? on poster/billboard? from community health nurse? from family planning worker? from friends/relatives?	YES NO RADIO.....1 2 TELEVISION.....1 2 NEWSPAPER .....1 2 POSTER/BILLBOARD.....1 2 COMMUNITY HEALTH NURSE.....1 2 FAMILY PLANNING WORKER.....1 2 FRIENDS/RELATIVES 1 2	
M333	Is it acceptable or not acceptable to you for family planning information to be provided on the radio or television?	ACCEPTABLE.....1 NOT ACCEPTABLE.....2 DK.....8	
M334	CHECK M302: KNOWS CONDOM ☐ ↓ DOES NOT KNOW CONDOM ☐		→M401
M335	Do you agree or disagree with the following statements: READ AND OBTAIN A RESPONSE FOR EACH STATEMENT.	AGREE DISAGREE UNDECIDED	
	Condoms are used primarily with casual partners.	1 2 8	
	Condoms reduce risk of sexually transmitted diseases.	1 2 8	
	Most women don't like men to use condoms.	1 2 8	
	Using condoms shows responsibility.	1 2 8	
	Condoms are used primarily for family planning purposes.	1 2 8	
	Condoms are embarrassing to obtain.	1 2 8	
	A condom can be used more than once.	1 2 8	
	Condoms make sex less enjoyable.	1 2 8	

SECTION M4. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M401	Have you ever been married or lived with a woman?	YES.....1 NO.....2	→M405
M402	Are you now married or living with a partner, or are you now widowed, or divorced or separated?	MARRIED.....1 CONSENSUAL UNION.....2 WIDOWED.....3 DIVORCED.....4 SEPARATED.....5	→M404
M403	How many wives/partners do you currently have?	NUMBER.....	
M404	How old were you when you started living with your (first) wife or partner?	AGE.....	→M406
M405	**IF NEVER MARRIED OR LIVED WITH A WOMAN:** Have you ever had sexual intercourse?	YES.....1 NO.....2	→M413
M406	Now I would like to talk to you about some aspects of your sexual life in order to get a better understanding of family planning and fertility. How many times did you have sexual intercourse in the last four weeks?	TIMES.....	
M407	How many times in a month do you usually have sexual intercourse?	TIMES.....	
M408	**CHECK M406:** **HAD SEXUAL INTERCOURSE ONE OR MORE TIMES IN LAST FOUR WEEKS** ☐ **ZERO TIMES** ☐		→M411
M409	With how many different women have you had sex in the last four weeks?	NUMBER OF WOMEN.....	
M410	Did you use a condom with any of these women?	YES.....1 NO.....2	
M411	When was the last time you had sexual intercourse?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4	
M412	How old were you when you first had sexual intercourse?	AGE..... FIRST TIME WHEN MARRIED.....96	
M413	**PRESENCE OF OTHERS AT THIS POINT.**	YES NO CHILDREN UNDER 10.....1 2 WIFE.....1 2 OTHER FEMALES.....1 2 OTHER MALES.....1 2	

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SECTION M5. AIDS KNOWLEDGE AND OTHER SEXUALLY TRANSMITTED DISEASES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M501	Now I have a few questions about a very important topic. Have you heard of an illness called AIDS?	YES.....1 NO.....2	→M509
M502	From which sources of information or persons have you heard about AIDS in the last month? **CIRCLE ALL MENTIONED.**	RADIO.....A TV.....B NEWSPAPERS.....C HEALTH WORKERS.....D MOSQUES/CHURCHES.....E FRIENDS/RELATIVES.....F SCHOOLS.....G SLOGANS/MUSIC .....H PAMPHLETS/POSTERS .....I COMMUNITY MEETINGS.....J OTHER_____K (SPECIFY) NONE.....L	
M503	How is AIDS transmitted? **CIRCLE ALL MENTIONED.**	NEEDLES/BLADES/SKIN WOUND.....A MOTHER TO CHILD .....B SEXUAL INTERCOURSE.....C TRANSFUSION OF INFECTED BLOOD...D OTHER_____E (SPECIFY) DON'T KNOW.....F	
M504	Do you think that you can get AIDS from shaking hands with someone who has AIDS? hugging someone who has AIDS? kissing someone who has AIDS? sexual intercourse with someone who has AIDS? wearing the clothes of someone who has AIDS? sharing eating utensils with someone who has AIDS? stepping on the urine or stool of someone who has AIDS? mosquito, flea or bedbug bites? not using condom?	YES NO HANDSHAKING.....1 2 HUGGING.....1 2 KISSING.....1 2 SEXUAL INTERCOURSE.....1 2 SHARING CLOTHES.....1 2 SHARING EATING UTENSILS....1 2 STEPPING ON URINE/STOOL....1 2 MOSQUITO/FLEA/BEDBUG BITES.1 2 NOT USING A CONDOM.....1 2	
M505	Is it possible for a healthy looking person to have the AIDS virus?	YES.....1 NO.....2 DK.....8	
M506	Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus?	YES.....1 NO.....2 DK.....8	
M507	What do you suggest is the most important thing the government should do for people who have AIDS?	PROVIDE FREE MEDICAL TREATMENT..1 HELP RELATIVES PROVIDE CARE.....2 ISOLATE/QUARANTINE.....3 GOVT. SHOULD NOT BE INVOLVED ...4 OTHER_____6 (SPECIFY)	
M508	If your relative is suffering from AIDS, who would you prefer to care for him/her?	RELATIVES .....1 FRIENDS.....2 GOVERNMENT ORGANISATION.....3 RELIGIOUS ORG./MISSION.....4 NOBODY/ABANDON.....5 OTHER_____6 (SPECIFY)	

Now I would like to talk to you about other diseases apart from AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
509	Have you heard of other diseases apart from AIDS which could be transmitted through sexual intercourse?	YES.....1 NO.....2	——>601
510	Name the diseases. Any other? CICLE AS MANY AS MENTIONED.	GONORRHEA.....A SYPHILIS.....B HERPES.....C HEPATITIS.....D OTHER_____E (SPECIFY)	
511	CHECK 510 FOR DISEASES MENTIONED AND ASK Q 512 - Q 516 WHERE APPROPRIATE.		
512	Where can one go to treat gonorrhea? CIRCLE ALL MENTIONED	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
513	Where can one go to treat syphilis? **CIRCLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)
514	Where can one go to treat herpes? **CIRCLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
515	Where can one go to treat hepatitis? **CIRCLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)
516	Where can one go to treat .....? **(NAME OF DISEASE RECORDED ON THE "OTHER SPECIFY" LINE OF Q 510).** **CICLE ALL MENTIONED**	PUBLIC SECTOR GOV'T. HOSP./CLINIC.....A GOV'T. HEALTH CENTRE.....B GOV'T. HEALTH POST.....C MOBILE CLINIC.....D C'MMTY HEALTH WORKER.....E MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL.....F PHARMACY/DRUGGIST/CHEMIST.....G PRIVATE DOCTOR/CLINIC.....H MOBILE CLINIC.....I C'MMTY HEALTH WORKER.....J OTHER PRIVATE SECTOR SHOP.....K TRADITIONAL PRACTITIONER.....L SPIRITUALIST.....M OTHER_____N (SPECIFY)

SECTION M6. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M601	CHECK M311: SHE/HE NOT STERILIZED ☐ — HE OR SHE STERILIZED ☐		→M605
M602	CHECK M401 AND M402: CURRENTLY MARRIED OR LIVING TOGETHER ☐ — NOT MARRIED/ NOT LIVING TOGETHER ☐		→M609
M603	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?	HAVE A (ANOTHER) CHILD.....1 NO MORE/NONE.....2 WIFE CAN'T GET PREGNANT.....3 UNDECIDED OR DK.....8	→M608
M604	How long would you like to wait from now before the birth of a (another) child? (RECORD IN MONTHS IF LESS THAN 2 YEARS)	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ NOW.....995 OTHER _____ 996 (SPECIFY) DK.....998	→M608
M605	Given your present circumstances, if you had to do it over again, do you think you would make the same decision to have an operation not to have any more children?	YES.....1 NO.....2	
M606	Do you regret that you (your wife) had the operation in order not to have any (more) children?	YES.....1 NO.....2	→M609
M607	Why do you regret it?	RESPONDENT WANTS ANOTHER CHILD..1 PARTNER WANTS ANOTHER CHILD.....2 COUPLE WANT ANOTHER CHILD.....3 SIDE EFFECTS.....4 OTHER REASON _____ 6 (SPECIFY)	→M609
M608	Do you think that your wife/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M609	How long should a couple wait before starting sexual intercourse after the birth of a baby? (RECORD IN MONTHS IF LESS THAN 2 YEARS)	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ OTHER_____ (SPECIFY) 996	
M610	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2	
M611	In general, do you approve or disapprove of couples using a method to avoid pregnancy?	APPROVE.....1 DISAPPROVE.....2	→M612
M611B	Who do you think should decide on which method to use?	SELF.....01 SPOUSE.....02 BOTH OF US.....03 HEALTH PROFESSIONAL.....04 RELATIVE.....05 FRIEND.....06 OTHER_____ (SPECIFY) 96	
M612	CHECK M202 AND M204: 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? RECORD ONLY ONE NUMBER OR OTHER ANSWER. IF "NONE" CIRCLE 96 AND RECORD RESPONSE	NUMBER..... ☐☐ OTHER ANSWER_____ (SPECIFY) 96	→M614
M613	How many of those children would be sons? And how many would be daughters?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ UP TO GOD.....999995 OTHER ANSWER_____ 999996	
M614	What do you think is the best number of months or years between the birth of one child and the birth of the next child? RECORD MONTHS IF LESS THAN 2 YEARS	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ OTHER_____ (SPECIFY) 996 DON'T KNOW.....998	
M615	RECORD THE TIME	HOURS..... ☐☐ MINUTES..... ☐☐	

SECTION M7. LANGUAGE INFORMATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
M701	WHAT IS THE RESPONDENT'S OWN LANGUAGE?	TWI.....01 FANTI .....02 GA-ADANGBE.....03 EWE.....04 NZEMA.....05 DAGBANI.....06 HAUSA.....07 ENGLISH.....08 OTHER _____ 96 (SPECIFY)	
M702	IN WHAT LANGUAGE DID YOU CONDUCT THE INTERVIEW?	TWI.....01 FANTI .....02 GA-ADANGBE.....03 EWE .....04 NZEMA.....05 DAGBANI.....06 HAUSA.....07 ENGLISH.....08 OTHER_____96 (SPECIFY)	
M703	FOR HOW MUCH OF THE INTERVIEW DID YOU DEPEND ON A THIRD PERSON TO INTERPRET FOR YOU?	NONE OF THE INTERVIEW.....1 SOME OF THE INTERVIEW.....2 MOST OF THE INTERVIEW.....3 ALL OF THE INTERVIEW.. 4	→END
M704	IF AN INTERPRETER WAS USED, INDICATE THE SEX AND APPROXIMATE AGE OF INTERPRETER.	ADULT FEMALE.....1 TEENAGE FEMALE.....2 ADULT MALE.....3 TEENAGE MALE.....4 CHILD 5	

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INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent: _____

_____

_____

Comments on Specific Questions: _____

_____

_____

Any Other Comments: _____

_____

_____

_____

SUPERVISOR'S OBSERVATIONS

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Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS

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Name of Field Editor: _____ Date: _____

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