Nigeria

Nigeria
Demographic and
Health Survey
1990

Federal Office of Statistics

⊕DHS

Demographic and Health Surveys
IRD/Macro International, Inc.

Nigeria Demographic and Health Survey 1990

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ACRONYMS

DHS	Demographic and Health Surveys
DPA	Department of Population Activities
EA	Enumeration Area
FHS	Family Health Services
FMOH	Federal Ministry of Health
FOS	Federal Office of Statistics
GDP	Gross Domestic Product
IPPF	International Planned Parenthood Federation
IRD	(formerly) Institute for Resource Development
JSS	Junior Secondary School
NDHS	Nigeria Demographic and Health Survey
NDSS	National Demographic Sample Survey
NFS	Nigeria Fertility Survey
NISER	Nigeria Institute for Social and Economic Research
NISH	National Integrated Survey of Households
NPC	National Population Commission
PHC	Primary Health Care
PPFN	Planned Parenthood Federation of Nigeria
PRS	Planning Research and Statistics
SAC	Survey Advisory Committee
SSS	Senior Secondary School
UNFPA	United Nations Population Fund
UNHSCP	United Nations Household Survey Capability Programme
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
WFS	World Fertility Survey
WHO	World Health Organisation

FOREWORD

The Nigeria Demographic and Health Survey (NDHS) is a nationally representative survey which was carried out in all states of the Federal Republic of Nigeria. It was designed to provide information on fertility, family planning and health in Nigeria.

The survey was conducted by the Federal Office of Statistics (FOS) of Nigeria, and is part of the worldwide Demographic and Health Surveys Programme coordinated by IRD/Macro International, Inc.

The data collection phase of the NDHS was conducted in 1990, just two years following the declaration of the Nigeria National Population Policy (Federal Ministry of Health, 1988). The primary motivation for undertaking the survey was to provide reliable statistics on demographic and health practices, the very issues of concern in the National Population Policy. It is expected that the NDHS will provide information to strengthen the design and implementation of programmes aimed at controlling fertility, promoting family planning and improving the health status of the population. The survey will also provide a cross-sectional view of many demographic and health characteristics of the Nigerian population as of 1990.

Since Nigeria gained independence in 1960, there has been a paucity of reliable population and health data at the national level. Vital registration data are virtually nonexistent and, as of this writing, the most recent census data come from the 1963 Population Census, and those data are of questionable accuracy as well as being totally outdated. Lack of data has resulted from the inherent difficulties of data collection in a country so culturally diverse and in which population data are politically sensitive. Notwithstanding such difficulties, a milestone in the collection of demographic data was reached with the 1981 Nigerian Fertility Survey in which the household survey approach was employed to obtain high-quality data from 9,727 female respondents. It was preceded by the National Demographic Sample Survey (NDSS) in 1980 and followed by the Health Module of the National Integrated Survey of Households (NISH) in 1983 (HANSS). The 1990 NDHS represents another milestone for Nigeria in which rigorous procedures were employed to obtain high-quality data with the survey approach. On this occasion an even more detailed set of information was obtained on demographic and maternal and child health practices for 8,781 female respondents.

The substantial achievement of completing the NDHS and publishing this volume is due to the contributions of many individuals. First to be thanked is the then Sole Administrator of FOS who gave his solid support to the exercise. The survey was carried out by the Common Services Department of FOS (in collaboration with other departments of FOS), under the directorship of Mr. O.O. Ajayi. The Survey Coordinator was Mr. O.F. Adedeji, who was assisted by the following core FOS staff: Mr. C.F. Adegbulugbe, Miss V.A. Adeyemi, Mr. R.O. Salawu, Mr. Fred Adeoye, Mrs. R.A. Adade, Mr. J.O. Adedire, Mrs. I. Azeez, Mr. Y.I. Ifalomomi, and Mrs. V.T. Ayo. Mrs. M. Oyediran provided assistance in writing this report. Of course, a major acknowledgement is due to the interviewers and respondents who worked together to record the data, one interview at a time. Each interviewing team was supervised by an FOS staff person and the teams in each region were the responsibility of the FOS state and regional officers. All of these individuals worked to overcome considerable logistical and technical problems, frequently under difficult field conditions. Their contributions are deeply appreciated and most gratefully acknowledged. I must not forget the assistance freely rendered during the training of the interviewers by both the Planned Parenthood Federation of Nigeria (PPFN) and UNICEF (Nigeria).

Finally, I wish to acknowledge here the immeasurable contributions of several international agencies for providing funding and technical assistance for the survey. The Nigerian Family Health Services Project of the U.S. Agency for International Development initiated the idea of the survey, provided funding and, when the need arose during fieldwork, even provided vehicles and drivers for data collection. Their

SUMMARY OF FINDINGS

The 1990 Nigeria Demographic and Health Survey (NDHS) is a nationally representative survey conducted by the Federal Office of Statistics with the aim of gathering reliable information on fertility, family planning, infant and child mortality, maternal care, vaccination status, breastfeeding, and nutrition. Data collection took place two years after implementation of the National Policy on Population and addresses issues raised by that policy.

Fieldwork for the NDHS was conducted in two phases: from April to July 1990 in the southern states and from July to October 1990 in the northern states. Interviewers collected information on the reproductive histories of 8,781 women age 15-49 years and on the health of their 8,113 children under the age of five years.

According to the NDHS, fertility remains high in Nigeria; at current fertility levels, Nigerian women will have an average of 6 children by the end of their reproductive years. The total fertility rate may actually be higher than 6.0, due to underestimation of births. In a 1981/82 survey, the total fertility rate was estimated to be 5.9 children per woman.

One reason for the high level of fertility is that use of contraception is limited. Only 6 percent of married women currently use a contraceptive method (3.5 percent use a modern method, and 2.5 percent use a traditional method). These levels, while low, reflect an increase over the past decade: ten years ago just 1 percent of Nigerian women were using a modern family planning method. Periodic abstinence (rhythm method), the pill, IUD, and injection are the most popular methods among married couples: each is used by about 1 percent of currently married women. Knowledge of contraception remains low, with less than half of all women age 15-49 knowing of any method.

Certain groups of women are far more likely to use contraception than others. For example, urban women are four times more likely to be using a contraceptive method (15 percent) than rural women (4 percent). Women in the Southwest, those with more education, and those with five or more children are also more likely to be using contraception.

Levels of fertility and contraceptive use are not likely to change until there is a drop in desired family size and until the idea of reproductive choice is more widely accepted. At present, the average ideal family size is essentially the same as the total fertility rate: six children per woman. Thus, the vast majority of births are wanted. The desire for childbearing is strong: half of women with five children say that they want to have another child.

Another factor leading to high fertility is the early age at marriage and childbearing in Nigeria. Half of all women are married by age 17 and half have become mothers by age 20. More than a quarter of teenagers (women age 15-19 years) either are pregnant or already have children.

National statistics mask dramatic variations in fertility and family planning between urban and rural areas, among different regions of the country, and by women's educational attainment. Women who are from urban areas or live in the South and those who are better educated want and have fewer children than other women and are more likely to know of and use modern contraception. For example, women in the South are likely to marry and begin childbearing several years later than women in the North. In the North, women continue to follow the traditional pattern and marry early, at a median age of 15, while in the South, women are marrying at a median age of 19 or 20. Teenagers in the North have births at twice the rate of those in the South: 20 births per 100 women age 15-19 in the North compared to 10

births per 100 women in the South. Nearly half of teens in the North have already begun childbearing, versus 14 percent in South. This results in substantially lower total fertility rates in the South: women in the South have, on average, one child less than women in the North (5.5 versus 6.6).

The survey also provides information related to maternal and child health. The data indicate that nearly 1 in 5 children dies before their fifth birthday. Of every 1,000 babies born, 87 die during their first year of life (infant mortality rate). There has been little improvement in infant and child mortality during the past 15 years. Mortality is higher in rural than urban areas and higher in the North than in the South. Undernutrition may be a factor contributing to childhood mortality levels: NDHS data show that 43 percent of the children under five are chronically undernourished. These problems are more severe in rural areas and in the North.

Preventive and curative health services have yet to reach many women and children. Mothers receive no antenatal care for one-third of births and over 60 percent of all babies are born at home. Only one-third of births are assisted by doctors, trained nurses or midwives. A third of the infants are never vaccinated, and only 30 percent are fully immunised against childhood diseases. When they are ill, most young children go untreated. For example, only about one-third of children with diarrhoea were given oral rehydration therapy.

Women and children living in rural areas and in the North are much less likely than others to benefit from health services. Almost four times as many births in the North are unassisted as in the South, and only one-third as many children complete their polio and DPT vaccinations. Programmes to educate women about the need for antenatal care, immunisation, and proper treatment for sick children should perhaps be aimed at mothers in these areas.

Mothers everywhere need to learn about the proper time to introduce various supplementary foods to breastfeeding babies. Nearly all babies are breastfed, however, almost all breastfeeding infants are given water, formula, or other supplements within the first two months of life, which both jeopardises their nutritional status and increases the risk of infection.

NIGERIA

NORTHWEST

SOKOTO
□ SOKOTO

KATSINA
▲ KATSINA

KANO
KANO

BORNO

▲ MAIDUGURI

KATSINA

KADUNA
□ KADUNA

BAUCHI
□ BAUCHI

NIGER
MINHA

□ JOS

□ YOLA

ABUJA
F.C.T.

PLATEAU

NORTHEAST

GONGOLA

□ ILORIN

KWARA

OYO
□ IBADAN

ONDO
□ AKURE

MAKURDI

BENUE

OGUN
□ ABEOKUTA

LAGOS

BENDEL
□ BENIN CITY

ANAMBRA
ENUGU

CROSS
RIVER
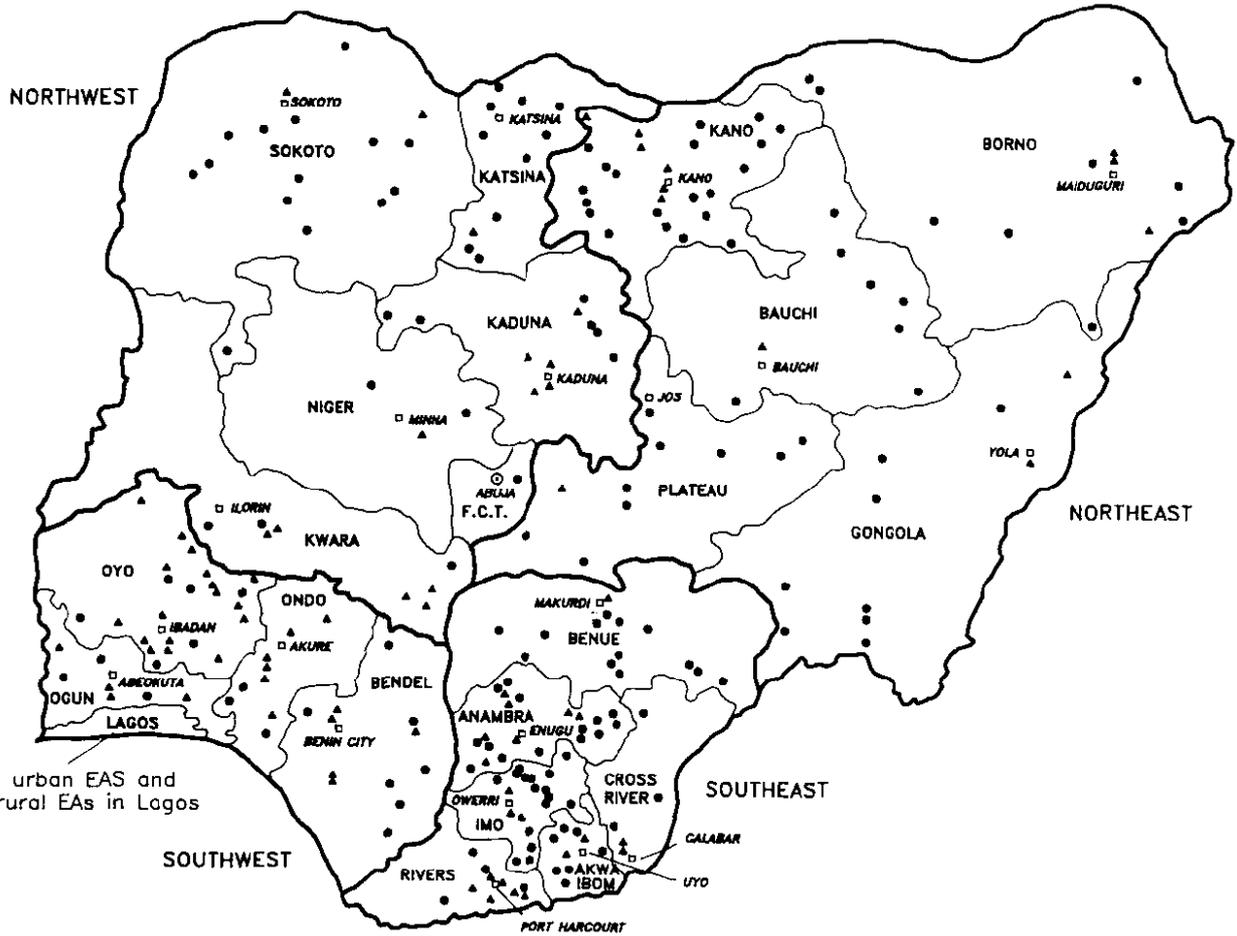
SOUTHEAST

52 urban EAS and
2 rural EAs in Lagos

SOUTHWEST

OWERRI

IMO

RIVERS

AKWA
IBOM

CALABAR

UYO

PORT HARCOURT

Key

▲ Urban EA
● Rural EA
□ State Capital
⊙ National Capital
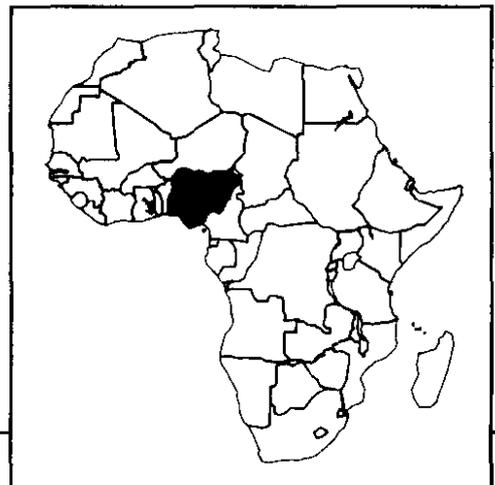
CHAPTER 1

INTRODUCTION

1.1 History, Geography, and Economy

History

The many ethnolinguistic groups that make up Nigeria existed as separate and autonomous political entities long before being merged into a British Colonial territory. The establishment and expansion of British influence in both the northern and southern parts of Nigeria and the imposition of British rule resulted in the amalgamation of the protectorates of Northern and Southern Nigeria in 1914. The pattern of government established by the British after the amalgamation was of the crown colony type. The affairs of the colonial administration were conducted by Britons until 1942 when a few Nigerians, for the first time, were appointed non-official members of the executive council.

Nigeria became an independent nation on October 1, 1960. Three years later, on October 1, 1963, Nigeria became a republic, severing all links with the British crown, yet retaining membership in the Commonwealth.

The first government of independent Nigeria was overthrown in a military coup and replaced by the military administration of Major-General Aguiyi-Ironsi on January 15, 1966. This was followed by a series of counter-coups. The government of the Eastern Region seceded on May 30, 1967, igniting a 30-month civil war, which ended in victory for the Federal Government on January 12, 1970.

On October 1, 1979, the military administration of General Olusegun Obasanjo voluntarily handed over power to an elected civilian government while a new constitution and democratic form of government were adopted. After four years of civil rule, the military again stepped in on December 31, 1983 with Major-General Buhari as the Head of State. The present military administration of President Ibrahim Babangida came to power on August 27, 1985 after overthrowing Major-General Buhari. The Babangida administration has since embarked on a transition programme of handing over power to a democratically elected civilian government in 1992.

Islam and Christianity are the two main religions of the country; the third important religion is the indigenous traditional religion. Muslims reside mostly in the North, while Christians reside mostly in the South.

Internal migration, especially from rural to urban areas, has been one of the important demographic themes of modern Nigeria. High rates of migration and natural increase produced an urban population which grew from between 3 and 4 million residents in 1950 to nearly 17 million in 1980. By the latter year, over 20 percent of the population lived in urban areas.

Geography

The Federal Republic of Nigeria is one of the largest countries in Africa. It is situated on the Gulf of Guinea in West Africa. It is bounded by Niger on the North, Cameroon to the East, and Benin on the West. It covers an area of about 923,768 square kilometres with an estimated population of 112,258,100 persons (National Population Commission), making Nigeria by far the most populous country in Africa.

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The country has three main rivers: the Niger, Benue and Cross rivers. Rainfall varies greatly, and vegetation ranges from tropical rain forest along the coast to savanna/woodland in the North, with mixed vegetation in between. Temperatures are generally high, and increase from South to North, resulting in widely divergent physical features. The temperature at the coast seldom rises above 32°C but humidity can be as high as 95 percent.

The country is influenced by two main wind systems: the moist, relatively cool monsoon wind that brings rain from the Southwest, and the hot, dry, Harmattan wind that sweeps across the country from the Northeast between December and February, bringing dust and high temperatures during the day, and low temperatures at night.

On May 27, 1967, a decree was issued by the government of Lieutenant-Colonel Gowon dividing the country into 12 states; the number of states was later increased to 19 in April 1976. In 1988, the present government formed two new states from existing states. Then in 1991 it formed nine more states, increasing the total number to 30 plus Abuja, the Federal Capital Territory.

There are about 380 ethnic groups in Nigeria; the major groups are Edo, Efik, Fulani, Hausa, Igbo, Kanuri, Tiv, Urhobo, and Yoruba. Most ethnic groups are concentrated in different parts of the country. The Hausa, Kanuri, and Fulani live primarily in the North, the Yoruba inhabit the Southwest, the Igbo and Efik are found in the Southeast, the Tiv live in the mid-section of the country, and the Edo and Urhobo reside in the Niger River delta.

Economy

Nigeria has a mixed economy in which petroleum plays a key role. Nigeria is the sixth largest producer of crude oil in the world, and the second largest in Africa. Economic growth soared in the early 1970s as the country enjoyed the high price of oil on the world market and experienced a massive inflow of foreign exchange. Petroleum accounted for about 90 percent of exports and 80 percent of government revenue.

The boom in oil prices sparked considerable rural to urban migration during the 1970s, resulting in a decline in the agricultural sector. From the beginning of the 1980s, however, there was a downturn in the economy because of falling oil prices, declining sales due to competition in the international oil market, energy conservation strategies adopted by oil purchasing countries, and the worldwide economic recession.

The Federal government has since formulated policies to promote economic growth. Industrial policies include increased export of manufactured goods to diversify the nation's foreign exchange base, and strengthening the manufacturing sector through exposure to international competition. Some of the objectives of the agricultural policy focus on (i) increasing production and processing of export crops with a view to increasing their foreign exchange earning capacity, (ii) increasing production of agricultural raw materials to meet the growing needs of the expanding industrial sector, (iii) large scale production of commodities which consume a considerable percentage of Nigeria's foreign exchange, but can be produced locally within the country, (iv) increasing urban to rural migration by increasing opportunities for rural employment and improving the quality of life for persons living in rural areas.

In 1988 the agricultural sector represented 36 percent of the GDP while petroleum and industrial sectors contributed 20 percent each.

1.2 Population

Table 1.1 Demographic indicators

Indicator	NFS 1981/82 and NDSS 1980	National Census 1963
Population (millions)	84.7	55.7
Density (pop./sq.km.)	92	60
Percent urban	23	19
Crude birth rate (per 1,000)	46	66
Crude death rate (per 1,000)	16	27
Total fertility rate	6.3	--
Infant mortality rate (per 1,000)	85	--
Life expectancy at birth	48	36

Sources: National Population Bureau and WFS, 1984; National Population Bureau and IRD/Westinghouse, 1988; Federal Office of Statistics, 1963

The 1963 National Census reported a total population of 55.7 million. The National Population Commission (NPC), Lagos, projected the 1963 figure forward at a constant growth rate of 2.5 percent per year to arrive at a 1980 estimate of 84.7 million persons, making Nigeria the most populous country in Africa and among the 15 largest countries in the world. NPC estimated the 1988 population to be 112,258,100 persons, and it is likely that the population is increasing by more than 3 percent per year.

In 1963, Nigeria was sparsely settled with a density of 60 persons per square kilometre; this figure has since doubled to 122 persons per square kilometre. The distribution of the population is characterised by areas of high density in the Southeast, Southwest, and North-central parts of the country, while other areas are less densely inhabited.

While still predominantly rural, the population has become more urbanised, increasing from 19 percent in 1963 to 23 percent urban in 1980.

The crude birth rate decreased from 66 per thousand to about 46 per thousand in 1980 and the crude death rate fell from 27 per thousand to 16 per thousand in the same period.

Life expectancy at birth rose from about 36 years in 1963 to about 48 years in 1980. The combination of high birth rates and declining death rates means that the Nigerian population will continue growing at a fast pace for decades to come.

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1.3   Population and Family Planning Policies and Programmes

Population issues have been of great concern to the Government of Nigeria throughout the post-independence period. The population of the country, which stood at 30.4 million in 1952, had by 1963 increased to 55.7 million; the 1988 mid-year estimate was 112 million.

In light of the high population growth rate, and its adverse effect on national development and on individual welfare, the Government formulated and launched the National Policy on Population (Federal Ministry of Health, 1988). The policy is predicated on the right of couples and individuals to decide fully the number and spacing of their children, and the right to information, education, and the means to exercise such rights. The objectives of the policy are as follows:

(i)   To improve the living standards and the quality of life of the people of this country;

(ii)   To promote their health and welfare, especially through preventing premature deaths and illness among the high risk groups;

(iii)   To achieve lower population growth rates, through reduction of birth rates by voluntary fertility regulation methods that are compatible with the attainment of economic and social goals of the nation;

(iv)   To achieve a more even distribution of population between urban and rural areas.

In order to achieve these objectives and to promote national awareness of the adverse effects of rapid population growth, the following strategies are being vigorously pursued:

- Establishing fertility regulation and management programmes which make services and facilities accessible and affordable to couples and individuals who want to regulate their fertility;
- Integrating family planning services into the Primary Health Care Programme;
- Providing necessary and adequate population information and education to young people, couples and individuals to promote responsible parenthood and to enable them to understand the value of moderate-sized families and the importance of spacing of children;
- Improving rural living conditions through effective implementation of Integrated Rural Development programmes.

Nongovernmental agencies such as the United Nations Population Fund (UNFPA) and the International Planned Parenthood Federation (IPPF) through its Nigerian affiliate, the Planned Parenthood Federation of Nigeria (PPFN) operate family planning clinics in all states, supplementing the efforts of the Federal Ministry of Health (FMOH).

1.4   Health Priorities and Programmes

The Federal Government's systematic efforts to develop the health sector over the past three decades have resulted in noticeable improvements in the range of available health care facilities and in the services being provided.

The 1981-1985 Fourth National Development Plan established a government commitment to provide adequate and effective primary health care that is promotive, protective, preventive, restorative and rehabilitative to 80 percent of the population by 1985; and to extend the same to the entire population, within the available resources, by the year 2000. This is with the aim of ensuring socially and economically productive lives for all individuals and communities.

Particular emphasis is placed on maternal and child health care, which encompasses family planning, immunisation against major infectious diseases, education regarding the prevention and control of health problems, and environmental sanitation to secure a quality of environment adequate for the health and well-being of all Nigerians.

Health services in Nigeria are provided by the Federal, state and local governments as well as nongovernment organisations. Federal, state and local governments are coordinated in a three-tier health care system: (i) primary health care, which is largely the responsibility of local governments, with the support of the State Ministry of Health, (ii) secondary health care, which provides specialised services to patients referred from the primary health care level, and (iii) tertiary health care, which provides highly specialised referral services to the primary and secondary levels of the health care delivery system.

1.5   Objectives and Organisation of the Survey

Objectives

The Nigeria Demographic and Health Survey (NDHS) is a national sample survey of women of reproductive age designed to collect data on socioeconomic characteristics, marriage patterns, history of child bearing, breastfeeding, use of contraception, immunisation of children, accessibility to health and family planning services, treatment of children during episodes of illness, and the nutritional status of children.

The primary objectives of the NDHS are:

(i)   To collect data for the evaluation of family planning and health programmes;
(ii)   To assess the demographic situation in Nigeria; and
(iii) To support dissemination and utilisation of the results in planning and managing family planning and health programmes.

Organisation

The Nigeria Demographic and Health Survey is a joint project between the Federal Government of Nigeria, represented by the Federal Office of Statistics (FOS), and the U.S. Agency for International Development (USAID). The survey was funded by USAID and the Nigerian Government; it was carried out by the FOS, with technical support from IRD/Macro International Inc. located in Columbia, Maryland.

Funds from USAID were administered by IRD/Macro International, and were used for salaries of temporary staff recruited for the survey, allowances of survey personnel, data processing and anthropometric equipment, printing of questionnaires, publication of reports, vehicle maintenance and fuel. Four vehicles were provided to the project by USAID, three were provided by FOS, and four were loaned from USAID's Family Health Services Project (FHS).

A Survey Advisory Committee (SAC) was formed, consisting of representatives from FOS, IRD, NPC, FMOH and representatives from the Department of Primary Health Care (PHC), the Department of Planning Research and Statistics (PRS), the Department of Population Activities (DPA), UNICEF, the World Health Organisation (WHO), FHS, PPFN, and the Nigeria Institute for Social and Economic Research (NISER). The committee met periodically, during important phases of the project (e.g., questionnaire design, the pretest and the main survey).

The Sole Administrator of FOS appointed the Director of Common Services (FOS) as the Project Director. The Director had overall responsibility for survey implementation. He was assisted by a project

coordinator, two FOS senior staff (project statisticians who were fully involved in the project), as well as other FOS staff who participated on a part-time basis. The execution of the project activities was divided between the project statisticians; one was responsible for sampling and the logistics of data collection, while the other was responsible for questionnaire design and translation, the pretest, training for the main survey, and the reinterview subsample.

Questionnaires

Three questionnaires were used in the main fieldwork for the NDHS: the household questionnaire, the individual questionnaire, and the service availability questionnaire. The first two questionnaires were adapted from the DHS model B questionnaire, which was designed for use in countries with low contraceptive prevalence. The questionnaires were developed in English, and then translated into six of the major Nigerian languages: Efik, Hausa, Igbo, Kanuri, Tiv, and Yoruba. English versions of the questionnaires are reproduced in Appendix E.

All usual members and visitors in the selected households were listed on the household questionnaire. For each person listed, information was collected on age, sex, education, and relationship to the head of household. The household questionnaire was used to identify women eligible for the individual questionnaire.

The individual questionnaire was administered to women age 15-49 who spent the night preceding the household interview in the selected household. Information in the following areas was obtained during the individual interview:

1. Background characteristics of the respondent
2. Reproductive behaviour and intentions
3. Knowledge and use of contraception
4. Breastfeeding, health, and vaccination status of children
5. Marriage
6. Fertility preferences
7. Husband's background and woman's work
8. Height and weight of children under five.

The service availability questionnaire was implemented in the service availability survey (SAS), a separate activity from the main fieldwork. The SAS was designed to assess the availability (or supply) of health and family planning services. Thus, while the individual questionnaire collected information from female respondents pertaining to the demand for health and family planning services, the service availability (SA) questionnaire collected information pertaining to the supply of these services by canvassing health and family planning facilities. The SA questionnaire was administered at the community level (enumeration area), and information was gathered from two sources: groups of four or five knowledgeable informants in the selected community (assembled by the interviewer), and informants interviewed at facilities visited by the interviewer. The results of the service availability survey are presented in Chapter 10.

Sample

To produce a nationally representative survey, the NDHS sample was drawn from the national master sample for the 1987/1992 National Integrated Survey of Households (NISH) programme being implemented by the FOS. The 299 sample clusters correspond to the enumeration areas (EA) of the NISH master sample. A sample of about 10,000 households was designed with twofold oversampling of the urban stratum, yielding 132 urban EAs and 167 rural EAs. Thus, the NDHS sample is a weighted sample, and all tables presented

in this report are based on weighted data. A more detailed description of the sample design is presented in Appendix B.

To ensure data quality, a reidentification and redemarcation of EAs selected for the NDHS sample was conducted by FOS state offices and supervised by state senior staff and FOS staff from Lagos. Then, a household listing operation was carried out in each of the sampling units and a selection of 34 households per EA was made at the FOS headquarters in Lagos.

Fieldwork

The NDHS field staff consisted of 25 teams, each composed of four female interviewers, one female editor, and one male or female supervisor. The interviewers and editors were newly recruited for the survey, while supervisors were experienced FOS staff. Fieldwork was conducted from April to October 1990 (April to July in the southern states, and July to October in the northern states). The persons involved in the survey are listed in Appendix A. A more complete description of the fieldwork is presented in Appendix B.

Table 1.2 is a summary of results from the household and the individual interviews. A total of 9,998 households were selected; of these, 8,999 were successfully interviewed. The shortfall is largely due to households being absent; for which a predominant cause seemed to be for purposes of planting crops. In the interviewed households 9,200 eligible women were identified and 8,781 were successfully interviewed.

Table 1.2 Results of the household and individual interviews

Number of households, number of interviews, and response rates, Nigeria 1990

Result	Total
Household Interviews	
Households sampled	9998
Households found	9465
Households interviewed	8999
Individual Interviews	
Number of eligible women	9200
Number of eligible women interviewed	8781

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS
AND RESPONDENTS

Information on the background characteristics of the households interviewed in the survey and the individual survey respondents is essential for the interpretation of survey findings and provides a rough measure of the representativeness of the survey. This chapter presents this information in three sections: characteristics of the household population, housing characteristics, and background characteristics of survey respondents.

2.1   Characteristics of the Household Population

The NDHS collected information on all usual residents and visitors who spent the previous night in the household. A household was defined as a person or group of persons living together and sharing a common source of food.

Age

The age distribution of the household population in the NDHS is shown in Table 2.1 and Figure 2.1 by five-year age groups. The distribution conforms to the pattern characteristic of high fertility populations,

Table 2.1 Household population by age, residence and sex

Percent distribution of the de facto household population by five-year age group, according to urban-rural residence and sex, Nigeria 1990

Age group	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	14.6	15.1	14.8	16.9	17.3	17.1	16.4	16.8	16.6
5-9	16.8	16.7	16.7	18.8	17.1	18.0	18.3	17.0	17.7
10-14	13.5	15.7	14.6	13.2	13.4	13.3	13.3	13.9	13.6
15-19	11.0	8.8	9.9	8.8	7.0	7.9	9.4	7.4	8.4
20-24	6.9	8.6	7.8	5.4	7.2	6.3	5.8	7.5	6.7
25-29	7.5	8.0	7.7	5.5	7.4	6.5	6.0	7.6	6.8
30-34	6.3	6.2	6.2	5.4	6.4	5.9	5.6	6.3	6.0
35-39	4.9	3.9	4.4	4.2	4.2	4.2	4.4	4.2	4.3
40-44	4.5	3.7	4.1	4.0	3.9	4.0	4.1	3.8	4.0
45-49	3.0	2.2	2.7	3.4	2.9	3.2	3.3	2.8	3.0
50-54	2.6	4.0	3.3	3.3	4.7	4.0	3.1	4.5	3.8
55-59	1.4	1.9	1.7	2.0	2.8	2.4	1.9	2.6	2.2
60-64	2.2	2.2	2.2	2.8	2.5	2.6	2.6	2.4	2.5
65-69	1.5	0.9	1.2	1.8	1.0	1.4	1.8	1.0	1.4
70-74	1.3	0.9	1.1	1.9	0.9	1.4	1.7	0.9	1.3
75-79	0.5	0.3	0.4	0.7	0.4	0.5	0.7	0.3	0.5
80 +	1.1	0.9	1.0	1.5	0.7	1.1	1.4	0.7	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	5,799	5,690	11,489	17,651	17,888	35,539	23,450	23,578	47,028

**Figure 2.1
Population Pyramid of Nigeria**

NDHS 1990
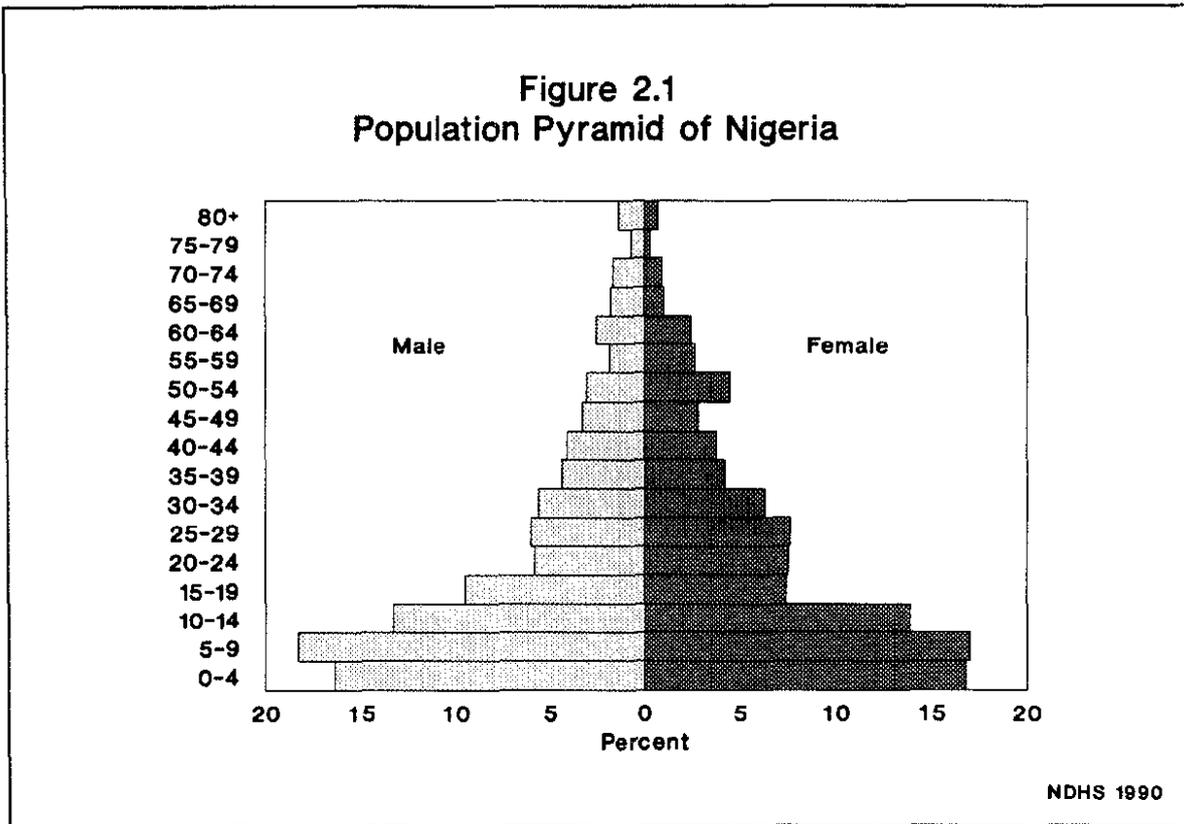
i.e., a much higher proportion of the population in the younger than in the older age groups. However, the youngest age group (0-4) numbers fewer than the 5-9 year olds; this either results from an undercount of children in the youngest group, or from some 0-4 year olds being reported as age 5-9. Evidence of heaping can also be seen in the female age groups 10-14 and 50-54 years. That heaping does not occur among males in these age groups suggests that some interviewers may have pushed women out of the age range eligible for the individual interview. An assessment of this phenomenon by Rutstein and Bicego (1990), indicates that the effects of misreporting at the upper and lower boundaries (age 15 and 49) are minimal.

Table 2.2 compares the population age structure found in the 1990 Nigeria Demographic and Health Survey (NDHS) with that in the 1963 Census (Federal Office of Statistics, 1963), the 1980 National Demographic Sample Survey (NDSS 1980) (National Population Bureau and IRD/Westinghouse, 1988), and the 1981/82 Nigeria Fertility Survey (NFS 1981/82) (National Population Bureau and World Fertility Survey, 1984); dependency ratios are also shown. The age dependency ratio is the ratio of the number of persons age 0 to 14 and 65 and over divided by the number of persons age 15 to 64. It is an indicator of the dependency responsibility of adults in their productive years.

Table 2.2 Population by age from selected sources

Percent distribution of the population by age group, selected sources, Nigeria
1963-1990

Age group	Census 1963	NDSS 1980	NFS 1981/82	NDHS 1990
Less than 15	43.1	47.2	49.5	47.1
15-64	54.9	50.2	48.1	48.5
65+	2.0	2.8	2.3	4.3
Total	100.0	100.0	100.0	100.0
Median age	--	--	--	16.3
Dependency ratio	0.82	1.00	1.08	1.06

Sources: 1963 Census (Federal Office of Statistics, 1963); 1980 National
Demographic Sample Survey (National Population Bureau and
IRD/Westinghouse, 1988); 1981/82 Nigeria Fertility Survey (National
Population Bureau and World Fertility Survey, 1984)

The dependency ratios in Nigeria are typical of those found in other African countries. With approximately 47 percent of the population under age 15 and 4 percent over age 64, there is one dependent person for each adult in the population. As in many rapidly growing populations, old age dependency is minimal compared to child dependency.

Household Composition

While the large majority of households in Nigeria are headed by males (86 percent), there are regional differences (see Table 2.3). About 20 percent of households in the South are headed by women, whereas it is unusual in the North for a household to be headed by a woman (5 percent).

There are two characteristics worth noting when comparing urban and rural households. First, female headed households are more common in urban areas (18 percent) than in rural areas (13 percent); and second, single person households are more common in urban areas (16 percent) than in rural areas (9 percent) and households of nine or more persons are more common in rural areas, 17 percent compared to 11 percent in urban areas. As a result, average household size is larger in rural (5.6) than in urban (4.8) areas.

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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 and region, Nigeria 1990

Characteristic	Residence		Region				Total
	Urban	Rural	Northeast	Northwest	Southeast	Southwest	
Household headship							
Male	82.0	87.1	94.3	94.9	77.3	81.2	85.7
Female	18.0	12.9	5.7	5.1	22.7	18.8	14.3
Number of usual members							
1	16.2	9.2	7.4	6.7	12.9	15.8	11.1
2	12.7	9.6	10.8	10.8	9.3	11.3	10.5
3	12.9	12.7	13.2	18.1	9.6	12.0	12.8
4	12.2	13.2	14.6	13.3	11.9	12.4	12.9
5	11.1	11.9	11.7	11.7	11.6	11.8	11.7
6	10.4	11.3	10.2	9.9	12.5	10.8	11.0
7	8.1	8.8	7.7	8.9	9.0	8.5	8.6
8	5.5	6.5	5.9	5.3	7.4	5.6	6.2
9+	11.0	16.8	18.6	15.2	15.6	11.7	15.2
Mean size	4.8	5.6	5.8	5.4	5.5	4.9	5.4
Relationship structure							
One adult	22.2	13.5	9.7	8.8	19.9	22.0	15.8
Two related adults							
of opposite sex	34.8	37.1	40.9	46.6	29.8	32.8	36.5
of same sex	5.2	2.0	1.2	0.6	4.2	4.6	2.9
Three or more related adults	34.6	45.5	45.8	43.3	43.5	37.9	42.6
Other	3.3	1.8	2.4	0.7	2.5	2.7	2.2
With foster children	7.1	6.8	6.2	3.8	8.1	8.6	6.9

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

Households are largest, on average, in the Northeast (5.8 persons per household), and smallest in the Southwest (4.9 persons per household). The overall average household size is 5.4 persons.

Seven percent of households include one or more children under age 15 who have neither their natural mother nor natural father living with them.

Education

In the three decades since independence, the education sector has recorded phenomenal growth in student enrolments and numbers of institutions, and has expanded to reach all parts of the federation. The national education policy has evolved over the years to meet the needs of the country. In 1976, Nigeria adopted a national policy of Universal Primary Education, which gave every child the right to free primary schooling. The emphasis in education shifted from the standard liberal education to the new more practical

6-3-3-4 system. Under the new system, primary education is six years, and secondary education is six years rather than five years (three years junior secondary and three years senior secondary). A graduate of secondary school may then choose to further his or her education by attending a university or polytechnic school for a 4-year course leading to a degree or to the Higher National Diploma. At this level, very few courses last more than four years. The goal is for the nation to meet its manpower requirements in various areas of social, economic and political growth, as well as achieving national development and modernization. A nationwide mass literacy programme was launched in June 1990, although it had been in existence at state and local levels for over 25 years. The National Commission on Nomadic Education was recently established to address the needs of children of migrant cattle herders and fishing peoples in the riverine areas.

In the NDHS, information on educational attainment was collected for every member of the household (see Table 2.4). One-half of the population has received no formal education; 43 percent of males and 58 percent of females have never been to school; 32 percent of males and 26 percent of females have attended only primary school; and 14 percent of males and 9 percent of females have attended secondary school. Only 3 percent of males and 1 percent of females have obtained higher education.

The proportion of persons with no education is much higher in the rural areas than in urban areas, and this difference is seen for both males and females. Rural residents are twice as likely to have never attended school (58 percent) as urban residents (29 percent).

There are major regional differences in the level of education. The Northwest has the highest proportion of persons with no education (73 percent of males and 86 percent of females); in the Southwest, those who have never been to school are in the minority (18 percent of males and 30 percent of females).

Table 2.4 Educational level of the household population

Percent distribution of the de facto male and female household populations age five and over by highest level of education attended, according to selected background characteristics, Nigeria 1990

Background characteristic	None	Some primary	Completed primary	Some secondary	Completed secondary	Higher	Missing	Total	Number of persons	Median number of years
MALE										
Age										
5-9	51.0	29.7	0.2	0.0	0.0	0.0	19.1	100.0	4,293	0.7
10-14	21.7	49.9	8.9	7.0	0.0	0.0	12.4	100.0	3,115	3.6
15-19	20.6	15.4	21.3	24.8	10.0	0.5	7.5	100.0	2,194	6.5
20-24	23.0	5.0	22.4	12.5	27.9	4.8	4.5	100.0	1,362	6.9
25-29	31.8	3.9	21.7	6.8	23.9	9.0	2.8	100.0	1,409	6.6
30-34	41.1	5.5	22.3	3.1	15.4	8.3	4.2	100.0	1,320	6.1
35-39	46.1	5.0	21.5	2.8	13.2	7.5	3.9	100.0	1,034	4.0
40-44	53.6	5.6	22.3	2.8	9.3	4.1	2.4	100.0	971	0.9
45-49	52.7	9.5	18.4	4.1	8.1	4.4	2.7	100.0	771	0.9
50-54	72.6	7.3	8.5	1.8	5.3	3.1	1.4	100.0	729	0.7
55-59	72.3	7.7	8.4	3.0	2.0	2.3	4.2	100.0	443	0.7
60-64	80.1	5.0	6.8	1.1	2.2	1.5	3.2	100.0	614	0.6
65+	84.4	5.8	4.7	1.0	1.1	0.9	2.1	100.0	1,320	0.6
Residence										
Urban	22.4	21.2	15.1	11.1	15.7	6.5	8.1	100.0	4,848	6.1
Rural	50.2	18.4	11.6	4.5	5.1	1.4	8.8	100.0	14,765	0.9
Region										
Northeast	65.5	7.8	8.6	1.8	4.0	1.1	11.2	100.0	4,731	0.7
Northwest	72.8	10.3	6.2	2.9	3.6	1.3	2.9	100.0	3,997	0.7
Southeast	26.8	27.8	18.4	6.2	8.0	2.3	10.5	100.0	6,148	3.6
Southwest	17.8	26.4	14.1	13.1	14.6	5.7	8.4	100.0	4,737	6.0
Total	43.3	19.1	12.5	6.1	7.7	2.6	8.6	100.0	19,613	1.2
FEMALE										
Age										
5-9	54.4	27.9	0.2	0.0	0.0	0.0	17.4	100.0	4,010	0.7
10-14	34.1	41.7	7.4	6.6	0.1	0.0	10.1	100.0	3,288	2.9
15-19	33.6	11.0	20.6	20.0	8.2	0.4	6.2	100.0	1,749	6.2
20-24	42.0	6.6	18.6	10.6	17.1	2.3	3.0	100.0	1,777	6.0
25-29	54.2	6.3	17.2	5.8	11.7	3.2	1.6	100.0	1,784	0.9
30-34	71.1	7.5	10.8	2.7	3.1	2.9	2.0	100.0	1,491	0.7
35-39	70.4	9.4	11.9	2.3	3.4	1.1	1.6	100.0	982	0.7
40-44	78.9	7.8	8.0	1.9	1.1	0.8	1.6	100.0	905	0.6
45-49	84.7	6.5	5.0	1.9	0.7	0.9	0.3	100.0	654	0.6
50-54	90.9	3.8	3.2	0.4	0.5	0.3	0.9	100.0	1,072	0.5
55-59	95.8	1.6	1.1	0.7	0.1	0.2	0.5	100.0	615	0.5
60-64	96.3	2.2	0.7	0.1	0.1	0.0	0.5	100.0	567	0.5
65+	95.2	1.9	1.9	0.1	0.2	0.1	0.6	100.0	711	0.5
Residence										
Urban	36.3	21.4	12.1	10.8	9.9	2.5	7.0	100.0	4,733	3.0
Rural	65.2	15.4	7.5	3.0	2.0	0.4	6.5	100.0	14,889	0.7
Region										
Northeast	82.0	4.8	4.0	0.8	0.7	0.0	7.7	100.0	4,638	0.6
Northwest	86.2	6.6	3.1	1.4	1.1	0.1	1.5	100.0	4,071	0.6
Southeast	43.1	24.6	12.5	5.5	4.0	0.8	9.4	100.0	6,476	1.0
Southwest	29.7	27.5	12.8	11.6	9.5	2.7	6.3	100.0	4,437	3.6
Total	58.2	16.9	8.6	4.9	3.9	0.9	6.7	100.0	19,622	0.8

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Table 2.5 presents enrolment rates by age, sex and residence. Fifty-five percent of children age 6-15 years are enrolled in school. As shown in Figure 2.2, enrolment is higher in urban areas (about three-quarters of children are enrolled) than in rural areas (one-half are enrolled); and boys are more likely to be enrolled than girls (59 percent versus 51 percent). Enrolment after age 15 drops significantly; only one-quarter of older teens are still in school and only 11 percent of those in their early twenties are still in school; the urban/rural differences are not as great at these ages, but male/female differences are greater because women are much less likely than men to go on for higher schooling.

Table 2.5 School enrolment

Percentage of the de facto household population age 6-24 years enrolled in school, by age group, sex, and urban-rural residence, Nigeria 1990

Age group	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-10	74.1	49.9	55.4	69.4	43.0	49.4	71.7	46.6	52.5
11-15	75.8	60.9	64.9	70.2	48.0	54.0	73.0	54.6	59.5
6-15	74.8	54.1	59.1	69.7	45.0	51.2	72.3	49.7	55.3
16-20	37.6	32.4	33.9	30.0	16.9	20.5	33.9	24.6	27.2
21-24	18.0	16.6	17.1	10.1	4.1	6.0	13.6	9.4	10.8

Figure 2.2
School Enrollment by Age and
Place of Residence

NDHS 1990

15
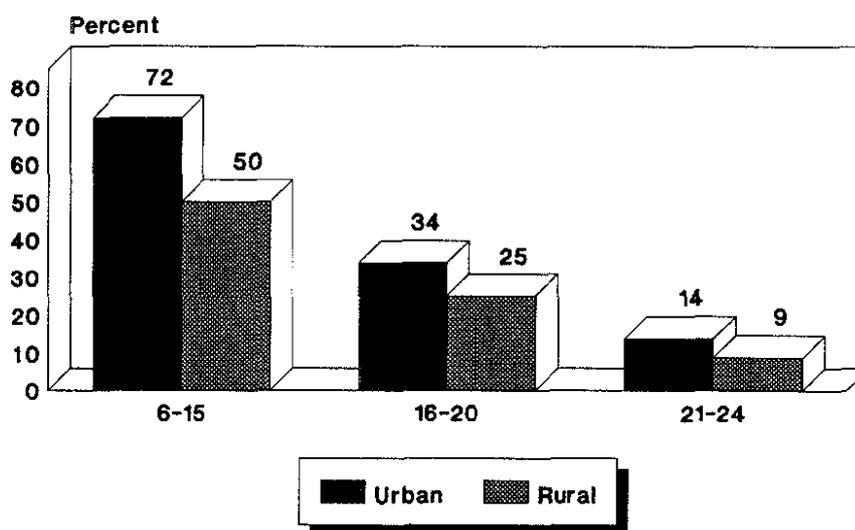
2.2   Housing Characteristics

In order to assess the socioeconomic conditions under which respondents live, women were asked to give specific information about their household environment. Table 2.6 presents this information for all households in which women were interviewed. (Although the questions on household characteristics were asked in the individual questionnaire, Table 2.6 has been tabulated to represent households; i.e., households with more than one eligible woman are still counted only once).

Table 2.6   Housing characteristics

Percent distribution of households with eligible women by housing characteristics, according to urban-rural residence and region, Nigeria 1990

Characteristic	Residence		Region				Total
	Urban	Rural	Northeast	Northwest	Southeast	Southwest	
Electricity	82.4	8.6	11.0	13.0	22.4	65.4	27.3
Source of drinking water							
Piped into residence	17.3	1.5	4.8	5.1	2.7	10.3	5.5
Piped into yard	13.8	1.8	3.4	4.1	3.7	8.6	4.8
Public tap	32.2	8.4	11.3	4.1	17.3	24.5	14.4
Well with hand pump	7.4	6.8	15.3	4.8	2.4	7.2	7.0
Well without hand pump	14.8	28.1	31.9	49.1	9.5	13.2	24.7
River, spring, surface water	4.9	51.9	30.5	32.1	62.0	27.4	40.0
Tanker truck/other vendor	8.9	0.7	1.6	0.5	1.5	8.1	2.8
Rainwater	0.3	0.7	1.2	0.1	0.8	0.3	0.6
Other	0.4	0.0	0.0	0.0	0.0	0.4	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sanitation facility							
Flush	29.9	2.1	0.5	1.7	7.7	27.7	9.1
Bucket	1.5	0.3	0.1	0.1	0.6	1.4	0.6
Pit	60.4	62.2	74.9	66.7	57.8	48.8	61.7
No facilities	8.1	35.5	24.5	31.5	33.9	22.1	28.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Flooring							
Parquet/polished wood	2.0	0.2	0.2	0.3	0.2	2.0	0.6
Vinyl/asphalt strips	0.9	0.3	0.3	0.3	0.6	0.7	0.5
Ceramic tiles	3.3	0.7	0.2	0.9	0.9	3.8	1.4
Wood planks	0.5	0.1	0.4	0.2	0.0	0.4	0.2
Cement	72.6	46.9	32.4	54.5	58.8	66.0	53.4
Animal dung	0.5	1.1	1.5	0.4	0.5	1.4	0.9
Earth/sand	7.1	50.6	64.7	43.3	38.9	11.3	39.5
Other	12.9	0.1	0.3	0.2	0.0	14.3	3.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons per sleeping room							
1-2	43.4	50.2	54.9	47.0	50.0	41.5	48.5
3-4	35.6	33.6	31.8	38.0	31.2	36.2	34.1
5-6	14.7	10.3	7.8	11.0	11.9	14.8	11.4
7 +	6.2	5.6	4.8	3.5	6.8	7.5	5.7
Missing/Don't know	0.1	0.4	0.7	0.5	0.1	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean persons per room	3.4	3.2	3.0	3.1	3.2	3.5	3.2
Number of households	1,649	4,844	1,471	1,529	2,025	1,468	6,493

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Overall, 27 percent of households in Nigeria have electricity. While electricity is available to the majority of eligible women in urban areas (82 percent) it is available to only a small minority in rural areas (9 percent). Two-thirds of households in the Southwest have electricity, compared to 11 percent in the Northeast.

Sources used by households to obtain drinking water differ considerably by area of residence. In urban areas, piped water is the primary source of drinking water: 32 percent obtain water from a public tap and another 31 percent have water piped into their residence or yard. In rural areas, water from rivers and springs is the main source of drinking water (52 percent) and another 28 percent obtain water from a well without a hand pump.

Modern sanitation facilities are not available to large segments of the population. The use of pit toilets is common in both urban and rural areas (60 and 62 percent respectively); in urban areas, most of the rest of the population use flush toilets (30 percent), and in rural areas, most of the rest of the population have no facilities (36 percent).

The flooring material of dwelling units is usually cement (53 percent) or earth (40 percent). Cement flooring is most common in urban areas (73 percent). Of the remaining urban households, most have carpet or tile flooring (coded in the "other" category). Households in rural areas also have cement flooring (47 percent) but are equally likely to have an earth or sand floor (51 percent).

Information was collected on the number of rooms households use for sleeping (as a measure of crowding). There was not much diversity according to residence and region. In about one-third of households three or four persons share a room for sleeping; however, in almost half of the households the average is one or two persons.

Household Durable Goods

Respondents were asked about ownership of particular household goods (radio and television, to assess access to media; refrigerator, to assess food storage) and modes of transportation (bicycle, motorcycle, car). The results presented in Table 2.7 indicate that 55 percent of households own a radio (80 percent in urban areas, 47 percent in rural areas) and 19 percent own a television (54 percent in urban areas, 7 percent in rural areas). Televisions and refrigerators are mostly restricted to the urban areas due to lack of electricity in rural areas. Many rural households (37 percent) own a bicycle whereas only 17 percent of urban households have a bicycle. Seventeen percent of urban households own an automobile.

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Table 2.7 Household durable goods

Percentage of households with eligible women possessing various durable consumer goods, by urban-rural residence and region, Nigeria 1990

Possession	Residence		Region				Total
	Urban	Rural	Northeast	Northwest	Southeast	Southwest	
Radio	79.6	46.6	39.1	53.1	55.9	71.5	54.9
Television	53.7	7.1	6.3	8.1	16.5	46.0	18.9
Refrigerator	32.9	3.1	4.1	4.6	8.9	26.0	10.7
Bicycle	16.6	36.9	26.4	30.8	46.4	17.7	31.7
Motorcycle	17.5	16.3	10.0	19.0	19.0	17.3	16.6
Auto	16.6	4.4	3.2	4.9	6.7	15.5	7.5
Number of households	1,649	4,844	1,471	1,529	2,025	1,468	6,493

2.3   Background Characteristics of Survey Respondents

General Characteristics

Women were asked two questions in the individual interview to assess their age: "In what month and year were you born?" and "How old were you at your last birthday?" Interviewers were trained in probing techniques for situations in which respondents did not know their age or date of birth; and as a last resort, interviewers were instructed to record their best estimate of the respondent's age. The five-year age distribution is shown in Table 2.8. The proportion of women age 15-19 (18 percent) is slightly smaller than the proportion age 20-24 (19 percent), which is not what would be expected in an expanding population. It is also smaller than the proportion of women age 15-19 in the NFS (21.6 percent). The proportion of women 20-24 was larger in the NDHS than in the NFS (17.6 percent).

The data in Table 2.8 indicate that 78 percent of NDHS respondents are currently in a union (either married or living together), 17 percent have never been married, and 4 percent are either widowed, divorced or separated. The percentage of women who are currently married is quite high; the NFS also reported a high percentage of currently married women (80 percent). Marriage patterns are discussed in detail in Chapter 5.

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Table 2.8 Background characteristics of respondents

Percent distribution of women by selected background characteristics, Nigeria 1990

Background characteristic	Weighted percent	Number of women	
		Weighted	Un-weighted
Age			
15-19	18.4	1,611.6	1,678
20-24	19.1	1,676.2	1,682
25-29	19.0	1,669.3	1,658
30-34	16.1	1,409.5	1,386
35-39	10.9	954.0	948
40-44	9.5	836.1	827
45-49	7.1	624.3	602
Marital status			
Never married	17.2	1,513.1	1,701
Married	70.9	6,229.8	6,097
Living together	7.4	650.3	599
Widowed	2.4	213.7	201
Divorced	1.1	94.7	85
Separated	0.9	79.4	98
Education			
No education	57.2	5,019.9	4,540
Some primary	9.0	794.1	742
Completed primary	14.8	1,299.8	1,366
Some secondary	8.7	764.8	918
Completed secondary/higher	10.2	893.9	1,207
Residence			
Urban	24.9	2,187.2	3,530
Rural	75.1	6,593.8	5,251
Region			
Northeast	22.8	1,999.5	2,038
Northwest	23.9	2,098.1	1,699
Southeast	31.5	2,768.5	2,324
Southwest	21.8	1,914.9	2,720
Religion			
Protestantism	33.7	2,963.2	2,942
Catholicism	13.9	1,222.9	1,210
Islam	47.5	4,174.1	4,269
Traditional religion	2.4	207.5	188
No Religion	2.4	213.3	172
All women	100.0	8,781.0	8,781

The majority of respondents have never attended school (57 percent), 15 percent have completed only primary school, and 10 percent have completed secondary school (2 percent of these women have gone for schooling beyond the secondary level).

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Although urbanization is increasing, the population is still predominantly rural; three-quarters of respondents live in rural areas. The data indicate that 32 percent of respondents live in the Southeast; the Northeast, Northwest and Southwest each account for 21-24 percent of the women interviewed.

Most women report themselves to be either Moslem or Christian, and the population is evenly divided between the two, (48 percent Muslim, 48 percent Christian). Those who adhere to traditional religions and those who report no religion each account for 2 percent of the population.

Differentials in Education

Table 2.9 shows the distribution of the surveyed women by education, according to selected characteristics. Education is inversely related to age; that is, older women are generally less educated than younger women. For example, 85 percent of women age 45-49 have had no formal education, whereas only 34 percent of women age 15-19 have never been to school.

Table 2.9 Level of education

Percent distribution of women by the highest level of education attended, according to selected background characteristics, Nigeria 1990

Background characteristic	Level of education						Number of women
	None	Some primary	Completed primary	Some secondary	Completed secondary/ Higher	Total	
Age							
15-19	33.8	12.0	20.4	23.1	10.5	100.0	1,612
20-24	42.1	7.9	18.9	11.6	19.5	100.0	1,676
25-29	54.3	6.9	16.9	6.8	15.0	100.0	1,669
30-34	70.0	10.2	11.5	2.5	5.6	100.0	1,410
35-39	72.6	9.6	10.6	2.6	4.7	100.0	954
40-44	78.2	8.8	9.1	2.0	2.0	100.0	836
45-49	84.9	7.2	5.1	1.4	1.4	100.0	624
Residence							
Urban	31.2	7.3	19.4	16.6	25.5	100.0	2,187
Rural	65.8	9.6	13.3	6.1	5.1	100.0	6,594
Region							
Northeast	83.7	4.7	7.1	2.4	2.0	100.0	2,000
Northwest	87.8	2.9	5.0	2.1	2.2	100.0	2,098
Southeast	36.2	16.8	23.7	11.2	11.8	100.0	2,769
Southwest	26.1	9.1	20.7	18.9	25.1	100.0	1,915
Total	57.2	9.0	14.8	8.7	10.2	100.0	8,781

Twice as many urban women have received some education as rural women (69 percent versus 34 percent). Only a small proportion of rural women (11 percent) go on for secondary schooling compared to urban residents (42 percent).

Table 2.9 provides information on women's level of education by region. The northern regions have a much higher proportion of uneducated women (86 percent) than the southern regions (36 percent in the Southeast, 26 percent in the Southwest). The proportion of women who have had some secondary education is ten times higher in the Southwest than in either of the Northern regions.

Access to Media

Women were asked if they usually listen to a radio or watch television at least once a week. This information is important to programme planners seeking to reach women with family planning and health messages through the media. Overall, one-quarter of women watch television weekly and one-half listen to the radio weekly (see Table 2.10). Media access is higher among younger women, one-third of whom watch television at least once a week and over one-half listen to the radio once a week. Most media access is among the urban population, although 44 percent of the rural population does listen to the radio. A much higher proportion of educated women, women in urban areas, and women in the Southwest watch television and listen to the radio.

Table 2.10 Access to mass media

Percentage of women who usually watch television once a week, or listen to radio once a week, by selected background characteristics, Nigeria 1990

Background characteristic	Watch television weekly	Listen to radio weekly	Number of women
Age			
15-19	33.8	58.0	1,612
20-24	28.5	55.8	1,676
25-29	28.0	55.9	1,669
30-34	19.5	52.3	1,410
35-39	21.5	52.9	954
40-44	20.0	45.4	836
45-49	16.6	40.6	624
Education			
No education	9.3	39.7	5,020
Some primary	23.6	56.6	794
Completed primary	39.8	69.0	1,300
Some secondary	56.4	73.6	765
Completed secondary/higher	71.3	86.3	894
Residence			
Urban	67.4	82.1	2,187
Rural	11.7	43.7	6,594
Region			
Northeast	8.4	35.5	2,000
Northwest	11.5	47.8	2,098
Southeast	25.6	53.8	2,769
Southwest	58.8	77.1	1,915
Total	25.5	53.3	8,781

CHAPTER 3

FERTILITY

The fertility measures presented in this chapter are based on the reported reproductive histories of women age 15-49 interviewed in the NDHS. Each woman was asked the number of sons and daughters living with her, the number living elsewhere, and the number who had died. She was then asked for a history of all her births, including the month and year each was born, the name, the sex, and if deceased, the age at death, and if alive, the current age and whether he/she was living with the mother. Based on this information, measures of completed fertility (number of children ever born) and current fertility (age-specific rates) are examined. These measures are also analyzed in connection with various background characteristics.

3.1   Current Fertility

The current level of fertility is the most important topic in this chapter because of its direct relevance to population policies and programmes. Three-year age-specific fertility rates are presented in Table 3.1. Three-year rates are calculated as a compromise between three criteria: to provide the most current information, to reduce sampling error, and to avoid problems noted in previous surveys of the displacement of births from five years preceding the survey to six years.

Table 3.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the three years preceding the survey, by urban-rural residence and region, Nigeria 1990

| Age group | Residence | | Region | | | | Total |
	Urban	Rural	Northeast	Northwest	Southeast	Southwest	
15-19	0.093	0.166	0.224	0.194	0.106	0.074	0.146
20-24	0.199	0.280	0.280	0.281	0.256	0.210	0.258
25-29	0.255	0.265	0.237	0.274	0.268	0.270	0.263
30-34	0.223	0.219	0.221	0.229	0.220	0.211	0.220
35-39	0.145	0.164	0.140	0.156	0.162	0.176	0.159
40-44	0.057	0.100	0.129	0.134	0.053	0.078	0.092
45-49	0.034	0.071	0.075	0.061	0.050	0.073	0.064
TFR 15-49	5.033	6.326	6.532	6.645	5.573	5.461	6.011
TFR 15-44	4.865	5.970	6.155	6.339	5.322	5.095	5.691
GFR	0.172	0.213	0.223	0.229	0.188	0.173	0.203
CBR	34	40	39	46	37	32	39

TFR: Total fertility rate 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
Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation.

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Numerators of the age-specific fertility rates in Table 3.1 are calculated by isolating live births which occurred in the 1-36 months preceding the survey (determined from the date of interview and date of birth of the child), and classifying them by the age (in five-year age groups) of the mother at the time of birth (determined from the date of birth of the mother). The denominators of the rates are the number of woman-years lived in each of the specified five-year age groups during the 1-36 months preceding the survey.

There are two regionally distinct patterns of fertility: that of the North and that of the South. During the central childbearing years (25-39), women tend to bear children at about the same rates in the North and the South. It is during the early and late childbearing years that differences are evident. In the teenage years, women in the North have children at twice the rate of women in the South (on average, each year, 1,000 women age 15-19 in the South will give birth to 100 babies, while 1,000 women age 15-19 in the North will give birth to 200 babies). Women in the North achieve their peak fertility in their early twenties, while women in the South reach their highest fertility in their late twenties. In their early 40s, women in the North continue bearing children at twice the rate of women in the South.

The sum of the age-specific fertility rates, i.e., the total fertility rate (TFR), is used to summarise the current level of fertility. It can be interpreted as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the currently observed rates. If fertility were to remain constant at current levels, a Nigerian woman would give birth to an average of six children. The higher fertility of women in the North results in a total fertility rate which is one child greater than that of women in the South (6.6 versus 5.5).

The crude birth rate (CBR) presented in Table 3.1 is the annual number of births in a population per 1,000 persons. The CBR can be estimated from the birth history data and the age-sex distribution of the household population. Overall, there were about 39 births per thousand population over the last three years, according to the NDHS.

Fertility trends can be analyzed in two ways. One is to compare NDHS data with previous surveys. The last national estimates of total fertility can be calculated from data collected in the 1981/82 Nigeria Fertility Survey (NFS). Table 3.2 compares three-year total fertility rates as estimated by the NDHS and NFS[1]. The two surveys, nearly a decade apart, yield almost the same total fertility rates (5.9 for the NFS and 6.0 for the NDHS); however, estimates vary greatly for subgroups of the population. Further analysis would be required before concluding whether differences are due to real trends or simply the result of differential data quality. Both surveys do indicate that the fertility of uneducated women is fifty percent higher than the fertility of the most educated women.

Table 3.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey and mean number of children ever born to women age 40-49, by selected background characteristics, Nigeria 1990

	NDHS		NFS	
Background characteristic	Total fertility rate[1]	Mean number of children ever born to women age 40-49	Total fertility rate[1]	Mean number of children ever born to women age 40-49
Residence				
Urban	5.03	6.01	5.79	4.81
Rural	6.33	6.61	5.98	5.56
Region				
Northeast	6.53	5.75	5.95	4.34
Northwest	6.64	6.21	6.38	4.49
Southeast	5.57	6.99	5.72	6.53
Southwest	5.46	6.84	6.25	5.30
Education				
No education	6.50	6.41	6.14	5.45
Some primary	7.17	7.38	6.81	5.99
Completed primary	5.57	6.54	7.59	5.71
Some secondary	5.07	6.44	3.90	4.31
Completed secondary/higher	4.18	5.82	NA	NA
Total	6.01	6.49	5.94	5.41

NA = Not applicable
[1]Rate for women age 15-49 years

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[1] The NFS report presented a five-year total fertility rate of 6.34; a three-year rate is presented here for purposes of comparability with the NDHS estimate. (The five-year rate estimated for the NDHS is 6.27).

Fertility trends can also be estimated based on NDHS data alone. Table 3.3 shows the age-specific fertility rates for four-year periods preceding the survey. Four-year periods were used instead of the customary five-year periods in order to avoid the effects of displacement of births from five to six years preceding the survey.

Table 3.3 Age-specific fertility rates

Age-specific fertility rates (per thousand women) for four-year periods preceding the survey, by mother's age at the time of birth, Nigeria 1990

| Mother's age | Number of years preceding the survey | | | | |
	0-3	4-7	8-11	12-15	16-19
15-19	144	178	166	179	168
20-24	267	297	321	288	250
25-29	274	316	326	309	[286]
30-34	228	261	287	284	[280]
35-39	162	210	[237]	[253]	--
40-44	95	[119]	[188]	--	--
45-49	[67]	[110]	--	--	--

Note: Age-specific fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated.

The data in Table 3.3 along with similar data from the NFS are plotted in Figure 3.1. Figure 3.1 shows the trends in the total fertility rate based on estimates from the NFS and the NDHS. These are four-year rates, for several periods preceding each survey.

There are three points worth noting: i) the NDHS and NFS estimates for 1976 coincide almost exactly, lending confidence to these estimates, ii) given the NDHS estimate for 1980, it appears likely that the NFS estimate for that year is low, and iii) the NDHS estimate repeats the NFS pattern of declining fertility in the four years immediately preceding the survey.

Figure 3.1
Trends in the Total Fertility Rate
Women 15-34, NFS and NDHS Surveys

No. of children

	1968	1972	1976	1980	1984	1988	1992

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·-·- NFS      —*— NDHS
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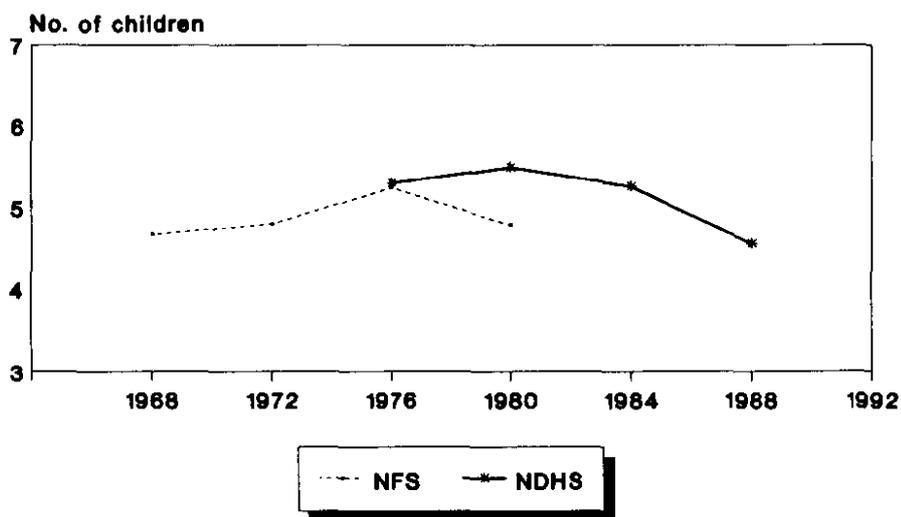
Note: The points shown are the
mid-points of four-year periods.

Is the fertility decline real, or has there been an undercount of births in the years preceding the survey? If there has been no change in fertility over time, the number of births (and woman-years of exposure) would be expected to increase because of the larger cohorts of women moving into the childbearing years (due to the past high fertility). If fertility is falling, the number of births would be expected to increase over time, *but at a slower rate*. Figure 3.2 shows the number of births reported in each calendar year. The curve shows a five-year moving average of the numbers. It can be seen from the curve that the number of births in the five years preceding the survey *levels off sharply instead of continuing to rise gradually*. It appears, therefore, that the number of births in the five years preceding the survey has been underestimated. Both the NFS and the NDHS encountered a pattern of declining births in the years immediately preceding the survey, which lends weight to the diagnosis of underreporting. (Although not shown here, the woman-years of exposure increase steadily over time, as expected, indicating that there has been no decline and/or underestimation of the number of women.) So, the question becomes: if births have been underestimated, has there been any fertility decline at all, and if so, how much? The answer to this question requires further investigation, including an analysis of the proximate determinants of fertility, to see whether other behaviours have changed to a degree that would be commensurate with a decline in fertility.

Figure 3.2
Distribution of Children's Year of Birth

Percent of total births

Year of Birth

• Births in one year ——— 5 yr. moving average
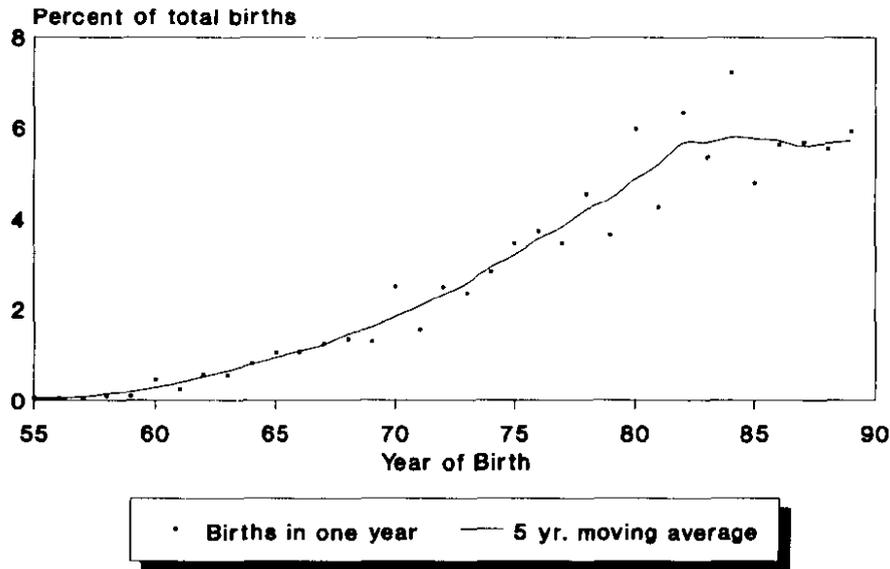
NDHS 1990

Table 3.4 Fertility by marital duration

Fertility rates for ever-married women by duration since first marriage in years for four-year periods preceding the survey, Nigeria 1990

Marriage duration at birth	Number of years preceding the survey				
	0-3	4-7	8-11	12-15	16-19
0-4	328	340	326	307	287
5-9	292	340	349	325	292
10-14	259	299	312	299	257
15-19	217	244	250	243	[239]
20-24	141	181	[203]	[186]	--
25-29	72	[87]	[95]	--	--

Note: Duration-specific fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated

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Table 3.4 presents fertility rates for ever-married women by duration since first marriage for four-year periods preceding the survey. Fertility early in marriage often remains resilient to change, even when fertility is declining, because fertility decline usually begins at the older ages (when women start to limit the number of births), and not by young couples postponing births. However, Table 3.4 shows a recent decline in

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fertility, even for marriages of short duration. This may be a real decline, or may reflect an undercount of recent births, as noted earlier.

3.2 Children Ever Born and Living

The distribution of women by number of children ever born is presented in Table 3.5 for all women and for currently married women. In the NDHS questionnaire, the total number of children ever born was ascertained by a sequence of questions designed to maximize recall. The mean number of children ever born

Table 3.5 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born (CEB) and mean number ever born and living, according to five-year age groups and regions, Nigeria 1990

	Number of children ever born (CEB)												Number of women	Mean no. of CEB	Mean no. living children
	0	1	2	3	4	5	6	7	8	9	10+	Total			
ALL WOMEN															
Age															
15-19	76.5	17.3	5.0	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,612	0.3	0.3
20-24	32.3	24.7	21.9	11.4	7.9	1.1	0.6	0.2	0.0	0.0	0.0	100.0	1,676	1.4	1.2
25-29	11.3	12.9	17.8	20.3	15.3	13.1	6.5	1.8	0.6	0.2	0.3	100.0	1,669	3.0	2.4
30-34	4.1	5.2	9.7	12.6	16.6	16.9	14.4	10.7	6.2	2.8	0.8	100.0	1,410	4.6	3.7
35-39	4.5	2.7	6.7	7.2	14.0	12.5	14.5	13.9	11.3	6.1	6.5	100.0	954	5.5	4.3
40-44	4.6	3.9	4.2	7.7	7.9	9.5	11.3	13.0	14.9	9.4	13.6	100.0	836	6.3	4.8
45-49	4.0	3.9	3.9	6.1	5.9	8.9	9.4	12.4	14.0	10.8	20.6	100.0	624	6.8	5.1
Region															
Northeast	18.6	14.9	13.9	12.5	10.4	7.5	6.2	5.0	4.0	3.1	4.0	100.0	2,000	3.3	2.5
Northwest	16.4	14.6	13.5	12.5	11.2	8.2	6.3	7.7	4.6	1.9	3.1	100.0	2,098	3.4	2.6
Southeast	29.0	9.2	10.0	8.4	8.4	8.7	7.9	5.7	5.0	3.7	3.9	100.0	2,769	3.3	2.8
Southwest	31.9	10.8	8.6	7.7	9.8	8.6	7.1	4.3	5.5	2.1	3.6	100.0	1,915	3.1	2.5
Total	24.2	12.1	11.4	10.2	9.8	8.3	7.0	5.7	4.8	2.8	3.6	100.0	8,781	3.3	2.6
CURRENTLY MARRIED WOMEN															
Age															
15-19	41.4	42.1	13.4	2.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	100.0	597	0.8	0.7
20-24	15.6	29.6	27.8	14.7	10.1	1.3	0.8	0.2	0.0	0.0	0.0	100.0	1,279	1.8	1.5
25-29	5.3	12.7	19.0	22.3	16.3	14.2	7.2	2.0	0.7	0.2	0.2	100.0	1,492	3.2	2.6
30-34	3.5	5.1	9.8	12.4	16.5	16.7	14.6	11.2	6.4	2.9	0.8	100.0	1,348	4.6	3.8
35-39	3.9	2.5	7.0	7.6	14.0	12.0	14.8	14.1	11.3	6.3	6.5	100.0	892	5.6	4.4
40-44	4.7	4.2	3.9	7.9	7.8	8.7	11.1	13.6	14.7	9.4	14.0	100.0	731	6.3	4.8
45-49	4.4	3.9	3.7	5.9	6.0	8.7	8.2	13.2	14.2	9.9	21.9	100.0	543	6.8	5.1
Region															
Northeast	13.9	15.6	14.8	13.2	11.2	8.0	6.5	5.4	4.2	3.1	4.1	100.0	1,849	3.5	2.7
Northwest	11.1	15.6	14.0	13.3	11.9	8.8	6.8	8.3	4.9	2.1	3.4	100.0	1,944	3.7	2.8
Southeast	6.4	10.7	14.6	12.0	10.9	11.2	10.6	7.9	6.3	4.7	4.9	100.0	1,801	4.4	3.7
Southwest	5.8	13.9	12.0	10.9	14.0	11.9	10.0	6.2	7.7	3.0	4.8	100.0	1,287	4.3	3.5
Total	9.7	14.0	14.0	12.5	11.8	9.8	8.3	7.0	5.6	3.2	4.2	100.0	6,880	3.9	3.1

for all women increases rapidly with age, so that by the end of her childbearing years, a woman has given birth to almost seven children. The distribution of women by number of births indicates that almost one-quarter of teens have already borne a child, and nearly one-third of women age 45 and over have borne nine or more children.

The results for younger women who are currently married differ from those for the sample as a whole because of the large number of unmarried women with minimal fertility. Differences at older ages, though minimal, generally reflect the impact of marital dissolution. The parity distribution for older, currently married women also provides a measure of primary infertility. Voluntary childlessness is rare in West Africa, and married women with no live births are most likely unable to bear children. The NDHS results suggest that about 4 to 5 percent of Nigerian women are unable to bear children.

3.3   Birth Intervals

There has been a fair amount of research to indicate that short birth intervals are deleterious to the health of babies. This is particularly true for babies born at intervals of less than 24 months. Table 3.6 shows the percent distribution of births in the five years preceding the survey by the number of months since the previous birth. Over one-quarter of births were born after an interval of less than 24 months. The median birth interval length (30 months) is only six months longer than the minimum considered safe.

The unusual aspect of these results is that birth interval length is one of the very few behaviours examined in this report which is invariant to regional and educational characteristics of the mother. Although the table indicates that a high proportion of births to teens were preceded by short intervals, this does not reflect the actual situation of most teen births because the table excludes first births (which are the majority of teen births).

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 socioeconomic characteristics, Nigeria 1990

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	16.8	28.4	38.4	10.4	6.1	100.0	25.2	120
20-29	11.5	19.9	42.0	15.1	11.5	100.0	28.6	3,031
30-39	8.2	16.3	42.0	16.3	17.3	100.0	30.9	2,761
40 +	6.8	12.7	32.0	17.6	30.9	100.0	36.4	813
Birth order								
2-3	9.5	18.9	41.6	15.1	14.9	100.0	29.4	2,534
4-6	9.5	17.5	40.0	16.5	16.6	100.0	30.7	2,709
7 +	10.3	16.1	40.5	15.8	17.4	100.0	30.7	1,481
Sex of prior birth								
Male	9.6	18.1	41.1	15.6	15.8	100.0	29.7	3,332
Female	9.7	17.4	40.4	16.0	16.5	100.0	30.6	3,393
Survival of prior birth								
Living	8.7	16.9	40.8	16.6	17.1	100.0	30.9	5,808
Dead	15.8	22.6	40.4	10.9	10.2	100.0	26.9	916
Residence								
Urban	8.8	16.9	42.3	16.5	15.4	100.0	30.4	1,392
Rural	9.9	17.9	40.3	15.6	16.3	100.0	30.1	5,333
Region								
Northeast	9.4	17.2	37.4	17.0	19.0	100.0	31.1	1,576
Northwest	9.5	17.5	40.7	16.8	15.5	100.0	30.8	1,847
Southeast	11.7	18.7	43.9	12.9	12.8	100.0	28.6	2,049
Southwest	6.8	17.0	39.6	17.7	18.9	100.0	31.5	1,252
Education								
No education	9.1	16.9	38.8	16.6	18.6	100.0	31.2	4,445
Some primary	10.3	18.1	45.6	15.8	10.1	100.0	29.0	692
Completed primary	9.4	19.1	44.7	15.2	11.7	100.0	29.1	941
Some secondary	14.5	18.7	45.6	9.3	12.0	100.0	27.2	319
Completed secondary/higher	11.9	21.8	40.8	13.2	12.3	100.0	29.2	322
Total	9.6	17.7	40.7	15.8	16.1	100.0	30.2	6,724

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.

3.4   Age at First Birth

The age at which childbearing begins has important demographic consequences as well as important consequences for the mother and child. In many countries, postponement of first births, reflecting an increase in the age at marriage, has contributed greatly to overall fertility decline. Table 3.7 presents the distribution of Nigerian women by age at first birth, according to their current age. One-half of women became mothers before the age of 20, of which 10 to 12 percent gave birth before age 15, and 21 to 28 percent gave birth between age 15 and 17. There has been little change in the median age at first birth, although there is some evidence of a decline among younger women.

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Table 3.7 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Nigeria 1990

Current age	Women with no births	<15	15-17	18-19	20-21	22-24	25+	Total	Number of women	Median age at first birth
				Age at first birth						
15-19	76.5	5.6	14.7	3.1	NA	NA	NA	100.0	1,612	a
20-24	32.3	12.1	22.8	18.6	10.3	3.9	NA	100.0	1,676	19.7
25-29	11.3	9.6	25.5	18.8	16.0	15.1	3.8	100.0	1,669	19.6
30-34	4.1	12.3	27.6	17.5	14.1	14.2	10.2	100.0	1,409	19.1
35-39	4.5	9.4	23.4	16.3	17.0	12.4	17.1	100.0	954	20.1
40-44	4.6	12.1	22.9	14.1	14.5	14.0	17.8	100.0	836	20.1
45-49	4.0	9.5	21.2	18.0	13.1	13.3	21.0	100.0	624	20.1

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 summarizes the median age at first birth for different cohorts and compares the entry age into parenthood for different subgroups of the population. (Medians for cohort 15-19 could not be determined because half the women have not yet had a birth.) Findings for older women should be interpreted with caution. For example, the higher medians for older women in the North may reflect omission or misdating of early births, rather than a genuine trend. Overall, the findings point to a possible decline in age at first birth in the North, and an increase in the South. The median age in the Northeast (18.8) is nearly two years below that in the Southwest (20.5).

Table 3.8 Median age at first birth

Median age at first birth among women age 20-49 years, by current age and selected background characteristics, Nigeria 1990

Background characteristic	Current age						Ages 20-49	Ages 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	a	20.8	19.9	20.4	20.8	20.4	a	20.4
Rural	19.1	19.3	18.8	20.0	19.8	20.0	19.3	19.4
Region								
Northeast	17.5	18.0	17.6	19.9	20.7	22.4	18.3	18.8
Northwest	18.5	19.2	19.4	20.1	20.4	19.4	19.3	19.5
Southeast	a	20.0	19.5	19.9	18.6	19.4	19.9	19.6
Southwest	a	21.3	19.6	20.4	20.6	20.6	a	20.5
Education								
No education	17.8	18.2	18.5	20.0	20.2	20.0	18.8	19.1
Some primary	19.0	19.3	18.9	19.1	19.8	19.8	19.3	19.3
Completed primary	19.7	20.2	20.2	20.6	19.6	20.8	a	20.3
Some secondary	a	20.6	20.6	22.4	20.4	21.4	a	20.8
Completed secondary/higher	a	a	23.3	21.3	22.1	23.3	a	24.5
Total	19.7	19.6	19.1	20.1	20.1	20.1	19.7	19.7

Note: The medians for cohort 15-19 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*.

3.5   Teenage Pregnancy and Motherhood

One of the targets outlined in the National Policy on Population is: "to reduce pregnancy to mothers below 18 years and above 35 years of age by 50 percent by 1995 and by 90 percent by the year 2000." Table 3.9 shows the percentage of women age 15-19 who are mothers or pregnant with their first child. About 40 percent of teenagers 18 years of age have already begun childbearing (have already given birth, or are pregnant with their first child), and 30 percent of teens 17 years of age. Attempts to reduce early childbearing need to target women in the North, where 48 percent of teens have begun childbearing, compared with 14 percent in the South.

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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, Nigeria 1990

Background characteristic	Percentage who are:		Percentage who have begun child-bearing	Number of teenagers
	Mothers	Pregnant with first child		
Age				
15	9.3	3.9	13.1	373
16	14.9	5.9	20.8	322
17	24.7	5.5	30.2	326
18	34.4	5.0	39.3	333
19	39.0	3.8	42.8	259
Residence				
Urban	14.6	2.8	17.4	462
Rural	27.0	5.6	32.7	1,150
Education				
No education	43.4	8.6	52.1	545
Some primary	19.2	7.4	26.6	193
Completed primary	18.1	3.1	21.2	329
Some secondary	7.0	1.2	8.2	372
Completed secondary/higher	11.2	1.0	12.2	169
Region				
Northeast	39.5	10.7	50.2	352
Northwest	40.7	5.6	46.2	308
Southeast	13.9	2.9	16.7	570
Southwest	9.1	1.6	10.8	381
Total	23.5	4.8	28.3	1,612

Figure 3.3 shows the percentage of teenagers who have begun childbearing (have already given birth, or are pregnant with their first child), by region. The differences between regions are great: four times as many women age 17 in the Northeast have begun childbearing as in the Southeast.

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Figure 3.3
Percentage of Teenagers Who Have Begun
Childbearing, by Region
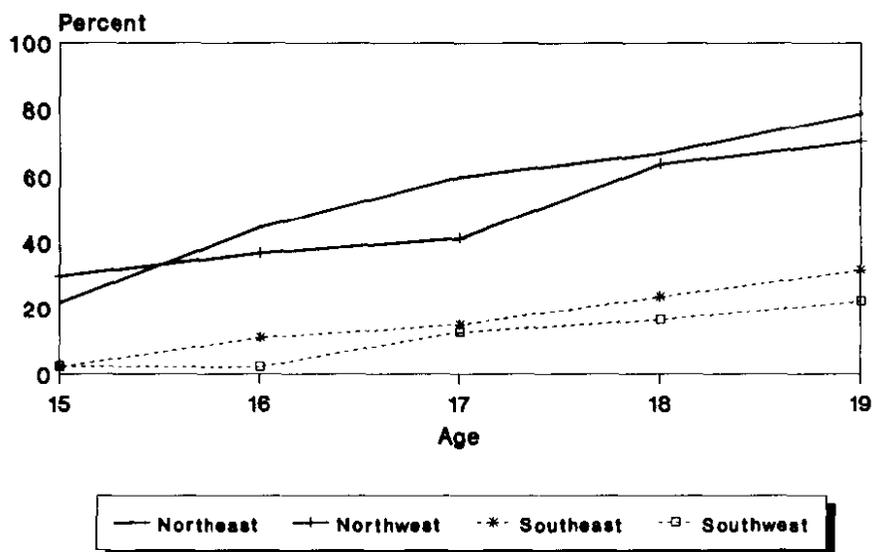
NDHS 1990

Whereas most teens who have begun childbearing have given birth only once, a small proportion have given birth twice. Table 3.10 shows the distribution of women age 15-19 by number of children ever born, excluding those who are currently pregnant. Eleven percent of women age 18 have given birth to two children. By giving birth early and presumably with short birth intervals, these women and their children are at a higher risk of dying. The issue of high-risk childbearing is discussed in Chapter 8.

Table 3.10 Children born to teenagers

Percent distribution of teenagers 15-19 by number of children ever born (CEB), Nigeria 1990

	Number of children ever born				Mean number of	Number of
Age	0	1	2+	Total	CEB	teenagers
15	90.8	8.4	0.9	100.0	0.1	373
16	85.1	13.6	1.3	100.0	0.2	322
17	75.3	17.7	7.0	100.0	0.3	326
18	65.6	23.8	10.6	100.0	0.5	333
19	61.0	25.8	13.2	100.0	0.6	259
Total	76.5	17.3	6.2	100.0	0.3	1,612

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CHAPTER 4

FERTILITY REGULATION

4.1 Knowledge of Contraception

Determining the level of knowledge of contraceptive methods and of services was a major objective of the Nigeria DHS survey, since knowledge of specific methods and of the places where they can be obtained is a precondition for use. Information about knowledge of contraceptive methods was collected by asking the respondent to name ways or methods by which a couple could delay or avoid pregnancy. If the respondent failed to mention a particular method spontaneously, the interviewer described the method and asked if she recognised it. Eight modern methods—the pill, IUD, injection, foaming tablets, barrier methods (diaphragm, foam and jelly), condoms, female sterilisation and male sterilisation—were described, as well as two traditional methods—periodic abstinence (rhythm method) and withdrawal. Any other methods mentioned by the respondent, such as herbs or breastfeeding, were also recorded. For each method recognised, the respondent was asked if she knew where a person could obtain the method. If she reported knowing about the rhythm method, she was asked if she knew where a person could obtain advice on how to use the method.

Table 4.1 indicates that less than half (46 percent) of all Nigerian women age 15-49 know of at least one method of family planning. Looked at another way, this means that over half of the women reported that

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, Nigeria 1990

Contraceptive method	Know method		Know a source	
	All women	Currently married women	All women	Currently married women
Any method	45.7	43.6	34.0	31.9
Modern method	43.5	41.2	33.2	31.2
Pill	35.1	33.8	25.0	24.1
IUD	20.3	19.8	15.9	15.6
Injection	34.2	33.6	25.2	24.8
Foaming tablets	10.7	9.6	8.1	7.1
Diaphragm/foam/jelly	7.9	7.3	6.2	5.7
Condom	24.1	21.6	17.7	15.9
Female sterilisation	20.4	19.4	15.7	14.9
Male sterilisation	7.5	6.7	5.6	4.9
Any traditional method	25.7	23.6	10.8	8.9
Rhythm	17.3	14.7	10.8	8.9
Withdrawal	14.2	12.4	NA	NA
Other traditional methods	10.0	10.3	NA	NA
Number of women	8,781	6,880	8,781	6,880

they did not know *any* method of family planning. Knowledge of methods was slightly lower among currently married women and higher among never-married women than among all women. However, since it is currently married women who are at greatest risk of pregnancy, this chapter focuses primarily on them.

Almost twice as many married women reported knowing a modern method (41 percent) as reported knowing a traditional method (24 percent). The most frequently reported methods are the pill and injection, each known by 34 percent of married women. Following these, the condom, IUD, and female sterilisation are the most commonly known methods (about 20 percent of married women). Other modern methods (foaming tablets, diaphragm, and male sterilisation) are less well known. As for traditional methods, about 15 percent of married women know the rhythm method, i.e, periodic abstinence, while 12 percent know withdrawal.

Although the level of contraceptive knowledge in Nigeria is low, there has been improvement over time. In the 1981/82 Nigerian Fertility Survey (NFS), only 34 percent of all women[1] reported that they had heard of any method (National Population Bureau and World Fertility Survey, 1984, Table 7.2). Thus, in the 10 years between the NFS and the NDHS, the level of contraceptive knowledge increased by 35 percent. There were also large increases in the proportion of women who know specific methods (see Figure 4.1).

Not all women who know a family planning method know where they can obtain it. One-quarter of the women who have heard of the two most frequently mentioned methods, the pill and injection, do not know a place where they can obtain the methods. The same is true for condoms. Overall, only one-third of

Figure 4.1
Trends in Contraceptive Knowledge
Women 15-49, NFS and NDHS Surveys

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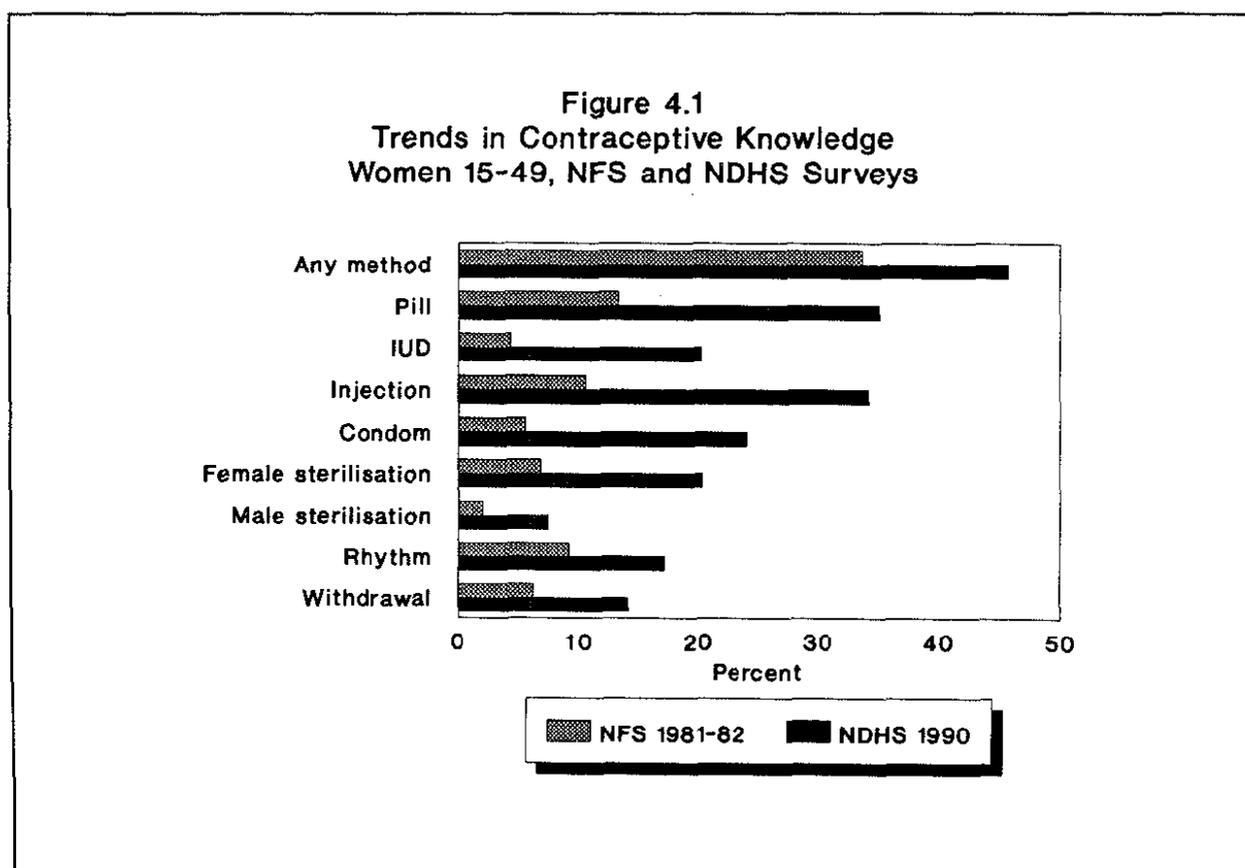
[1] Data from the NFS are tabulated for all women, not just currently married women.

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currently married women know a place where they can obtain some method of family planning. As with knowledge of the methods themselves, knowledge of places where specific methods can be obtained is slightly higher among women who have never been married than among those who are currently married.

Table 4.2 indicates that among married women, knowledge of at least one contraceptive method is somewhat higher among women in their late 20s than among younger or older women. This is also true for knowledge of at least one modern method and knowledge of a place to obtain a modern method. Knowledge of contraceptive methods and their sources differs substantially by urban-rural residence. The proportion of

Table 4.2 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, Nigeria 1990

Background characteristic	Know any method	Know a modern method[1]	Know a source for modern method	Number of women
Age				
15-19	31.7	30.5	23.0	597
20-24	45.4	42.1	31.8	1,279
25-29	49.2	47.2	36.1	1,492
30-34	43.5	41.9	30.1	1,348
35-39	44.4	42.1	34.0	892
40-44	43.9	41.4	31.3	731
45-49	35.3	30.2	23.9	543
Residence				
Urban	70.4	68.5	58.9	1,476
Rural	36.3	33.7	23.7	5,404
Region				
Northeast	24.0	21.9	17.9	1,849
Northwest	30.3	27.7	15.1	1,944
Southeast	56.6	53.9	40.9	1,801
Southwest	73.6	71.4	61.2	1,287
Education				
No education	29.1	26.7	18.3	4,610
Some primary	63.1	60.2	43.0	594
Completed primary	67.2	64.5	52.6	911
Some secondary	83.8	82.0	66.0	322
Completed secondary/higher	90.8	89.4	81.9	438
Total	43.6	41.2	31.2	6,880

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

urban married women who know at least one family planning method (70 percent) is twice that of rural women (36 percent). The same relationship holds for knowledge of a modern method; however, knowledge of a source for a modern method shows an even wider differential, with almost 60 percent of urban women knowing a source, compared to only 24 percent of rural women. This means that, not only are rural women less likely than urban women to know specific contraceptive methods, but even among those who do, a smaller percentage know of a source for these methods.

Differences in contraceptive knowledge by region are large. The proportion of married women who have heard of at least one family planning method is three times higher in the Southwest (74 percent) than in the Northeast (24 percent). The level of knowledge in the Southeast (57 percent) is also higher than in the Northwest (30 percent). The same pattern holds for knowledge of modern methods and for knowledge of where these methods can be obtained.

There are also large differences in contraceptive knowledge by educational attainment. Fewer than 30 percent of women with no education say that they have heard of any method of family planning, compared to two-thirds of those with primary education and over 80 percent of those with some secondary education. Over 90 percent of respondents who completed secondary school have heard of a family planning method.

4.2   Ever Use of Contraception

All women interviewed in the NDHS who said that they had heard of a method of family planning were asked if they had ever used it. Only one in seven Nigerian women (15 percent) has ever used a method of family planning and only one in eleven (9 percent) has ever used a modern method (see Table 4.3). A slightly smaller proportion of currently married women (14 percent) have ever used family planning than among all women (15 percent). Ever-use is lowest for those in the youngest and oldest age groups (15-19 and 45-49 years) and is relatively uniform for those in the intermediate age groups. Ever-use of modern methods among currently married women is only slightly higher than ever-use of traditional methods. The most widely used methods are the pill (5 percent of married women) and rhythm method, i.e., periodic abstinence (4 percent). Three percent of married women have ever used withdrawal, and two percent each have ever used condoms, injection, and the IUD.

The level of ever use of family planning appears to remain constant over time, with 14 percent of currently married women in both the 1981/82 NFS and the 1990 NDHS saying they had used a family planning method sometime[2] (London, et al., 1985). However, most of the ever-use reported in the earlier survey consisted of prolonged abstinence, which was not specifically asked about in the NDHS and is not considered a family planning method as such. Ever use of modern methods increased among currently married women from 2 percent in 1981/82 to 8 percent in 1990.

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[2] Data from the NFS cited here are not strictly comparable to those from the NDHS, since they refer to women age 15-44, instead of 15-49; however, the effect of this discrepancy is minimal.

Table 4.3 Ever use of contraception

Percentage of all women and currently married women who have ever used a contraceptive method, by specific methods and age, Nigeria 1990

Background characteristic	Age of woman							All Ages
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
ALL WOMEN								
Any method	8.3	18.0	18.7	14.1	18.3	15.7	12.7	15.2
Modern method	4.0	10.1	11.3	8.0	12.3	11.5	7.1	9.0
Pill	1.8	5.0	6.5	4.5	7.0	5.9	4.6	4.9
IUD	0.2	0.7	1.3	1.8	3.1	3.8	2.0	1.6
Injection	0.5	1.5	1.6	2.0	3.0	3.9	2.2	1.8
Foaming tablets	0.7	0.6	0.6	0.6	1.1	0.8	0.0	0.6
Diaphragm/foam/jelly	0.2	0.1	0.3	0.2	0.3	0.1	0.0	0.2
Condom	1.6	4.6	3.8	1.9	1.6	1.0	1.0	2.5
Female sterilisation	0.0	0.0	0.1	0.1	0.4	1.3	0.6	0.2
Male sterilisation	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0
Any traditional method	5.9	12.8	11.7	9.0	8.6	6.5	8.0	9.3
Rhythm	3.9	7.7	7.8	4.5	4.5	3.1	3.4	5.4
Withdrawal	1.8	5.0	5.5	3.3	2.6	2.1	1.9	3.5
Other traditional methods	1.3	2.7	1.8	2.5	2.7	2.4	3.7	2.3
Number of women	1,612	1,676	1,669	1,410	954	836	624	8,781
CURRENTLY MARRIED WOMEN								
Any method	4.4	13.4	16.0	13.7	17.3	16.2	12.1	14.0
Modern method	2.2	7.3	9.6	7.6	11.3	12.1	7.2	8.4
Pill	1.0	4.1	5.6	4.4	6.1	6.4	4.5	4.8
IUD	0.3	0.7	1.2	1.9	2.6	4.1	2.3	1.7
Injection	0.5	1.5	1.3	1.7	3.1	4.0	2.4	1.9
Foaming tablets	0.1	0.2	0.6	0.5	1.2	1.0	0.0	0.5
Diaphragm/foam/jelly	0.0	0.0	0.2	0.2	0.3	0.1	0.0	0.1
Condom	0.7	2.2	3.3	1.8	1.7	1.0	1.0	2.0
Female sterilisation	0.0	0.0	0.1	0.1	0.4	1.4	0.5	0.3
Male sterilisation	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Any traditional method	2.9	9.0	9.6	8.7	8.7	6.6	6.9	8.1
Rhythm	1.0	5.0	6.1	4.3	4.8	3.1	2.3	4.3
Withdrawal	1.1	2.5	4.6	3.1	2.5	2.2	1.3	2.8
Other traditional methods	1.2	2.4	1.7	2.4	2.7	2.3	3.7	2.3
Number of women	597	1,279	1,492	1,348	892	731	543	6,880

4.3 Current Use of Contraception

Only 6 percent of currently married women in Nigeria are using a contraceptive method (see Table 4.4). Contraceptive use among women who are not married is twice as high, 13 percent (not shown). Since it is customary to analyze contraceptive use among currently married women, this chapter focuses primarily on married women.

Table 4.4 Current use of contraception

Percent distribution of all women and of currently married women by contraceptive method currently used, according to age, Nigeria 1990

Method	Age of woman								
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-44	15-49
ALL WOMEN									
Any method	5.9	9.5	8.6	6.5	8.4	7.9	4.2	7.8	7.5
Any modern method	1.9	3.8	3.9	3.6	5.3	5.4	3.3	3.8	3.8
Pill	1.0	1.7	1.7	1.1	1.7	1.1	1.3	1.4	1.4
IUD	0.1	0.3	0.9	1.1	1.2	1.7	0.6	0.7	0.7
Injection	0.1	0.7	0.4	0.9	1.5	1.1	0.6	0.7	0.7
Foaming tablets	0.3	0.1	0.1	0.2	0.2	0.2	0.0	0.2	0.2
Condom	0.4	1.1	0.8	0.2	0.3	0.1	0.1	0.6	0.5
Female sterilisation	0.0	0.0	0.1	0.1	0.4	1.3	0.6	0.2	0.2
Any traditional method	3.9	5.6	4.6	2.8	3.1	2.5	1.0	4.0	3.8
Rhythm	2.9	3.7	3.3	1.5	1.6	1.0	0.3	2.6	2.4
Withdrawal	0.5	1.2	0.9	0.5	0.6	0.8	0.1	0.8	0.7
Other traditional methods	0.6	0.8	0.4	0.7	1.0	0.7	0.5	0.7	0.7
Not using	94.1	90.5	91.4	93.5	91.6	92.1	95.8	92.2	92.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,612	1,676	1,669	1,410	954	836	624	8,157	8,781
CURRENTLY MARRIED WOMEN									
Any method	1.3	5.1	6.0	6.5	8.6	8.4	4.6	6.1	6.0
Any modern method	0.6	2.7	3.1	3.7	5.4	5.8	3.6	3.5	3.5
Pill	0.2	1.4	1.2	1.1	1.8	1.2	1.5	1.2	1.2
IUD	0.0	0.2	0.7	1.1	1.0	1.9	0.7	0.8	0.8
Injection	0.0	0.6	0.3	0.9	1.6	1.0	0.7	0.8	0.7
Foaming tablets	0.0	0.1	0.1	0.2	0.2	0.2	0.0	0.1	0.1
Condom	0.4	0.4	0.6	0.2	0.4	0.1	0.1	0.4	0.4
Female sterilisation	0.0	0.0	0.1	0.1	0.4	1.4	0.5	0.3	0.3
Any traditional method	0.7	2.4	3.0	2.7	3.2	2.6	1.0	2.6	2.5
Rhythm	0.2	1.6	2.0	1.4	1.7	1.0	0.4	1.4	1.4
Withdrawal	0.3	0.4	0.7	0.6	0.6	0.9	0.0	0.6	0.5
Other traditional methods	0.3	0.4	0.4	0.8	0.9	0.7	0.6	0.6	0.6
Not using	98.7	94.9	94.0	93.5	91.4	91.6	95.4	93.9	94.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	597	1,279	1,492	1,348	892	731	543	6,338	6,880

Almost as many married women are using traditional methods (3 percent) as are using modern methods (4 percent). The most popular contraceptive method is the rhythm method, i.e, periodic abstinence, followed by the pill, IUD, and injection, each of which is used by about one percent of married women. Contraceptive use is highest among women in their late 30s and early 40s, and lowest among women age

15-19. This pattern is most likely due largely to the fact that younger women are just starting their families, while older women are more likely to have completed their families and to want to stop childbearing altogether. For the same reasons, younger women are more likely to use less effective methods such as withdrawal or rhythm, or temporary methods such as the condom, while older women are more likely to use more effective methods such as the pill, IUD, and injection.

As with the data on ever use, it appears at first glance that the level of current use of family planning has changed little over time, increasing among married women age 15-44 from 5 percent in 1981/82 (London, et al., 1985) to 6 percent in 1990. However, most of current use in the earlier survey was of traditional methods, almost exclusively prolonged abstinence. Looking just at modern methods, current use increased from 1 percent to 4 percent among married women age 15-44.

While overall use of family planning is quite low, the NDHS data show that some women are more likely to be using contraception than others (see Table 4.5 and Figure 4.2). Women most likely to be using

Table 4.5 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Nigeria 1990

Background characteristic	Any method	Modern methods					Traditional methods				Not using any method	Total	Number of women
		Any modern method	Pill	IUD	Injection	Condom	Any trad. method	Periodic abstinence	Withdrawal	Other			
Residence													
Urban	14.8	9.6	3.1	2.5	1.8	1.1	5.2	3.5	1.1	0.6	85.2	100.0	1,476
Rural	3.6	1.9	0.7	0.3	0.4	0.1	1.7	0.8	0.4	0.5	96.4	100.0	5,404
Region													
Northeast	2.0	1.3	0.5	0.1	0.5	0.0	0.7	0.0	0.2	0.5	98.0	100.0	1,849
Northwest	1.2	0.7	0.4	0.2	0.0	0.0	0.5	0.0	0.0	0.4	98.8	100.0	1,944
Southeast	8.8	3.9	0.8	0.9	1.1	0.5	5.0	3.5	1.0	0.5	91.2	100.0	1,801
Southwest	15.0	10.5	4.0	2.5	1.6	1.2	4.5	2.3	1.1	1.1	85.0	100.0	1,287
Education													
No education	2.0	1.3	0.5	0.2	0.3	0.0	0.7	0.1	0.1	0.4	98.0	100.0	4,610
Some primary	7.8	3.9	1.3	0.6	1.1	0.0	3.9	1.5	1.4	1.0	92.2	100.0	594
Completed primary	10.5	6.4	2.0	1.9	1.4	0.3	4.1	2.8	0.5	0.8	89.5	100.0	911
Some secondary	17.0	9.7	3.2	1.7	2.8	1.1	7.3	4.1	2.1	1.1	83.0	100.0	322
Completed secondary/higher	28.4	16.7	5.5	4.4	1.6	4.2	11.7	9.0	2.2	0.4	71.6	100.0	438
Number of living children													
None	4.2	1.6	0.9	0.0	0.3	0.3	2.6	2.0	0.3	0.3	95.8	100.0	802
1	3.5	1.7	0.7	0.1	0.1	0.6	1.8	0.9	0.6	0.3	96.5	100.0	1,154
2	4.1	2.6	0.9	0.3	0.6	0.7	1.6	0.8	0.2	0.5	95.9	100.0	1,172
3	5.1	2.8	0.9	0.8	0.5	0.1	2.3	1.3	0.5	0.5	94.9	100.0	1,051
4	7.0	4.5	1.1	1.9	0.9	0.3	2.5	1.5	0.5	0.5	93.0	100.0	894
5 or more	9.6	6.2	2.2	1.4	1.5	0.2	3.5	1.7	0.8	1.0	90.4	100.0	1,806
Total	6.0	3.5	1.2	0.8	0.7	0.4	2.5	1.4	0.5	0.6	94.0	100.0	6,880

Note: Total users of modern methods and all methods include users of foaming tablets (0.1 percent of women) and female sterilisation (0.3 percent of women).

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Figure 4.2
Current Use of Contraception
Currently Married Women 15-49

RESIDENCE
Urban — 15
Rural — 4

REGION
Northeast — 2
Northwest — 1
Southeast — 9
Southwest — 15

EDUCATION
No educ. — 2
Prim. Incomp. — 8
Prim. Comp. — 11
Sec. Incomp — 17
Sec./Higher — 28

Percent (0, 10, 20, 30)
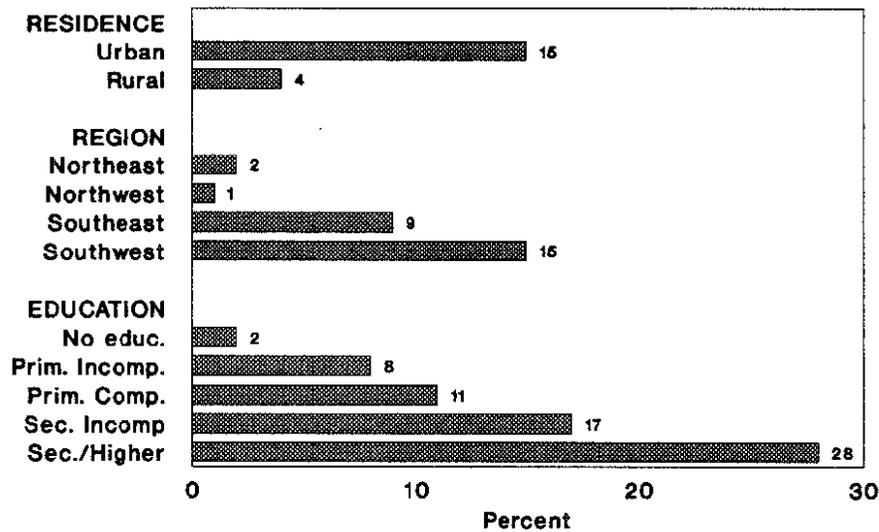
NDHS 1990

contraception are those in urban areas, those in the Southwest, those with more education, and those with five or more children. Urban women are four times more likely to be using family planning (15 percent) than rural women (4 percent). Both urban and rural women rely primarily on the rhythm method, followed by the pill.

The proportion of married women using any method of contraception varies widely by region, from 1 percent in the Northwest to 15 percent in the Southwest. In the North, the pill and traditional methods (other than rhythm, i.e., periodic abstinence, and withdrawal) are the most frequently used methods; in the Northeast, injection is also used. In the Southeast, the rhythm method is the most popular method, followed by injection, withdrawal, the IUD, and the pill, all of which have about the same level of use. In the Southwest, the pill, IUD, and rhythm are the most widely used methods.

Greater use of family planning among women with formal education—an association documented in countries around the world—also occurs in Nigeria. Contraceptive use increases steadily with increasing level of education, from 2 percent of women with no education to more than one-quarter (28 percent) of those who have completed secondary education. At all educational levels, traditional methods account for around half or just under half of all use, and the rhythm method is the single most widely used method for all but those with no education. As for modern methods, the pill is the most popular method among all educational groups. Use of condoms is limited to those who have secondary schooling.

Contraceptive use varies little according to the number of children a woman has, up to four children. As the number of children increases, use of modern methods becomes more important in the overall method mix.

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4.4 Number of Children at First Use of Contraception

In many cultures, family planning is used only when couples have already had as many children as they want. As the concept of planning families gains acceptance, however, couples may begin to use contraception for spacing births as well as for limiting family size. Moreover, unmarried young women may be particularly motivated to use family planning to avoid an unwanted pregnancy.

Table 4.6 shows the number of children a woman had when she first used contraception. For older age cohorts, women generally started using family planning only after they had had five or more children. For younger age cohorts, women were more likely to have started using family planning before they had had any children. For example, roughly the same proportion of women age 45-49 and 20-24 have ever used a contraceptive method (13 percent and 14 percent, respectively). However, while over half of the ever users age 45-49 waited until they had had at least four children, half of the ever users age 20-24 started to use a method before they had had any children at all. This reflects a shift towards use of family planning for spacing purposes.

Table 4.6 Number of children at first use of contraception

Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age, Nigeria 1990

Current age	Never used contraception	Number of living children at time of first use of contraception						Total	Number of women
		0	1	2	3	4	5+		
15-19	95.7	2.4	1.8	0.0	0.0	0.0	0.0	100.0	622
20-24	86.3	6.6	3.7	1.9	1.0	0.2	0.0	100.0	1,312
25-29	84.0	4.7	4.0	2.9	2.3	1.1	1.0	100.0	1,537
30-34	86.2	2.3	2.8	2.4	1.5	1.8	2.8	100.0	1,397
35-39	82.3	2.2	1.1	2.6	1.8	2.7	7.0	100.0	943
40-44	84.3	1.5	1.5	1.2	2.6	2.3	6.1	100.0	834
45-49	87.3	0.9	1.2	0.7	2.7	1.2	5.9	100.0	624
Total	85.9	3.4	2.6	1.9	1.7	1.3	2.9	100.0	7,268

4.5 Use of Social Marketing Brand Pills

Several years ago, a social marketing programme was launched to distribute oral contraceptives (the pill) through the private sector. The programme operates by providing a large pharmaceutical company with pills for a price that is just above cost. The company then sells them through its roughly 4000 outlets throughout the country. More recently, the programme was expanded to include condoms and foaming tablets, but this change was too recent to be measured in the NDHS.

In order to measure the extent to which the programme has reached the general public, all NDHS respondents who reported that they were currently using the pill (121 women) were asked to show the packet of pills they were using, or, if they could not, to tell the interviewer which brand they were using. Overall, only 4 percent of pill users were using either of the two social marketing brands, Nordiol and Norquest. The

proportion was the same in urban and rural areas (4 percent in urban, 5 percent in rural areas). The social marketing project seems to have made the greatest impact in the Southeast, where 10 percent of pill users are using a social marketing brand; in the Southwest, the proportion is only 3 percent. There were too few pill users in the Northeast and Northwest to tabulate brand used. In fact, even in the two southern regions, the numbers of pill users is small, and, consequently, the data on brands used are subject to relatively high sampling errors. It should be noted that both brands are available through outlets other than those of the social marketing project; however, most users of these brands probably obtained them through project outlets.

4.6   Knowledge of the Fertile Period

A basic knowledge of reproductive physiology is useful for successful practice of coital-related methods such as withdrawal, the condom, or barrier methods, but it is especially important for users of periodic abstinence or the rhythm method. The successful practice of periodic abstinence depends on an understanding of when during the ovulatory cycle a woman is most likely to conceive. Table 4.7 presents the percent distribution of all respondents and those who have ever used periodic abstinence by reported knowledge of the fertile period in the ovulatory cycle.

Table 4.7 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, Nigeria 1990

Perceived fertile period	All women	Ever users of periodic abstinence
During menstrual period	2.3	3.7
Right after period has ended	30.2	34.1
In the middle of the cycle	20.0	42.6
Just before period begins	2.7	3.1
At any time	9.4	8.4
Don't know	35.1	7.9
Total	100.0	100.0
Number	8,781	474

Thirty-five percent of the women interviewed said they did not know when a woman is most likely to conceive and 30 percent said that a woman is most likely to conceive just after her period has ended. Only 20 percent gave the "correct" response: that a woman is most likely to conceive in the middle of her ovulatory cycle. Ever-users of periodic abstinence are more knowledgeable about the ovulatory cycle than women in general. Forty-three percent identified the fertile time as occurring in the middle of the cycle, and only 8 percent said they did not know when it occurred. It should be noted that the precoded response categories for this question are only one way of dividing the cycle into distinct periods. Women may actually have a more accurate understanding of their fertility cycles than is reflected by these categories. However, it appears that almost half of all women and one-fifth of those who have used periodic abstinence *do not*

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understand the ovulatory process, since they either reported that they did not know when a woman is most likely to get pregnant or they gave answers such as "during her period" or "at any time."

4.7 Sources for Family Planning Methods

All current users of modern methods of family planning were asked to report the source from which they most recently obtained their methods. Because women often do not know exactly which category the source they use falls into (e.g., government hospital, private health centre, etc.), interviewers were instructed to write the *name* of the source. Supervisors and field editors were to verify that the name and the type of source were consistent, asking cluster informants for the names of local family planning sources if necessary. This practice was designed to improve the reporting of data on sources of family planning.

Table 4.8 indicates that 37 percent of modern method users last obtained their methods from public (government) sources, while 47 percent relied on private sources, and 4 percent used outlets of the Planned Parenthood Federation of Nigeria. Government hospitals were the single most frequently cited source, 26 percent of users. In fact, one-half of users obtained their methods from hospitals or health centres, whether public or private.

Table 4.8 Source of supply for modern contraceptive methods

Percent distribution of current users of modern contraceptive methods by most recent source of supply or information, according to specific method, Nigeria 1990

Source	Pill	IUD	Injection	Durex/ Condom	Total[1]
Total government	29.0	61.0	44.9	(13.4)	36.7
Government hospital	19.5	41.2	31.9	(7.2)	25.9
Government health centre	8.2	19.8	10.9	(6.2)	10.0
Government doctor	1.3	0.0	2.1	(0.0)	0.9
PPFM	2.3	7.8	3.6	(3.6)	4.3
Total private	62.1	20.0	48.5	(54.9)	47.2
Private doctor	1.5	0.7	8.3	(0.2)	2.2
Private hospital/health centre	4.1	18.6	35.6	(4.0)	13.2
Private pharmacy	23.9	0.0	0.0	(14.2)	11.7
Private patient medical office	28.8	0.0	3.0	(30.7)	17.3
Private market	2.0	0.0	0.0	(4.1)	1.3
Private place of work	1.8	0.8	1.6	(1.7)	1.3
Total other sources	5.9	11.1	3.0	(11.7)	8.8
Mission	1.5	10.1	1.6	(0.0)	5.0
Friends/relatives	4.4	1.0	1.3	(11.3)	3.7
Don't know/Missing	0.7	0.0	0.0	(16.4)	2.9
Total	100.0	100.0	100.0	100.0	100.0
Number of users	121	65	61	46	329

[1]Users of foaming tablets (0.2 percent) and female sterilisation (0.2 percent) are excluded because there are fewer than 25 cases for each category.

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Which source a woman uses depends on many things, one of which is the type of method she has chosen. Most pill users obtain supplies from private sources, one-quarter from pharmacies and one-quarter from patent medicine shops. Conversely, the IUD is obtained largely from government facilities, approximately two-fifths from government hospitals and one-fifth from government health centres. Injections are obtained about equally from government and private sources. Most condoms are purchased from patent medicine shops and pharmacies, and the condom is the method most likely to be obtained from friends or relatives.

Overall, government sources supply 30 percent of pill users, 61 percent of IUD users, 45 percent of injection users, and 13 percent of condom users. Private sources supply 62 percent of pill users, 20 percent of IUD users, 49 percent of injection users, and 55 percent of condom users. Figure 4.3 summarises the sources for current users of all modern methods combined.

Figure 4.3
Sources of Family Planning Methods
Current Users of Modern Methods

Private 47%

Other 9%

Don't Know/
Missing 3%

PPFN 4%

Government 37%

NDHS 1990
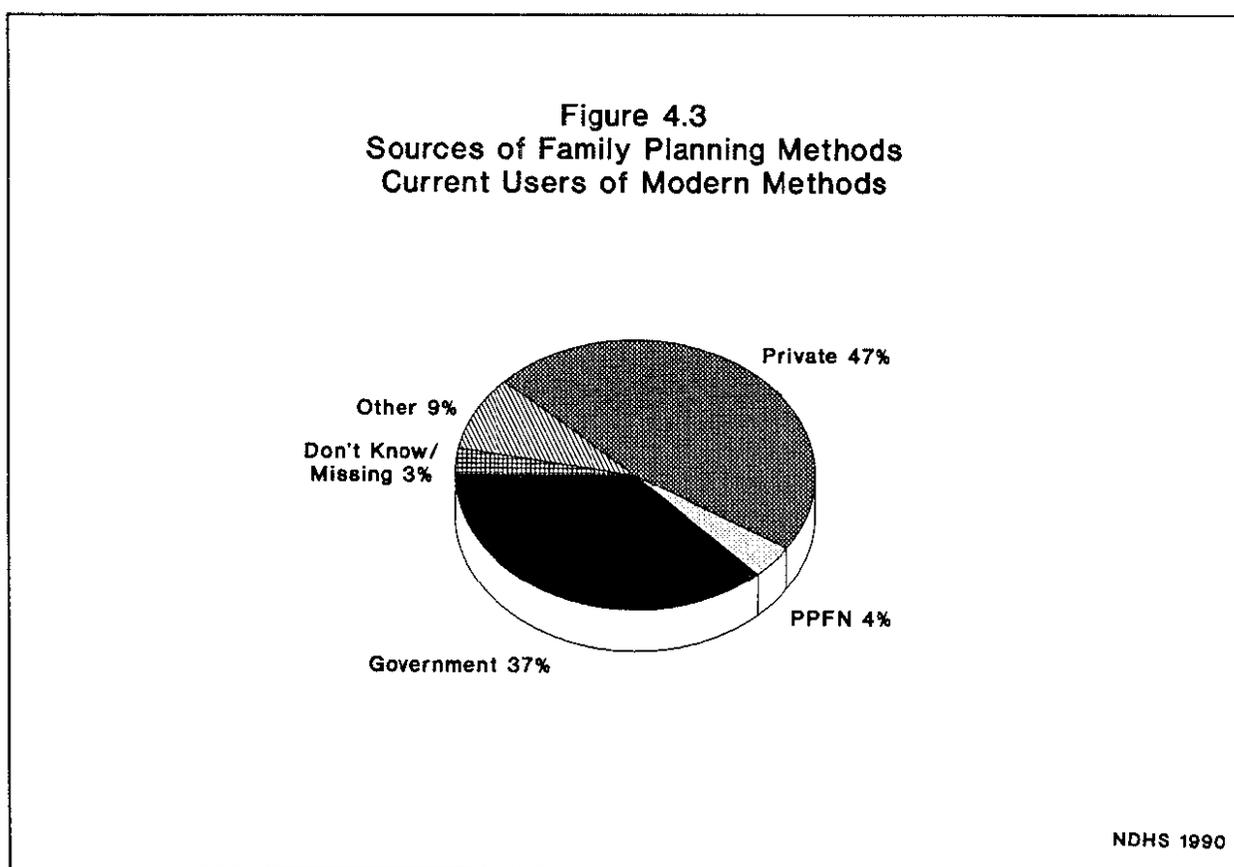
Women who are currently using a modern contraceptive method were asked how long it takes to travel from their home to the place where they obtain the method. Nonusers were asked if they knew a place where they could obtain a modern method and, if so, how long it would take to travel there. The results are shown in Table 4.9.

Looking first at women who are currently using a modern method, 34 percent are within 30 minutes of the place to which they go to get their method, while 30 percent are 30 minutes to one hour from their source. Only 22 percent of users of modern methods are one hour or more from their source of supply. As expected, urban users are generally closer than rural users to their supply sources.

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Table 4.9 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 of supply, according to urban-rural residence, Nigeria 1990

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
0-14	22.2	9.1	17.1	12.1	2.9	5.0	15.5	6.9	10.2
15-29	17.4	16.8	17.1	11.5	1.8	4.0	14.2	4.8	8.4
30-59	31.1	28.3	30.0	16.5	5.4	7.9	21.2	12.6	15.9
60 or more	17.0	30.6	22.3	9.5	13.7	12.7	12.1	28.0	21.9
Does not know time	11.4	14.4	12.6	3.8	1.6	2.1	4.8	4.1	4.3
Does not know source	1.0	0.8	0.9	45.9	73.7	67.5	20.9	35.0	29.6
Not stated	0.0	0.0	0.0	0.6	0.9	0.8	11.3	8.5	9.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median time to source	30.2	30.8	30.4	30.1	60.4	40.6	30.1	60.2	30.9
Number of women	200	129	329	1,821	6,296	8,117	1,542	2,475	4,017

Among women who are not currently using a modern method, two-thirds (68 percent) do not know a source for a modern contraceptive method. Since this question was asked of all nonusers and includes women who do not know a method, it is not surprising that so many do not know a source. The final panel of Table 4.9 is based on all women who know a method. Since women who were using a traditional method were not asked the questions on distance to a source of family planning, they are categorized as "not stated" in this panel. Even among women who know of at least one family planning method, 30 percent say they do not know of a place to get a modern method, and fewer than 20 percent are within 30 minutes of a source for a modern method. Among those who know a source, in urban areas there is no difference in the median distance (time) to a source between users and nonusers of modern methods; however, in rural areas, women who do not use are on average twice as far away from a source.

4.8   Intention to Use Family Planning Among Nonusers

Women who were not using a contraceptive method at the time of the survey were asked if they thought they would do something to keep from getting pregnant at any time in the future. Among currently married nonusers, a large majority (68 percent) said they do not intend to use family planning in the future (see Table 4.10). About one in five nonusers (22 percent) said they did intend to use in the future; just over half of these women said they planned to use a method within the next 12 months. Intention to use family planning is closely related to the number of children a woman has. While only 9 percent of childless nonusers said they intended to use family planning in the future, 26 percent of nonusers with four or more children said they intended to use.

Perhaps because contraceptive use is so low in Nigeria, the majority of those who say they intend to use contraception in the future are women who have never used. Those who used in the past but are not currently using make up less than one-quarter of those who intend to use in future.

Table 4.10 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, Nigeria 1990

Past experience with contraception and future intentions	Number of living children[1]					
	0	1	2	3	4+	Total
Never used contraception						
Intends to use in next 12 months	1.4	6.2	7.2	7.4	13.1	8.9
Intends to use later	4.9	9.4	7.9	8.3	7.0	7.6
Unsure as to intention	12.9	9.0	9.3	8.2	9.7	9.5
Does not intend to use	76.4	68.1	67.5	67.9	60.1	65.5
Previously used contraception						
Intends to use in next 12 months	0.6	2.0	2.6	3.9	4.6	3.3
Intends to use later	2.0	2.7	1.9	1.7	1.3	1.8
Unsure as to intention	0.2	0.7	0.9	0.4	0.6	0.6
Does not intend to use	1.6	1.9	2.6	2.2	3.4	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	2.0	8.1	9.7	11.3	17.7	12.2
Intends to use later	6.9	12.1	9.9	10.0	8.3	9.4
Unsure as to intention	13.1	9.7	10.2	8.6	10.3	10.2
Does not intend to use	78.0	70.1	70.1	70.2	63.6	68.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	578	1,127	1,095	1,058	2,606	6,465

[1]Includes current pregnancy

Table 4.11 presents the reasons for not using contraception given by women who do not intend to use a method. Of the 68 percent of married nonusers who say they do not intend to use family planning in the future, almost half say they do not intend to use because they want children (47 percent). Other reasons given are "religion" (12 percent), lack of knowledge (12 percent), and "fatalism" (6 percent), which encompasses responses that imply that there is nothing the woman can do about the number of children she will have. Women under age 30 are more likely to say that they do not intend to use because they want children, while those age 30 and over are more likely to cite reasons such as being menopausal or infecund ("difficult to get pregnant"), or lack of knowledge.

Table 4.11 Reasons for not using contraception

Percent distribution of 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, Nigeria 1990

Reason for not using contraception	Age		Total
	15-29	30-49	
Wants children	57.7	37.6	47.1
Lack of knowledge	9.3	14.0	11.7
Fatalistic	5.3	6.0	5.7
Costs too much	0.2	0.5	0.4
Side effects	2.2	3.5	2.9
Health concerns	0.7	1.4	1.1
Hard to get methods	0.6	0.4	0.5
Religion	12.1	12.3	12.2
Opposed to family planning	3.4	4.4	3.9
Partner opposes family planning	2.8	2.2	2.5
Others oppose family planning	0.5	0.2	0.4
Infrequent sex	0.4	1.3	0.9
Difficult to get pregnant	1.9	6.3	4.2
Menopausal/hysterectomy	0.0	6.0	3.2
Inconvenient	0.6	1.0	0.8
Other reasons	0.4	0.6	0.5
Don't know	2.1	1.9	2.0
Total	100.0	100.0	100.0
Number of women	2,092	2,315	4,408

Nonusers who said that they *did* intend to use family planning in the future were asked which method they preferred to use (see Table 4.12). Most of these women said they preferred to use either the pill (30 percent) or injection (24 percent), while almost one-quarter (23 percent) were unsure which method they might use. Women who intend to use in the next 12 months are more likely to know which method they prefer to use and strongly favour the pill, while women who intend to use after 12 months are more likely to say they are unsure of which method they might use.

Table 4.12 Preferred method of contraception for future use

Percent distribution of currently married women 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, Nigeria 1990

Preferred method of contraception	Intend to use		
	In next 12 months	After 12 months	Total
Pill	34.0	24.2	29.7
IUD	6.2	4.4	5.5
Injection	26.7	21.2	24.3
Foaming tablets	0.3	0.3	0.3
Diaphragm/foam/jelly	1.1	0.8	1.0
Durex/Condom	1.7	2.6	2.0
Female sterilisation	4.2	3.6	3.9
Rhythm	5.2	5.6	5.4
Withdrawal	1.8	2.2	2.0
Other	2.8	3.1	3.0
Unsure/Don't know	16.1	31.9	23.0
Total	100.0	100.0	100.0
Number of women	790	607	1,397

4.9 Approval of Family Planning

All respondents in the NDHS were asked if they had heard a message about family planning on radio or television in the month preceding the survey. One in four women said they had heard a message, while three-quarters had not (see Table 4.13). The proportion of women who had heard family planning messages varied widely by background characteristics. One-half of women who live in urban areas or in the Southwest had heard messages, compared to less than 20 percent of women living in rural areas or in regions other than the Southwest. More educated women were also much more likely to have heard a family planning message on radio or television than their less educated counterparts.

Table 4.13 Family planning messages on radio and television

Percent distribution of all women by whether they have heard a family planning message on radio or on television in the month preceding the survey, according to selected background characteristics, Nigeria 1990

Background characteristic	Heard family planning message on radio or on television		Total	Number of women
	No	Yes		
Residence				
Urban	50.2	49.8	100.0	2,187
Rural	83.8	16.2	100.0	6,594
Region				
Northeast	84.7	15.3	100.0	2,000
Northwest	80.1	19.9	100.0	2,098
Southeast	79.5	20.5	100.0	2,769
Southwest	54.5	45.5	100.0	1,915
Education				
No education	84.5	15.5	100.0	5,020
Some primary	78.8	21.2	100.0	794
Completed primary	66.8	33.2	100.0	1,300
Some secondary	58.8	41.2	100.0	765
Completed secondary/higher	48.2	51.8	100.0	894
Total	75.4	24.6	100.0	8,781

Table 4.14 presents results from a question on whether women believe it acceptable or not acceptable to air family planning messages over radio or television. Just over half the women interviewed said that such messages are acceptable to them.[3] The proportion of women who think family planning messages are acceptable varies little according to the age group of the woman; only those age 45-49 are slightly less likely to find such messages acceptable. However, there are strong differences in the acceptability of family planning messages by background characteristics. Women living in urban areas or in the Southwest, as well as more educated women are much more likely to accept family planning messages on radio or television than other women.

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[3] Although not shown in Table 4.14, 30 percent said that it was not acceptable and 14 percent had no opinion.

Table 4.14 Acceptability of the use of mass media for disseminating family planning messages

Percentage of women who believe that it is acceptable to have messages about family planning on radio or television, by age and selected background characteristics, Nigeria 1990

Background characteristic	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	74.0	81.4	80.9	75.1	74.6	71.8	63.7	76.4
Rural	49.3	50.5	51.7	47.4	48.8	52.1	43.1	49.4
Region								
Northeast	37.4	38.4	38.1	35.6	39.2	38.4	24.7	36.7
Northwest	32.6	40.1	42.6	37.6	29.5	37.8	31.0	37.2
Southeast	67.4	71.3	72.6	67.5	61.2	64.2	59.0	67.4
Southwest	76.6	86.0	85.0	78.3	81.2	81.2	72.2	80.8
Education								
No education	28.9	31.9	39.9	42.9	42.8	47.2	40.9	39.6
Some primary	56.9	69.0	66.3	75.9	78.1	88.8	78.2	70.3
Completed primary	64.7	69.1	76.3	75.9	86.2	84.6	80.9	72.9
Some secondary	75.3	83.5	91.6	84.5	94.0	96.6	100.0	81.6
Completed secondary/higher	85.4	89.4	91.1	93.1	97.9	94.4	73.5	89.8
Total	56.4	59.1	59.1	53.9	54.7	56.2	46.9	56.1

An indication of the acceptability of family planning is the extent to which couples discuss the topic with each other. Table 4.15 indicates that 41 percent of married women who know a contraceptive method had discussed family planning with their husbands in the previous year. Most of these women had discussed

Table 4.15 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, Nigeria 1990

Age	Number of times family planning discussed				Total	Number of women
	Never	Once or twice	Three or more	Not ascertained		
15-19	69.7	22.4	6.9	0.9	100.0	189
20-24	62.0	26.4	11.4	0.3	100.0	580
25-29	57.9	25.0	16.6	0.5	100.0	735
30-34	55.2	25.2	19.2	0.5	100.0	587
35-39	54.4	23.4	20.9	1.3	100.0	397
40-44	53.0	20.2	23.6	3.2	100.0	321
45-49	60.7	18.0	19.1	2.2	100.0	191
Total	58.1	24.0	17.0	1.0	100.0	2,999

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the topic only once or twice with their husbands, but a substantial proportion had discussed family planning more often. Older women—except those age 45-49—are more likely to have discussed family planning with their husbands in the previous year than are younger women.

To obtain more direct information about the acceptability of family planning, respondents were asked if they approved or disapproved of couples using a method to avoid pregnancy. Although all women were asked this question, the data presented here is restricted to currently married women and excludes those women who had never heard of a contraceptive method. Currently married women were also asked if they thought that their husbands approved of the use of family planning. It should be noted that wives' opinions of their husbands' attitudes may be incorrect, either because they have misconstrued their husbands' true attitudes, or because of a tendency to report their husbands' attitudes as similar to their own. Table 4.16 presents results from these two questions.

Table 4.16 Attitudes of couples toward family planning

Among currently married women who know a contraceptive method, the percentage who approve of family planning, by their perception of their husband's attitude and selected background characteristics, Nigeria 1990

| | | | Respondent approves and: | | |
Background characteristic	Respondent approves	Both partners approve	Husband disapproves	Husband's attitude is unknown	Number of women
Age					
15-19	57.4	30.4	11.0	16.1	189
20-24	67.8	42.6	11.7	13.3	580
25-29	72.5	45.8	10.7	15.5	735
30-34	74.6	45.4	13.8	14.8	587
35-39	73.5	45.3	15.0	12.5	397
40-44	70.9	36.5	16.5	14.8	321
45-49	69.4	46.2	8.5	12.5	191
Residence					
Urban	77.5	51.2	12.8	12.7	1,039
Rural	67.2	38.8	12.4	15.2	1,961
Region					
Northeast	62.6	39.0	10.9	11.8	444
Northwest	54.2	34.5	6.2	13.4	589
Southeast	75.3	43.8	12.4	18.1	1,020
Southwest	80.1	49.6	17.5	12.0	947
Education					
No education	59.4	32.3	11.7	14.7	1,344
Some primary	71.0	38.4	14.7	16.5	375
Completed primary	77.4	49.6	12.7	14.3	612
Some secondary	83.6	51.3	16.3	15.0	269
Completed secondary/higher	89.9	68.3	10.7	10.5	398
Total	70.8	43.1	12.6	14.3	2,999

Overall, 71 percent of married women who know a contraceptive method approve of family planning. Forty-three percent of women say that their husbands also approve of family planning; only 13 percent say that they approve of family planning and their husbands do not. Approval of family planning by married women shows little variation by age of the woman, except that women age 15-19 are less likely to approve than older women. Married women (as well as their husbands) who live in urban areas, in the Southwest or the Southeast, and those who are better educated, are more likely than other women to approve of the use of family planning.

CHAPTER 5

PROXIMATE DETERMINANTS OF FERTILITY

This chapter addresses the principal factors, other than contraception, which affect a woman's risk of becoming pregnant: nuptiality and sexual intercourse, postpartum amenorrhoea and abstinence from sexual relations, and secondary infertility.

While it is by no means exact, marriage is an indicator of exposure of women to the risk of pregnancy, and is therefore important for the understanding of fertility. Populations in which age at marriage is low also tend to experience early childbearing and high fertility; hence the motivation to examine trends in age at marriage.

This chapter also includes more direct measures of the beginning of exposure to pregnancy and the level of exposure: age at first sexual intercourse and the frequency of intercourse. Measures of other proximate determinants of fertility are the durations of postpartum amenorrhoea and postpartum abstinence and the level of secondary infertility.

5.1   Marital Status

Current marital status at the time of the survey is shown in Table 5.1. The term "married" refers to legal or formal marriage, while "living together" refers to informal unions. In subsequent tables, these two categories are combined and referred to collectively as "currently married" or "currently in union." Women who are widowed, divorced, and not living together (separated) make up the remainder of the "ever-married" or "ever in union" category.

Table 5.1   Current marital status

Percent distribution of women by current marital status, according to age, Nigeria 1990

	Marital status							Number of women
Age	Never married	Married	Living together	Widowed	Divorced	Not living together	Total	
15-19	61.4	34.0	3.0	0.3	0.7	0.6	100.0	1,612
20-24	21.7	70.8	5.5	0.5	0.7	0.8	100.0	1,676
25-29	7.9	81.5	7.9	1.0	0.7	0.9	100.0	1,669
30-34	0.9	84.9	10.8	1.4	1.4	0.7	100.0	1,410
35-39	1.2	83.7	9.8	3.7	0.5	1.1	100.0	954
40-44	0.3	77.7	9.8	7.8	2.8	1.7	100.0	836
45-49	0.1	78.7	8.2	10.3	1.8	0.8	100.0	624
Total	17.2	70.9	7.4	2.4	1.1	0.9	100.0	8,781

Most women are currently in a union (78 percent). The NFS, which also defined marriage to include both formal and informal unions, reported a similar figure (80 percent of women were in a union at the time of the survey). Although the great majority of women are in a union, a fair proportion enter their twenties having never been married (22 percent of women age 20-24 years). As expected, the proportion of women who are widowed increases with age, reaching 10 percent among those 45-49 years. Two percent of women are divorced or separated.

5.2   Polygyny

Since polygyny is common in Nigeria, married women were asked whether their husbands had other wives, and if so, how many. Overall, 41 percent of currently married women are in a polygynous union.[1] Table 5.2 indicates that polygyny exists in all regions and among all socioeconomic groups, although prevalence varies. Rural women and women in the North are more likely than urban women and women in the South to be in such unions. Nearly one-half of women who have no education are in a polygynous union, compared to 17 percent of those who have completed secondary school.

Table 5.2 Polygyny

Percentage of currently married women in a polygynous union, by age and selected background characteristics, Nigeria 1990

Background characteristic	Age of woman							All ages
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	22.6	26.0	27.4	34.5	39.3	51.5	45.6	33.6
Rural	27.8	35.8	38.2	51.1	49.6	45.5	55.1	42.9
Region								
Northeast	25.8	34.5	46.5	51.1	50.8	52.5	54.3	43.6
Northwest	31.0	44.1	43.8	62.3	57.0	50.4	65.8	49.7
Southeast	24.3	26.0	21.7	34.0	36.1	38.8	37.6	30.4
Southwest	21.4	23.6	28.7	40.0	50.1	45.4	57.1	38.4
Education								
No education	32.0	42.0	43.8	54.0	53.0	48.8	56.3	47.8
Some primary	27.1	34.8	40.4	32.3	28.4	43.4	26.6	34.1
Completed primary	11.5	26.8	21.7	34.6	33.5	35.1	49.5	27.0
Some secondary	22.5	20.5	31.3	25.8	42.5	49.6	20.5	26.8
Completed secondary/higher	0.6	15.0	11.9	23.7	26.6	33.8	36.3	16.9
Total	27.0	33.7	35.6	47.3	47.3	46.8	53.4	40.9

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[1] The NFS also reported a high incidence of polygyny: 43 percent of currently married women reported themselves to be in a polygynous union.

It is not uncommon for a woman to have two or more co-wives (see Table 5.3). In fact, in the Southeast, although most women are in a monogamous union (70 percent), more women have two or more co-wives (20 percent) than have one co-wife (10 percent.) The likelihood of having two or more co-wives increases with age, as more time passes in which the husband may acquire a younger wife. Women who are more educated are less likely to have a co-wife; 28 percent of women with no education have one co-wife, compared to 8 percent of those who have completed secondary or higher education.

Table 5.3 Number of co-wives

Percent distribution of currently married women by number of co-wives, according to selected background characteristics, Nigeria 1990

Background characteristic	Number of co-wives			Total	Number of women
	0	1	2+		
Age					
15-19	73.0	15.7	11.3	100.0	597
20-24	66.3	22.5	11.1	100.0	1,279
25-29	64.4	21.4	14.1	100.0	1,492
30-34	52.7	28.5	18.8	100.0	1,348
35-39	52.7	22.0	25.3	100.0	892
40-44	53.2	23.1	23.3	100.0	731
45-49	46.6	26.3	27.1	100.0	543
Residence					
Urban	66.4	20.0	13.4	100.0	1,476
Rural	57.1	24.0	18.9	100.0	5,404
Region					
Northeast	56.4	26.0	17.6	100.0	1,849
Northwest	50.3	33.3	16.3	100.0	1,944
Southeast	69.6	10.2	20.1	100.0	1,801
Southwest	61.6	21.8	16.6	100.0	1,287
Education					
No education	52.2	28.0	19.8	100.0	4,610
Some primary	65.9	16.0	18.0	100.0	594
Completed primary	73.0	14.4	12.6	100.0	911
Some secondary	73.2	12.6	14.2	100.0	322
Completed secondary/higher	83.1	7.9	8.4	100.0	438
Total	59.1	23.1	17.7	100.0	6,880

5.3   Age at First Marriage

The National Policy on Population states that "Families shall be dissuaded from giving away their daughters in marriage before the age of 18 years." However, the NDHS indicates that half the women in Nigeria have married by age 17 (the median age nationally) and, except for the youngest cohorts, this pattern has remained stable over time (see Table 5.4).

Table 5.4 Age at first marriage

Percentage of women who were first married by exact age 15, 18, 20, 22, and 25, and median age at first marriage, according to current age, Nigeria 1990

Current age	Percentage of women who were first married by exact age:					Percentage who had never married	Number of women	Median age at first marriage
	15	18	20	22	25			
15-19	20.1	NA	NA	NA	NA	61.4	1612	a
20-24	26.7	51.9	67.6	NA	NA	21.7	1676	17.8
25-29	29.8	55.0	68.8	78.6	88.6	7.9	1669	17.2
30-34	29.8	62.5	76.0	85.7	93.7	0.9	1410	16.3
35-39	25.4	56.4	70.1	82.8	90.3	1.2	954	17.3
40-44	29.9	57.6	70.6	85.9	92.7	0.3	836	16.8
45-49	24.0	56.5	71.9	83.5	91.6	0.1	624	17.3
20-49	28.0	56.4	70.6	81.2	88.2	7.3	7169	17.1
25-49	28.4	57.7	71.5	82.8	91.2	2.9	5493	16.9

NA = Not applicable

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

Cohort trends in age at marriage can also be described by comparing the cumulative distribution for successive age groups, as shown in Table 5.4. (For each cohort the accumulated percentages stop at the lower age boundary of the cohort to avoid censoring problems. For instance, for the cohort currently aged 20-24, accumulation stops with the percentage married by exact age 20).

On a national scale, age at marriage has not changed appreciably over time. Only among the youngest women (15-24) has there been a slight shift from marrying during the mid-teen years to the later teen years. Whereas about 30 percent of women have typically married by age 15, only 20 percent of those currently age 15-19 years have married by age 15. Thus, the median age at marriage has increased by about one-half a year.

The national picture masks quite variable marriage behaviour patterns; Table 5.5 gives a more detailed picture of the trends in the median age at marriage. It can be seen that the slight change observed at the national level has been achieved primarily through changes in the behaviour of women in the South. In the Southeast, the median age at marriage has increased by two years between the cohorts of women age 20-29 and 40-49; a similar increase appears to be taking place in the Southwest. There has been no clear change in behaviour among women in the North. Education is closely related to age at first marriage. The median age at first marriage increases steadily with education, from 15.7 among women with no education, to 20 for women with secondary schooling.

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, Nigeria 1990

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	19.9	18.1	18.7	18.9	19.1	19.4	19.0
Rural	16.7	16.3	15.9	16.8	16.4	16.9	16.4	16.3
Region								
Northeast	14.8	14.9	15.1	15.4	15.3	15.7	15.2	15.2
Northwest	15.7	15.4	15.4	15.2	15.2	15.7	15.4	15.4
Southeast	19.4	19.3	18.2	18.1	17.3	17.4	18.5	18.3
Southwest	a	20.5	18.6	19.7	20.1	19.5	a	19.7
Education								
No education	15.2	15.3	15.6	16.1	16.0	16.8	15.7	15.8
Some primary	17.3	16.7	17.3	18.2	18.9	18.8	17.8	18.0
Completed primary	18.0	18.8	19.1	19.5	19.2	20.1	18.7	19.1
Some secondary	19.8	20.3	19.6	20.5	19.2	20.6	20.0	20.2
Completed secondary/higher	a	24.9	22.9	21.1	22.2	23.4	a	23.9
Total	17.8	17.2	16.3	17.3	16.8	17.3	17.1	16.9

Note: Medians are not shown for women 15-19 because less than 50 percent have married by age 15 in all subgroups shown in the table.
[a] Omitted because less than 50 percent of the women in the age group were first married by age 20.

5.4   Age at First Sexual Intercourse

While age at first marriage is commonly used as a proxy for exposure to intercourse, the two events do not coincide exactly. Women may engage in sexual relations prior to marriage, especially if they are postponing the age at which they marry. The NDHS asked women to state the age at which they first had sexual intercourse (see Tables 5.6 and 5.7). (Note that the information on age at first sexual intercourse in Tables 5.6 and 5.7 parallels the information on age at first marriage in Tables 5.4 and 5.5.)

In many cases sexual activity precedes marriage (see Table 5.6). For example, by age 18, 63 percent of women have had intercourse, whereas only 56 percent have married; by age 20, 80 percent have had intercourse, while 72 percent have married. Overall, the median age at first sexual intercourse is just over 16 years, which is about three-quarters of a year earlier than the median age at marriage. Comparing cohorts, there has been little change over time.

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, Nigeria 1990

Current age	Percentage of women who had first intercourse by exact age:					Percentage who never had intercourse	Number of women	Median age at first intercourse
	15	18	20	22	25			
15-19	24.4	NA	NA	NA	NA	45.6	1,612	a
20-24	29.7	63.0	82.5	NA	NA	7.5	1,676	16.6
25-29	31.2	62.1	80.4	89.6	96.7	1.5	1,669	16.4
30-34	32.8	67.4	82.6	91.9	97.4	0.4	1,410	15.9
35-39	27.8	63.0	75.3	87.5	93.3	0.2	954	16.5
40-44	31.1	61.1	77.5	89.9	94.2	0.0	836	16.4
45-49	27.6	62.3	78.7	88.3	94.2	0.0	624	16.5
20-49	30.4	63.4	80.2	89.9	94.8	2.2	7,169	16.3
25-49	30.6	63.5	79.4	89.7	95.6	0.6	5,493	16.2

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

If women do not wait for marriage to become sexually active, has the increasing age at marriage in the Southeast and Southwest and among women with increasing education had any effect on reducing exposure to intercourse? Table 5.7 shows that while women in the Southeast and Southwest do indeed initiate sexual activity two to three years later than women in the Northeast and Northwest, they have been doing so for several decades. While age at marriage has been increasing, the age of initiating sexual relations has remained unchanged in the Southeast and Southwest.

However, women with more education do tend to marry later (the median age at first marriage for the most educated women is eight years later than that of women with no education); but they do not delay sexual relations to the same degree that they delay marriage (the median among the most educated is 3.5 years later than for the least educated women). An urban-rural comparison shows similar results: while urban women have a median age at marriage three years later than rural women, their median age at first intercourse is only two years later.

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, Nigeria 1990

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	17.9	17.8	17.4	17.6	17.8	18.3	17.8	17.7
Rural	16.0	15.9	15.7	16.1	16.1	16.0	15.9	15.9
Region								
Northeast	14.7	15.0	15.0	15.4	15.3	15.5	15.1	15.2
Northwest	15.5	15.3	15.3	15.1	15.3	14.9	15.3	15.2
Southeast	17.8	17.9	17.6	17.4	16.6	17.1	17.6	17.5
Southwest	18.4	18.5	17.9	18.7	18.9	18.4	18.4	18.5
Education								
No education	15.0	15.2	15.4	15.8	15.9	15.9	15.5	15.6
Some primary	16.6	16.3	16.8	17.8	18.3	18.3	17.1	17.3
Completed primary	17.3	18.2	18.3	18.5	17.9	18.9	18.0	18.2
Some secondary	18.1	18.1	19.1	18.5	17.8	20.1	18.3	18.4
Completed secondary/higher	18.9	19.0	20.0	19.2	18.5	20.0	19.0	19.2
Total	16.6	16.4	15.9	16.5	16.4	16.5	16.3	16.2

Note: Medians were not shown for women 15-19 because less than 50 percent had had intercourse by age 15 in all subgroups shown in the table.

5.5 Recent Sexual Activity

In the absence of contraception, the probability of pregnancy is related to the frequency of intercourse. Thus, information on sexual activity can be used to refine measures of exposure to pregnancy. Only 10 percent of women interviewed in the NDHS had never had sexual intercourse. But not all women who have ever had intercourse are currently sexually active. Table 5.8 presents data on sexual activity, by background characteristics; the distributions are shown for women who have ever had intercourse.

Women are considered to be sexually active if they had intercourse at least once in the four weeks prior to the survey. Women who are not sexually active may be abstaining in the period following a birth, or may be abstaining for various other reasons. Among women who have had sexual intercourse, 61 percent were sexually active in the month prior to the survey. Women who have never been in a union are just as likely to be sexually active as those who are in a union; however, they are not as likely to be postpartum abstaining (the main reason women in a union may not be sexually active). Approximately one-fifth of women in the South who have ever had sexual intercourse are currently abstaining for reasons other than being postpartum; this number is double that for women in the North. Compared to the Northeast (where three-quarters of women who have had intercourse are currently sexually active), only half of the women in the South are currently sexually active. As expected, women who are using a method of family planning are more likely to be sexually active than those who are not.

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, Nigeria 1990

| Background characteristic | Sexually active in last 4 weeks | Not sexually active in last 4 weeks | | | | | Total | Number of women |
| | | Abstaining (postpartum) | | Abstaining (not postpartum) | | | | |
		0-1 years	2+ years	0-1 years	2+ years	Missing		
Age of mother								
15-19	66.3	16.7	1.7	13.8	0.8	0.7	100.0	877
20-24	65.8	19.8	1.0	12.4	0.8	0.2	100.0	1,551
25-29	58.7	25.7	3.0	10.9	1.3	0.4	100.0	1,646
30-34	61.1	21.2	4.2	12.1	1.2	0.2	100.0	1,404
35-39	57.7	20.4	4.7	13.7	3.3	0.1	100.0	952
40-44	56.8	10.8	6.4	17.2	8.6	0.2	100.0	836
45-49	52.5	8.1	1.6	22.0	15.9	0.0	100.0	624
Duration of union								
0-4	59.3	29.0	1.7	9.0	0.3	0.7	100.0	1,377
5-9	62.8	24.9	2.8	9.1	0.3	0.2	100.0	1,405
10-14	63.0	20.1	4.7	10.9	1.3	0.0	100.0	1,374
15-19	60.5	21.5	3.4	12.0	2.4	0.2	100.0	1,261
20-24	58.7	16.0	5.3	14.9	5.1	0.0	100.0	847
25+	58.9	5.6	2.7	18.9	13.5	0.3	100.0	1,003
Never in union	58.5	3.1	0.9	33.0	4.0	0.6	100.0	623
Residence								
Urban	58.0	18.2	2.5	17.6	3.5	0.2	100.0	1,881
Rural	61.4	19.4	3.3	12.4	3.2	0.3	100.0	6,010
Region								
Northeast	74.6	14.8	1.7	7.5	1.1	0.4	100.0	1,920
Northwest	66.3	20.1	3.1	8.3	2.1	0.2	100.0	1,990
Southeast	52.0	19.9	3.7	18.8	5.5	0.2	100.0	2,349
Southwest	49.4	21.9	4.1	20.0	4.2	0.4	100.0	1,632
Education								
No education	63.1	18.0	3.8	11.1	3.7	0.2	100.0	4,878
Some primary	52.4	27.0	3.7	13.3	3.4	0.1	100.0	680
Completed primary	55.6	22.4	2.9	16.4	2.5	0.3	100.0	1,093
Some secondary	57.5	20.3	0.4	19.9	2.0	0.0	100.0	487
Completed secondary/higher	60.8	13.7	0.2	22.1	2.3	0.8	100.0	745
Current contraceptive								
No method	59.0	20.6	3.4	13.3	3.5	0.2	100.0	7,228
Pill	79.6	2.4	0.0	16.4	1.1	0.5	100.0	121
IUD	85.1	0.7	1.6	11.2	1.4	0.0	100.0	65
Injection	84.7	3.8	0.0	11.5	0.0	0.0	100.0	61
Durex/Condom	(81.6)	(2.6)	(0.0)	(15.7)	(0.0)	(0.0)	100.0	46
Other modern	(76.3)	(4.5)	(3.1)	(12.7)	(3.3)	(0.0)	100.0	37
Other	74.1	3.8	0.2	20.4	0.4	1.1	100.0	331
Total	60.6	19.1	3.1	13.6	3.3	0.3	100.0	7,891

5.6   Postpartum Amenorrhoea, Abstinence, and Insusceptibility

Postpartum protection from conception can be prolonged by breastfeeding, which can lengthen the duration of amenorrhoea (the period following a birth, but prior to the return of menses). Protection can also be prolonged by delaying the resumption of sexual relations. Table 5.9 presents the percentage of births whose mothers are postpartum amenorrhoeic and abstaining, as well as the percentage of births whose mothers are defined as still postpartum insusceptible for either reason, by time since the last birth.

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, Nigeria 1990

Months since birth	Amenor- rhoeic	Abstaining	Insus- ceptible	Number of births
<2	93.7	95.9	98.5	267
2-3	89.2	89.5	95.8	283
4-5	82.8	74.7	93.3	307
6-7	76.8	61.2	85.7	352
8-9	72.6	58.4	84.6	303
10-11	64.0	51.3	74.8	210
12-13	57.4	44.4	73.0	317
14-15	44.6	33.4	58.1	294
16-17	48.9	40.7	59.8	295
18-19	41.0	31.4	52.2	232
20-21	27.0	30.0	45.2	216
22-23	22.6	21.7	32.0	168
24-25	12.1	17.9	26.0	315
26-27	7.9	10.4	14.9	300
28-29	8.6	9.3	13.0	265
30-31	7.4	8.8	13.7	245
32-33	4.2	10.8	12.8	212
34-35	14.2	16.4	20.0	222
Total	45.3	40.9	55.2	4,802
Median	14.6	10.8	19.0	--
Mean	15.8	14.4	19.3	--
Prevalence/Incidence Mean	16.1	14.5	19.6	--

Three-quarters of Nigerian women remain amenorrhoeic for at least six months following a birth; most women abstain from sexual relations during this time. However, about 12 months later (about 18 months after birth), fewer than half the women are still amenorrhoeic (41 percent), and fewer than one-third (31 percent) are still abstaining. Overall, 50 percent of women become susceptible to pregnancy within 19 months of giving birth.

Table 5.10 shows the median durations of insusceptibility by background characteristics of the mothers. As will be seen in Chapter 8, duration of breastfeeding (which is linked to amenorrhoea) decreases as the education level of the mother increases. As a result, the duration of amenorrhoea for educated women is shorter too. Whereas the median for women with no education is one and a half years, it is less than nine months for women with secondary or more schooling. Women are more similar to each other in their durations of abstaining than their durations of amenorrhoea. The median duration of abstinence is between 10 and 11 months.

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, Nigeria 1990

Background characteristic	Postpartum amenorrhoea	Postpartum abstinence	Postpartum insusceptibility	Number of women
Age				
<30	13.8	9.5	17.3	2,856
30+	16.2	11.5	21.0	1,946
Residence				
Urban	12.0	11.6	15.1	998
Rural	16.4	10.6	19.9	3,804
Region				
Northeast	19.5	10.9	21.2	1,214
Northwest	17.1	7.8	19.9	1,311
Southeast	12.0	11.0	15.9	1,395
Southwest	13.2	12.7	17.0	883
Education				
No education	18.2	10.6	21.0	2,972
Some primary	15.1	12.7	20.0	495
Completed primary	12.1	10.9	15.2	728
Some secondary	7.9	8.5	16.3	279
Completed secondary/higher	8.5	8.3	10.2	323
Total	14.6	10.8	19.0	4,802

Note: Medians are based on current status.

5.7   Termination of Exposure to Pregnancy

Later in life, the risk of pregnancy begins to decline with age, typically beginning around age 30. While the onset of infecundity is difficult to determine for any individual woman, there are ways of estimating it for a population. Table 5.11 presents indicators of decreasing exposure to the risk of pregnancy for women age 30 and above.

The first indicator, menopause, includes women who are neither pregnant nor postpartum amenorrhoeic, but have not had a menstrual period in the six months preceding the survey. Forty-one percent of the oldest women interviewed are menopausal. The second indicator of infecundity is obtained from a demonstrated lack of fertility. If a woman was continuously married for the five years preceding the survey, did not use contraception, and did not give birth in that time (nor is currently pregnant), she is considered terminally infertile. By the early forties, about half the women appear to be terminally infertile. The last indicator is long-term abstinence, which is the percentage of currently married women who did not have intercourse in the last three years. This percentage is fairly low, except among the oldest women.

Table 5.11 Termination of exposure to the risk of pregnancy

Indicators of menopause, terminal infertility and long-term abstinence among currently married women age 30-49, by age, Nigeria 1990

Age	Menopause[1]	Terminal infertility[2]	Long-term abstinence[3]
30-34	2.3	16.1	1.4
35-39	3.1	26.5	2.7
40-41	12.2	49.9	4.8
42-43	11.6	46.9	4.7
44-45	24.5	59.3	6.0
46-47	19.3	67.5	5.1
48-49	40.7	83.1	11.9
Women 30-49	10.6	33.7	3.4

[1]Percentage of non-pregnant, non-amenorrhoeic currently married women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.
[2]Percentage of currently married women in their first union of five or more years who have never used contraception and who did not have a birth in the five years preceding the survey and who are not pregnant.
[3]Percentage of currently married women who did not have intercourse in the three years preceding the survey.

CHAPTER 6

FERTILITY PREFERENCES

In the NDHS several questions were asked to ascertain womens' fertility preferences: their desire to have another child, the length of time they wanted to wait before having that child, and the number of children they considered to be ideal. These data make the quantification of fertility preferences possible, and in combination with information on contraceptive use allows us to estimate the demand for family planning, either to space or to limit births. These questions were asked of nonsterilised, currently married women; and the question to ascertain ideal family size was asked of all women.

6.1   Desire for More Children

Women were asked: "Would you like to have another child or would you prefer not to have any more children?" If they did indeed want another child, they were asked: "How long would you like to wait from now before the birth of another child?" These questions were appropriately phrased if the woman had not yet had any children, and if the woman was pregnant, she was asked about her desire after the baby she was expecting. Figure 6.1 shows the percent distribution of currently married women by their fertility preferences and Table 6.1 shows the distribution according to the number of living children. Overall, 64 percent of women want another child, but 33 percent want to wait two or more years before having that child. Fifteen percent do not want any more children at all. Not surprisingly, the desire for more children declines

Figure 6.1
Fertility Preferences among
Currently Married Women 15-19

Want Child
Within 2 yrs 31%

Undecided 14%

Want No More 15%

Missing 3%
Infecund 4%

Want Child After
2 or more yrs 33%
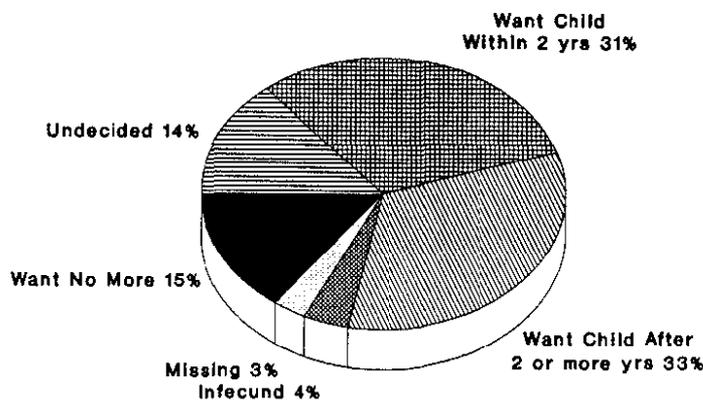
NDHS 1990

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, Nigeria 1990

Desire for children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Have another soon[2]	60.4	38.9	37.9	30.1	23.5	21.1	15.2	31.2
Have another later[3]	8.3	45.1	40.1	39.5	35.2	30.5	19.3	32.8
Have another, undecided when	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Undecided	14.5	7.9	11.0	14.0	17.1	17.2	16.0	13.6
Wants no more	1.4	3.2	5.0	8.6	16.7	23.6	43.4	15.1
Sterilised	0.0	0.1	0.1	0.2	0.2	0.4	0.9	0.3
Declared Infecund	11.8	2.8	3.8	4.1	4.0	4.0	3.6	4.4
Missing	3.5	2.0	2.1	3.4	3.3	3.1	1.5	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	612	1,168	1,144	1,113	928	735	1,181	6,880

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

Table 6.2 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Nigeria 1990

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]	38.3	39.6	32.8	30.0	29.4	23.1	15.7	31.2
Have another later[2]	47.7	43.9	42.9	31.7	23.8	12.5	7.1	32.8
Have another, undecided when	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Undecided	10.3	9.8	12.6	17.6	15.4	17.6	11.0	13.6
Wants no more	1.4	2.7	6.9	14.5	23.4	32.7	45.9	15.1
Sterilised	0.0	0.0	0.1	0.1	0.4	1.4	0.5	0.3
Declared Infecund	0.6	1.2	1.5	2.8	5.3	11.6	17.0	4.4
Missing	1.7	2.7	3.2	3.3	2.3	1.1	2.8	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	597	1,279	1,492	1,348	892	731	543	6,880

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

noticeably as the number of living children increases. Thus, 60 percent of women with no living children want to have a child soon (within the next two years), whereas only 15 percent of women with 6 or more living children want a child soon. Conversely, among women with no living children, only one percent declare not wanting any children, and 43 percent of women who have six or more children no longer want any more. This indicates a considerable interest in controlling fertility, and therefore a potential demand for family planning services, among women with many children. In the category of women with six or more children, those who either want to space or to limit their births total more than 60 percent.

The percent distribution of currently married women by desire for children, according to age is shown in Table 6.2. The desire to limit births increases rapidly with age; only one percent of women age 15-19 want no more children, while 46 percent of those age 45-49 years want to stop childbearing.

The desire to stop childbearing varies greatly by background characteristics of the respondent (see Table 6.3). Overall, the percentage of women who want no more children is twice as high in the Southeast and Southwest (22 and 23 percent) as it is in the Northeast and Northwest (9 and 10 percent).

The percentage of women wanting no more children is positively associated with education. Among women with four children, the desire to stop having children is much more common for women with the highest level of education (37 percent) than for women with no education (15 percent).

Table 6.3 Desire to limit (stop) childbearing

Percentage of currently married women who want no more children, by number of living children and selected background characteristics, Nigeria 1990

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	0.0	2.7	5.5	11.4	27.5	32.8	51.8	20.5
Rural	1.8	3.4	4.9	8.1	13.6	21.4	42.1	14.0
Region								
Northeast	2.3	3.6	4.5	4.3	10.0	17.6	31.5	9.2
Northwest	1.2	2.8	5.8	11.0	11.5	21.0	24.1	10.1
Southeast	0.6	4.2	4.5	10.4	19.3	26.6	52.8	21.8
Southwest	0.0	2.4	5.5	9.6	27.8	29.6	60.1	23.4
Education								
No education	1.8	3.8	4.1	8.3	14.8	19.9	37.4	13.9
Some primary	0.0	2.9	4.3	3.8	16.0	22.0	55.6	20.6
Completed primary	1.0	0.5	9.6	11.9	19.2	35.9	63.0	20.0
Some secondary	0.0	4.5	1.8	5.5	15.3	45.2	56.3	11.9
Completed secondary/higher	0.2	3.4	6.3	16.9	37.4	54.9	97.4	17.6
Total	1.4	3.3	5.1	8.8	16.9	24.0	44.3	15.4

Note: Women who have been sterilised are considered to want no more children.
[1] Includes current pregnancy

6.2   Demand for Family Planning Services

Women who are currently married, and who declare either that they do not want to have any more children (they want to limit their childbearing) or that they want to wait two or more years before having another child (they want to space their births), but are not currently using contraception, have an *unmet need for family planning*.[1] Women with unmet need and those currently using contraception constitute the *total demand for family planning* (see Table 6.4).

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[1] The calculation of unmet need, being a current status measure, is further refined by excluding women who are currently amenorrhoeic (nearly 30 percent of women) and, therefore, not in need of family planning at this point in time. For an exact description of the calculation, see footnote 1, Table 6.4.

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Fertility desires are high in Nigeria, so the total demand for family planning is relatively low, 27 percent of currently married women. Table 6.4 indicates that the demand for family planning is highest among the most educated women: 47 percent of those who have completed secondary school have a demand for family planning. Demand is greater in urban areas (37 percent) than in rural areas (24 percent); but only 40 percent of the demand in urban areas is satisfied.

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, Nigeria 1990

Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning			Percentage of demand satis- fied
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total	
Age										
15-19	15.7	0.3	16.0	1.3	0.0	1.3	17.0	0.3	17.3	7.7
20-24	13.6	1.0	14.6	4.7	0.4	5.1	18.3	1.4	19.7	26.0
25-29	13.2	2.9	16.1	5.3	0.7	6.0	18.5	3.6	22.1	27.3
30-34	12.1	6.0	18.1	3.7	2.8	6.5	15.8	8.8	24.6	26.5
35-39	11.2	12.7	23.9	2.9	5.8	8.7	14.1	18.4	32.6	26.8
40-44	6.1	23.7	29.7	0.8	7.6	8.4	6.9	31.2	38.1	22.0
45-49	4.1	39.3	43.4	0.4	4.2	4.6	4.5	43.4	47.9	9.6
Residence										
Urban	12.3	9.7	22.0	8.5	6.4	14.9	20.8	16.1	36.9	40.4
Rural	11.3	9.2	20.5	2.0	1.6	3.6	13.3	10.8	24.1	15.0
Region										
Northeast	14.4	6.5	20.9	1.0	1.0	2.0	15.4	7.5	22.9	8.8
Northwest	8.0	6.2	14.2	0.7	0.6	1.2	8.6	6.8	15.4	7.9
Southeast	13.1	13.2	26.3	5.1	3.8	9.0	18.2	17.0	35.3	25.4
Southwest	10.6	12.4	23.0	8.4	6.6	15.0	19.0	19.0	38.0	39.5
Education										
No education	10.0	9.8	19.8	1.0	1.0	2.0	11.0	10.7	21.8	9.1
Some primary	15.4	10.4	25.7	3.2	4.6	7.8	18.6	14.9	33.5	23.3
Completed primary	12.8	9.7	22.5	4.1	6.5	10.6	17.0	16.2	33.1	32.1
Some secondary	21.0	4.4	25.4	12.6	4.4	17.0	33.6	8.8	42.4	40.2
Completed secondary/higher	13.0	4.9	18.0	19.7	9.0	28.7	32.7	13.9	46.7	61.5
Total	11.5	9.3	20.8	3.4	2.7	6.0	14.9	11.9	26.8	22.5

[1]*Unmet need for spacing* refers to 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 who say they want to wait two or more years for their next birth. *Unmet need for limiting* refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted, and to women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children. Also excluded are menopausal and infecund women, defined in Footnotes 1 and 2 in Table 5.11.

[2]*Using for spacing* refers to women who are using some method of family planning and who say they want to wait two or more years for their next child. *Using for limiting* refers to women who are using and who want no more children.

For the great majority of women, the need for family planning is not fulfilled (more than three-quarters of the total demand is unsatisfied). Although the unmet need for spacing and for limiting purposes is very low (12 and 9 percent of currently married women), younger women are more likely to need family planning for spacing purposes (16 percent), and older women for limiting purposes (39 percent). The data show that even the moderate demand for family planning that currently exists in Nigeria remains mostly unfulfilled.

Large differences in need for family planning exist between regions. Even the low demand extant in the Northeast (23 percent) and Northwest (15 percent), is not fulfilled (less than 10 percent of demand is satisfied). In the Southeast and Southwest, 35 and 38 percent of demand is satisfied, respectively. The most educated women have the highest proportion of demand satisfied (62 percent).

6.3 Ideal and Actual Number of Children

In order to ascertain what women consider to be the ideal number of children, they were asked: "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?" Table 6.5 indicates that the idea of conscious reproductive choice is largely unknown to a large proportion of women. Sixty-one percent of women gave non-numeric responses. Such a high proportion of non-numerical responses is unusual, even for African countries.[2] In most cases, women indicated that the number of children they would have is "up to God."

Table 6.5 Ideal 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, Nigeria 1990

Ideal number of children	Number of living children[1]							Total
	None	1	2	3	4	5	6+	
0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0
1	0.3	0.5	0.1	0.0	0.0	0.0	0.0	0.1
2	1.4	0.5	1.1	0.2	0.4	0.6	0.5	0.8
3	3.8	2.9	1.0	1.2	0.5	0.9	0.8	1.9
4	18.6	10.3	11.4	5.6	9.6	3.0	2.9	10.0
5	13.4	6.9	8.8	7.4	8.2	8.9	2.8	8.5
6+	15.3	14.3	12.9	17.0	19.2	23.7	26.2	17.8
Non-numeric response	47.2	64.6	64.7	68.5	61.9	62.8	66.8	60.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,083	1,290	1,194	1,166	986	784	1,278	8,781
Mean ideal number	5.0	5.5	5.7	6.1	6.1	7.0	7.2	5.8
Number of women	1101	457	422	367	375	292	425	3438
Mean for women in union	5.5	5.6	5.7	6.1	6.0	7.1	7.2	6.2
Number of women in union	157	381	401	348	345	265	385	2,284

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

[2] For instance, in Liberia, Mali and Morocco, countries which show the highest proportions of non-numeric responses in DHS surveys, at most one-quarter of all women gave this type of response.

Because the majority of women gave a non-numeric response, the means shown in Table 6.5 should be interpreted with caution. They do not represent the preferences of all women, but only of those that gave a numeric answer (39 percent of women). Given that urban and more educated women are more likely to give numeric answers, it is probable that these means are biased downwards and, as a result, the ideal number of children for all women is underestimated.

Table 6.5 shows an association between the ideal number of children and the number of living children. The ideal number is 5 among childless women and 7 among women with 5 or more children. The reason for this is twofold. On the one hand, women may successfully attain their desired family size, and consequently those who want more children have more. On the other hand, women may rationalize and adjust their ideal number of children to the actual number of children they have had.

Table 6.6 presents the mean ideal number of children by age and selected background characteristics of the respondents. Typically, urban and more educated women have a smaller ideal family size. Thus, among women with no education the mean ideal number of children is 6.9, and gradually decreases to 4.6 among the highest educated women. In urban areas, the mean ideal number of children is 5, compared to 6.3 in rural areas. The difference between regions is also significant, the ideal family size being about one child larger in the Northern regions than in the Southern regions.

Table 6.6 Mean ideal number of children by background characteristics

Mean ideal number of children for all women, by age and selected background characteristics, Nigeria 1990

Background characteristic	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	4.7	4.6	4.9	5.7	5.4	6.2	6.2	5.0
Rural	5.6	5.8	6.2	6.8	6.5	7.3	7.3	6.3
Region								
Northeast	6.2	6.5	6.8	7.0	6.6	6.7	7.0	6.6
Northwest	5.5	6.5	6.8	7.4	5.6	7.0	10.1	6.7
Southeast	5.3	5.3	5.7	6.3	6.5	7.6	6.8	5.9
Southwest	4.7	4.6	4.6	5.9	5.5	6.2	6.0	5.0
Education								
No education	6.0	7.1	6.9	7.1	6.5	7.4	7.3	6.9
Some primary	5.9	5.5	5.4	6.5	6.1	7.2	5.8	6.1
Completed primary	5.4	5.5	5.8	6.4	6.0	6.7	6.7	5.8
Some secondary	4.9	4.8	5.5	5.3	4.9	5.8	5.5	5.0
Completed secondary/higher	4.8	4.5	4.6	4.7	5.1	5.0	5.4	4.6
Total	5.3	5.3	5.7	6.5	6.1	7.0	7.0	5.8

6.4 Fertility Planning

Since the issue of mistimed and unwanted fertility is an important one, the NDHS asked whether each birth in the five years preceding the survey was planned (wanted then), unplanned (wanted later), or not wanted at all (wanted no more). The responses give an indication of the degree to which couples are successfully controlling their fertility. These data are likely to be underestimates because women with unplanned or unwanted births may rationalize such births and declare them as wanted once they are born.

Table 6.7 shows that 87 percent of births in the last 5 years were wanted at the time they were conceived, while 8 percent were wanted later, and only 2 percent were not wanted at all. Four percent of the fourth or higher order births were not wanted, and 9 percent of births of this order were wanted, but at a later time. The proportion of births that were not wanted increases with mother's age at the time of the birth. Less than one percent of births to the youngest women were not wanted, compared to 14 percent of births to women age 45-49.

Table 6.7 Fertility planning status

Percent distribution of births in the five years preceding the survey by fertility planning status, according to birth order and mother's age, Nigeria 1990

Birth order and mother's age	Planning status of birth					Number of births
	Wanted then	Wanted later	Wanted no more	Missing	Total	
Birth order						
1	84.1	6.2	0.8	8.9	100.0	1,797
2	92.0	6.3	0.5	1.1	100.0	1,480
3	89.8	8.5	0.5	1.1	100.0	1,410
4+	84.8	9.2	4.0	2.1	100.0	4,669
Age at birth						
<19	90.3	8.3	0.5	0.8	100.0	1,460
20-24	90.2	8.3	0.9	0.6	100.0	2,508
25-29	90.1	7.6	1.6	0.6	100.0	2,507
30-34	86.4	9.5	2.2	1.8	100.0	1,423
35-39	81.9	8.7	7.7	1.8	100.0	832
40-44	82.8	5.9	10.6	0.7	100.0	335
45-49	78.8	6.3	14.2	0.7	100.0	88
Total	86.6	8.1	2.3	3.1	100.0	9,356

Note: Birth order includes current pregnancy.

The potential demographic impact of avoiding unwanted births can be estimated by calculating the *wanted fertility rate*. The wanted fertility rate is calculated in the same manner as the total fertility rate, but unwanted births are excluded from the numerator. For this calculation, unwanted births are defined as those which exceed the number considered ideal by the respondent. (Women who did not report an ideal family size were assumed to want all their births.) This rate represents the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual total fertility rate suggests the potential demographic impact of the elimination of unwanted births.

Table 6.8 presents the total wanted fertility rate and the total fertility rate by background characteristics. In the first column, women who did not report an ideal family size are assumed to want all their births. Given the small proportion of unwanted births in Nigeria, the difference between the total wanted fertility rate (column 1) and the actual total fertility rate (column 3) is small. The actual total fertility rate is only three percent higher than the wanted rate (6.0 versus 5.8). This means that even if Nigerian women effectively controlled their childbearing, fertility rates would remain high, either because women still prefer large families, or because they are not familiar with the idea of conscious reproductive choice.

However, since a large proportion of women gave nonnumerical responses to the question on ideal family size (nearly 60 percent of respondents said the number of children they would have is "up to God"), it is useful to look at the total wanted fertility rate for women who did specify an ideal family size (column 2). The total wanted fertility rate for women who did specify an ideal family size is 5 children.

Table 6.8 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by selected background characteristics, Nigeria 1990

Background characteristic	Total wanted fertility rate	Total wanted fertility rate[1]	Total fertility rate
Residence			
Urban	4.8	4.3	5.0
Rural	6.1	5.5	6.3
Region			
Northeast	6.2	6.4	6.5
Northwest	6.6	5.9	6.6
Southeast	5.2	4.8	5.6
Southwest	5.2	4.4	5.5
Education			
No education	6.3	6.1	6.5
Some primary	6.7	6.6	7.2
Completed primary	5.3	5.0	5.6
Some secondary	4.7	4.5	5.1
Completed secondary/higher	4.0	3.0	4.2
Total	5.8	5.0	6.0

Note: Rates are based on births to women 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 3.1.
[1]TFR among those women who reported an ideal family size. Excludes women who gave non-numerical responses to question on ideal family size.

CHAPTER 7

INFANT AND CHILD MORTALITY

A demographic assessment of Nigeria's population would be incomplete without analysis of infant and child mortality rates. Such analysis can form the basis for informed decisions on health, as well as population, policies and programmes. This chapter presents information on levels, trends and differentials in neonatal, postneonatal, infant and child mortality. This information can be used for population projections and as a means of identifying those sectors of the child population that are at high risk. Information about infant and child mortality is also necessary for economic and health planning.

Mortality estimates are calculated from information that was collected in the birth history section of the individual questionnaire. The section began with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live in the household, who live elsewhere, and who died). These questions were followed by a retrospective birth history in which data were obtained on sex, date of birth, survivorship status, and current age or age at death of each of the respondents' live births.

The rates presented here are defined as follows:

> **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 fifth birthday;
> **Under-five mortality:** the probability of dying before the fifth birthday.

The reliability of the mortality estimates is affected by the completeness of reporting deaths, the degree of differential displacement of birth dates of surviving and dead children, and the extent to which age at death is accurately reported. Heaping of age at death at 12 months in the NDHS was fairly common (see Appendix D, Table D.6). Also, interviewers at times recorded deaths at "1 year," even though instructions required them to record deaths under two years of age in months. An unknown fraction of these deaths may have actually occurred before the first birthday. Thus, the infant mortality rate may be biased downward somewhat and child mortality biased upward; under-five mortality would be unaffected. Yet, earlier simulation studies using DHS data from other countries indicate that while age at death misreporting is troublesome, the type and magnitude of that observed in the NDHS is unlikely to result in biases of more than 5 percent (Sullivan et al., 1990). The rates presented here are thus unadjusted; that is, all deaths reported at 12 months or "1 year" are assigned to the post-infant age period.

It is seldom possible to establish, with confidence, mortality levels for a period more than 15 years before a survey.[1] Even in the recent 15-year period considered here, apparent trends in mortality should be interpreted with caution. First, there may exist differences in the completeness of death reporting related to the length of time preceding the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate with time. Thus, without a detailed evaluation of the quality of birth history data (which is not attempted in this report), conclusions regarding changes in mortality should be considered preliminary.

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[1] Due to limitations of the data, rates for periods earlier than 15 years preceding the survey do not adequately represent all births.

7.1   Infant and Child Mortality

In the five years preceding the survey, nearly 1 in 5 children died before their fifth birthday. Neonatal, postneonatal, infant, child and under-five mortality rates are shown in Table 7.1 for five-year periods in the 15 years preceding the survey. Under-five mortality over this period has fallen slowly from 201 deaths to 192 deaths per thousand live births. The small decline is largely attributable to a drop in the neonatal rate from 52 to 42 deaths per thousand live births; mortality between 1 and 59 months of age has shown no improvement over the period. The latter finding may reflect the offsetting effects of improved health services on the one hand, and the deteriorating economic position of the average Nigerian household, on the other. Overall, 87 of every 1,000 children born die before their first birthday, and 115 of every 1,000 children alive at age one year die before their fifth birthday.

Table 7.1 Infant and child mortality

Infant and child mortality rates by five-year periods preceding the survey, Nigeria 1990

Years preceding survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality $(_1q_0)$	Child mortality $(_4q_1)$	Under-five mortality $(_5q_0)$
0-4	42.1	45.2	87.2	115.2	192.4
5-9	48.7	47.0	95.7	103.3	189.1
10-14	51.9	46.7	98.6	113.5	200.9

A comparison of NDHS and NFS data is given in Figure 7.1. Estimates for the overlapping period centred around 1977 suggests serious underreporting of deaths in the NFS, especially for children age 1-5 years.

In sum, child survival has improved very little over the decade of the 1980s in Nigeria; the only encouraging sign is a small decline in mortality during the first month of life.

An important finding of the NDHS involves the age pattern of under-five mortality. In most countries of the world, mortality during the first year of life exceeds that during the subsequent four years. However, this is not the case in Nigeria: child mortality (115/1000) is substantially higher than infant mortality (87/1000) in the 5-year period preceding the survey. The higher level of child mortality, relative to infant mortality, is a pattern found in other West African countries such as Mali and Senegal.

**Figure 7.1
Trends in Infant and Under-five
Mortality, NFS and NDHS Surveys**
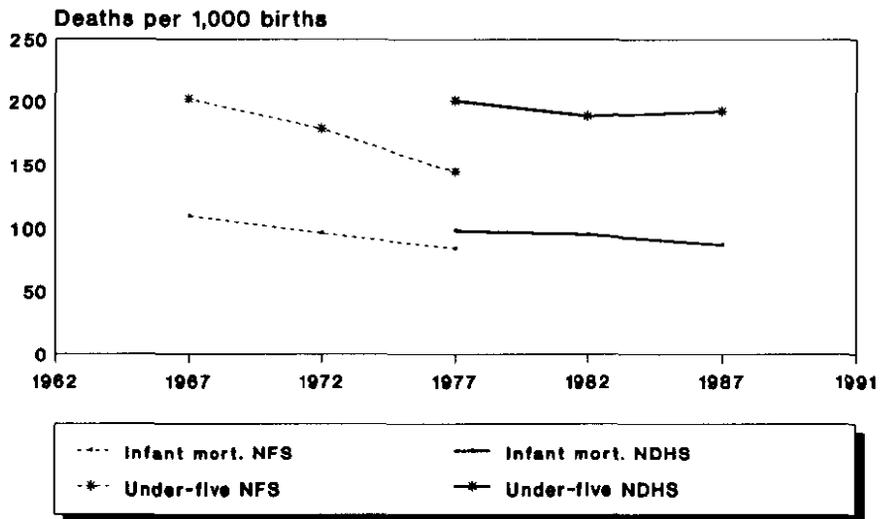
Note: The points shown are the
mid-points of five-year periods.

Table 7.2 Infant and child mortality by background characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected background characteristics, Nigeria 1990

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality $(_1q_0)$	Child mortality $(_4q_1)$	Under-five mortality $(_5q_0)$
Residence					
Urban	40.4	35.1	75.4	58.9	129.8
Rural	46.7	49.1	95.8	123.8	207.7
Region					
Northeast	39.2	48.5	87.7	139.2	214.6
Northwest	57.8	52.0	109.8	151.2	244.4
Southeast	38.6	44.1	82.7	66.5	143.7
Southwest	46.3	38.3	84.6	90.3	167.2
Education					
No education	48.4	47.5	95.9	126.4	210.1
Some primary	43.4	54.1	97.5	103.7	191.1
Completed primary	38.5	41.2	79.8	63.0	137.7
Some secondary	42.7	50.2	92.9	62.9	149.8
Completed secondary/higher	30.0	18.7	48.6	30.2	77.3
Medical maternity care					
No antenatal/delivery care	43.2	58.0	101.2	184.7	267.2
Either antenatal or delivery	34.5	37.2	71.7	106.4	170.4
Both antenatal & delivery	46.5	34.5	81.0	68.4	143.8
Total	45.3	46.1	91.4	109.6	191.0

Table 7.2 presents neonatal, postneonatal, infant, child and under-five mortality rates by selected background characteristics for the 10-year period (1981-1990) preceding the survey. A ten-year reference period is used to allow for adequate numbers of events in each population subgroup. Figures 7.2 and 7.3 show infant and child mortality rates by selected characteristics.

The pattern of higher child mortality relative to infant mortality is most prominent in the Northeast and Northwest (see Table 7.2). Particularly striking is the comparison of the Southeast and Northeast. While the two regions have similar levels of infant mortality, child mortality in the Northeast (139/1000) is more than double that in the Southeast (67/1000).

The regional variation in the age pattern of under-five mortality may be explained by socioeconomic differentials (a topic which is beyond the scope of this report). It can be seen in Table 7.2 that high child mortality (relative to infant mortality) is experienced by children born to mothers who are uneducated, who live in rural areas, and who have limited access to basic health services.

It would be expected that neonatal mortality would reflect the quality of care received during the antenatal and delivery period. Surprisingly, women who received the most care (both antenatal and delivery care) gave birth to babies who experienced higher neonatal mortality than babies born to women with less care. It may be that many of these women had complications which required medical attention at birth while uncomplicated pregnancies did not require medically assisted delivery.

Figure 7.2
Infant Mortality
by Selected Characteristics

RESIDENCE
Urban — 76
Rural — 96

REGION
Northeast — 88
Northwest — 110
Southeast — 83
Southwest — 85

EDUCATION
No educ. — 98
Prim. Incomp. — 97
Prim. Comp. — 80
Sec. Incomp. — 93
Sec./Higher — 49

Deaths per 1,000 births
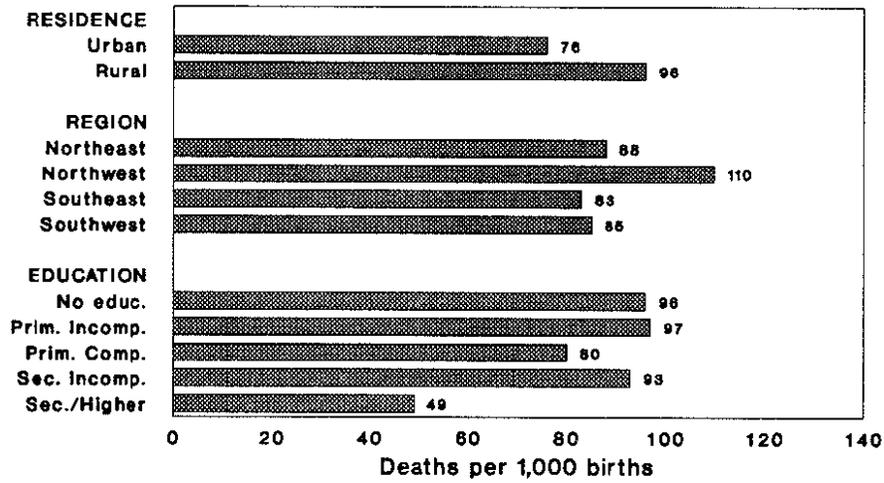
Note: Based on deaths in the 10 years
preceding the survey.

NDHS 1990

Figure 7.3
Child Mortality (1-4 years) by
Selected Characteristics

RESIDENCE
Urban — 59
Rural — 124

REGION
Northeast — 139
Northwest — 151
Southeast — 67
Southwest — 90

EDUCATION
No educ. — 126
Prim. Incomp. — 104
Prim. Comp. — 63
Sec. Incomp. — 63
Sec./Higher — 30

Deaths per 1,000
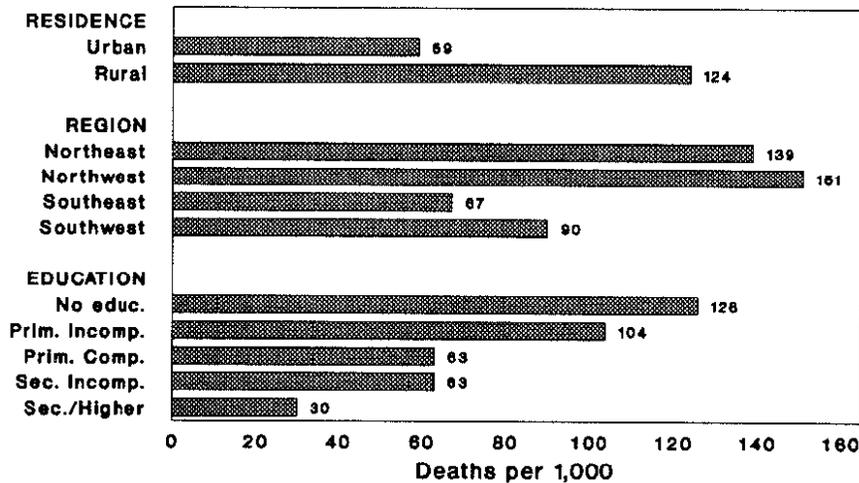
Note: Based on deaths in the 10 years
preceding the survey.

NDHS 90

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Table 7.3 presents mortality rates for the ten years preceding the survey by selected demographic characteristics. Children born to the youngest and oldest mothers have higher mortality rates than do children born to mothers age 20-39 years; first born and high parity children also have higher neonatal mortality than children of birth orders 2-6.

Shorter birth intervals are associated with higher mortality both during and after infancy. Children born less than two years after a previous birth are three times more likely to die during infancy than babies born four or more years after the previous birth. The birth interval effect appears most pronounced during the neonatal period, a pattern which is consistent with an explanation involving maternal depletion, the term used to describe the physical weakness of mothers associated with frequent childbearing. The DHS findings support the importance of child spacing for child survival.

Table 7.3 Infant and child mortality by demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected demographic characteristics, Nigeria 1990

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality $(_1q_0)$	Child mortality $(_4q_1)$	Under-five mortality $(_5q_0)$
Sex of child					
Male	49.0	44.7	93.7	117.6	200.2
Female	41.6	47.5	89.1	101.5	181.6
Age of mother at birth					
< 20	61.6	58.9	120.6	122.8	228.5
20-29	36.7	42.3	79.0	107.0	177.5
30-39	48.5	43.0	91.5	101.9	184.0
40-49	(68.5)	(57.5)	(126.0)	(138.6)	(247.2)
Birth order					
1	50.4	41.9	92.4	90.6	174.5
2-3	37.0	44.9	81.9	108.0	181.1
4-6	42.7	49.5	92.2	110.8	192.8
7+	61.1	46.6	107.7	136.7	229.6
Previous birth interval					
< 2 yrs	57.5	60.9	118.4	123.2	227.0
2-3 yrs	29.0	39.9	68.9	112.6	173.7
4 yrs +	16.9	21.8	38.7	54.9	91.5
Size at birth[1]					
Very small	(93.2)	(95.0)	(188.2)	(122.3)	(287.4)
Smaller than average	63.0	59.0	122.0	(185.5)	(284.9)
Average	30.4	35.3	65.7	120.6	178.4
Larger than average	21.2	49.4	70.6	(102.6)	(166.0)
Very large	49.0	37.4	86.4	(111.5)	(188.2)

Note: Rates based on fewer than 500 cases (exposed persons) are enclosed in parentheses.
[1] Rates for the five-year period preceding the survey.

Children who are *very small* or *smaller than average* at birth, as perceived by their mothers, experience higher mortality rates than children perceived to be *average*, *larger than average*, or *very large*. Since low birth weight is known to have a strong effect on early morbidity, it is not surprising that the most pronounced effect occurs during the neonatal period and diminishes with increasing age of the child.

7.2 High Risk Fertility Behaviour

Infants and children have a greater probability of dying if they are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are of high parity (see Table 7.4). In this analysis, a mother is classified as "too young" if she is less than 18 years of age, and "too old" if she is over 34 years of age at the time of delivery. A "short birth interval" is defined by a birth occurring less than 24 months after the previous birth, and a child is of "high birth order" if the mother had previously given birth to three or more living children (i.e., if the child is of birth order 4 or higher). Children can be further cross-classified by combinations of these characteristics. First births, although often at increased risk, are not included in this analysis because they are not considered an avoidable risk.

Column 1 in Table 7.4 shows the percentage of children born in the five years preceding the survey who are included in specific risk categories (due to mother's age, time elapsed since previous birth, or number of previous births). Two-thirds of children (68 percent) were at elevated risk as a result of the mother's fertility behaviour. Forty-two percent of children were at elevated risk due to one high risk characteristic (i.e., they were in a *single risk* category); an additional 25 percent had more than one high risk characteristic and were in a *multiple risk* category.

Fourteen percent of births in the five years preceding the survey were to mothers who were over 34 years of age, and 8 percent were to mothers who were less than 18 years of age; one-quarter of the births occurred after an interval of 24 months or less; and half of all children were of birth order 4 or higher.

In order to calculate the increase in risk attributable to fertility behaviour, risk ratios were calculated for each of the risk categories (see column 2, Table 7.4). A risk ratio is the ratio of the proportion of children in the category who have died, to the proportion who have died in the *not in any risk* category (children in the *not in any risk* category are born to mothers age 18-34, born at an interval of 24 months or more after the previous birth, and are parity 3 or less). Children in the multiple risk categories had nearly twice the risk of dying of children in the *not in any risk* category. Children born to mothers less than 18 years of age (and at no other risk) had a 30 percent greater chance of dying than the children in the reference category.

Based on this brief analysis of high risk fertility behaviour, the question can be asked: how many women currently have the potential for having a high risk birth? This may be answered by simulating the distribution of currently married women by the risk category into which a currently conceived birth would fall. In other words, a woman's current age, time elapsed since last birth, and parity are used to determine into which category her next birth would fall, if she were to conceive at the time of the survey. For example, if a woman age 37, who has five children, and had her last birth three years ago were to become pregnant, she would fall into the multiple risk category of being too old (35 or older) and at too high a parity (4 or more children). Women who have the potential for a high risk birth can avoid experiencing the risk by using contraception to avoid the pregnancy (either to space or to limit the pregnancy, depending on which risk category she is in). To determine what proportion of women in the simulation have the potential for a high risk birth, it is assumed that all but sterilised women conceive.

Two points emerge from this discussion. First, the percentage of estimated high risk births (in any category) will increase without some fertility control among women who share a high risk profile. This can be seen by comparing the proportion of women who currently have the potential for a high risk birth (79 percent) with the proportion of births in the five years preceding the survey that were classified as high risk (68 percent). Second, this increase in high risk births is linked to increases in the percentage of births in the multiple risk categories, from 25 to 44 percent of births. These findings pose a challenge to policymakers and programme managers alike—to generate the demand for family planning and to improve the availability of contraceptive methods, so that high risk births can be avoided.

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Table 7.4 High risk fertility behaviour

Percent distribution of children born in the five years preceding the survey who are at 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, Nigeria 1990

Risk category	Births in last 5 years preceding the survey		Percentage of currently married women[a]
	Percentage of births	Risk ratio	
Not in any risk category	32.3	1.00	20.9[b]
Single risk categories			
Mother's age < 18	7.0	1.31	2.7
Mother's age > 34	0.8	(0.26)	4.0
Birth interval < 24	7.6	1.07	9.3
Birth order > 3	26.9	1.05	19.0
Subtotal	42.3	1.08	35.0
Multiple risk categories			
Age <18 & birth interval <24[c]	1.4	(3.98)	0.9
Age >34 & birth interval<24	0.1	(2.77)	0.1
Age >34 & birth order>3	10.4	1.47	22.6
Age >34 & birth interval <24 & birth order >3	2.6	1.67	5.9
Birth interval <24 & birth order >3	11.0	2.09	14.6
Subtotal	25.4	1.90	44.1
In any risk category	67.7	1.39	79.1
Total	100.0	NA	100.0
Number	8,118	NA	6,880

NA = Not applicable
Note: Risk ratio is the ratio of the proportion dead of births in a specific risk category to the proportion dead of births not in any risk category. Figures in parentheses are ratios based on fewer than 200 cases.
[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*.

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CHAPTER 8

MATERNAL AND CHILD HEALTH

This chapter presents findings in three areas of importance to maternal and child health: maternal care and characteristics of the neonate, vaccinations, and common childhood illnesses and their treatment. Coupled with information on neonatal and infant mortality rates, this information can be used to identify subgroups of women whose live births are "at risk" because of nonuse of maternal health services, and to provide information to assist in the planning of appropriate improvements in services. Data were obtained for all live births which occurred in the five years preceding the survey.

8.1   Antenatal Care and Delivery Assistance

Table 8.1 shows the percent distribution of births in the five years preceding the survey by source of antenatal care received during pregnancy, according to maternal and background characteristics. Interviewers were instructed to record all persons a woman may have seen for care, but in the table, only the provider with the highest qualifications is considered (if more than one person was seen). For over half (57 percent) of all births, mothers received antenatal care from a doctor, trained nurse, or midwife. For one-third (35 percent) of births, mothers received no antenatal care at all. Thus, most Nigerian women either rely on a doctor or nurse for antenatal care or receive no care at all. Women received antenatal care from a traditional birth attendant (TBA) for only 4 percent of births.

There are marked differences in the sources of antenatal care for births in urban and rural areas. The concentration of doctors in urban areas probably accounts for the fact that most births to urban women received antenatal care from a doctor (61 percent), while only 30 percent of births to rural women received such care. In fact, 41 percent of rural births received no antenatal care, compared to 11 percent of urban births. There are several reasons why this may be so: rural women may not have access to antenatal care providers, or they may not be aware of the importance of antenatal care, or they may not be able to afford to pay for the care.

Births to women in the Southwest are much more likely than births in other regions to receive antenatal care from a doctor: 58 percent compared to 27 to 35 percent in other regions. While the majority of births in the Southwest and Southeast receive antenatal care from a doctor, trained nurse, or midwife (86 and 65 percent), a birth in the Northeast or Northwest is as likely to have received antenatal care as not. Auxiliary midwives, village health workers, and traditional birth attendants provide antenatal care to a greater proportion of births in the Southeast than any other region.

There is a strong association between education and receiving antenatal care. Births to women with no education are about as likely to receive some kind of care as not; whereas it is unlikely that a birth to a woman who has had some education will receive no antenatal care. As the mother's level of education increases, so does the likelihood that she will be seen by a doctor during the pregnancy; 28 percent of births to mothers with no education received antenatal care from a doctor compared to 76 percent of women who completed secondary or higher schooling.

Antenatal care can be more effective when it is sought early in the pregnancy, and continues through to parturition. Obstetricians generally recommend that antenatal visits be made on a monthly basis to the 28th week (7th month), fortnightly to the 36th week (8th month) and then weekly until the 40th week (until birth). Regular visits allow proper monitoring of the mother and child throughout the pregnancy. If the first

Table 8.1 Antenatal care

Percent distribution of births in the five years preceding the survey, by source of antenatal care during pregnancy according to selected background characteristics, Nigeria 1990

Background characteristic	Doctor	Trained nurse/ Midwife	Auxiliary midwife/ Assistant	Village health worker	Trained traditional birth attendant	Traditional birth attendant	Other	No one	Total	Number of births
Mother's age at birth										
< 20	30.7	17.5	0.9	1.8	0.9	3.6	1.5	43.2	100.0	1,344
20-34	38.5	20.8	1.3	1.5	0.9	3.7	1.5	31.8	100.0	5,649
35+	31.8	20.1	1.3	1.7	0.6	3.2	1.6	39.6	100.0	1,119
Birth order										
1	39.1	21.0	0.9	1.2	1.1	3.6	1.1	32.0	100.0	1,458
2-3	38.5	19.9	1.0	1.9	0.8	3.4	1.0	33.5	100.0	2,516
4-5	37.5	18.6	1.3	2.0	1.1	3.3	1.5	34.8	100.0	1,992
6+	30.7	21.4	1.7	1.1	0.6	4.0	2.3	38.2	100.0	2,147
Residence										
Urban	61.2	23.1	0.5	0.4	0.7	1.3	1.6	11.1	100.0	1,714
Rural	29.6	19.4	1.4	1.9	0.9	4.2	1.5	41.1	100.0	6,399
Region										
Northeast	26.5	9.9	0.3	1.3	0.2	3.7	3.5	54.7	100.0	1,924
Northwest	31.2	14.0	0.2	0.2	0.7	0.5	0.9	52.4	100.0	2,242
Southeast	35.0	29.5	2.7	3.8	1.7	7.6	0.1	19.6	100.0	2,422
Southwest	58.1	27.4	1.7	0.5	0.7	1.7	2.1	7.7	100.0	1,525
Mother's education										
No education	27.5	15.9	0.9	1.7	0.7	3.4	2.0	47.9	100.0	5,091
Some primary	35.0	32.4	4.2	1.3	1.3	6.7	1.2	17.9	100.0	824
Completed primary	47.8	28.3	1.0	1.9	1.2	4.0	0.9	15.0	100.0	1,212
Some secondary	60.6	26.4	0.4	1.4	0.9	1.5	0.2	8.6	100.0	459
Completed secondary/higher	76.4	18.2	0.9	0.6	0.6	0.4	0.3	2.6	100.0	521
All births	36.3	20.2	1.2	1.6	0.9	3.6	1.5	34.8	100.0	8,113

Note: Figures are for births in the period 1-59 months preceding the survey. If more than one source of antenatal care was mentioned, only the most qualified provider is considered.

antenatal visit is made at the third month of pregnancy, this schedule translates to a total of 12 to 13 visits during the pregnancy.

Information about the visits made by pregnant women is presented in Figure 8.1. In 52 percent of births, mothers made four or more antenatal care visits. This constitutes 81 percent of all births that received care, which suggests that those women who used the antenatal clinics were aware of the importance of regular attendance. However, for a large proportion of births, mothers obtained fewer than the recommended number of visits; the median number of antenatal care visits was seven. Nurse-midwives, who also give antenatal care, may vary the scheme of attendance for pregnant women and this, along with late initiation of visits, could contribute to the less than optimal frequency of attendance.

Only 42 percent of all births received some antenatal care before the 6th month of gestation (see Figure 8.1). However, for births to mothers who made antenatal visits, 67 percent received attention before the sixth month of pregnancy.

Figure 8.1
Distribution of Births by
Number of Antenatal Care Visits and
Stage of Pregnancy at First Visit

NDHS 1990
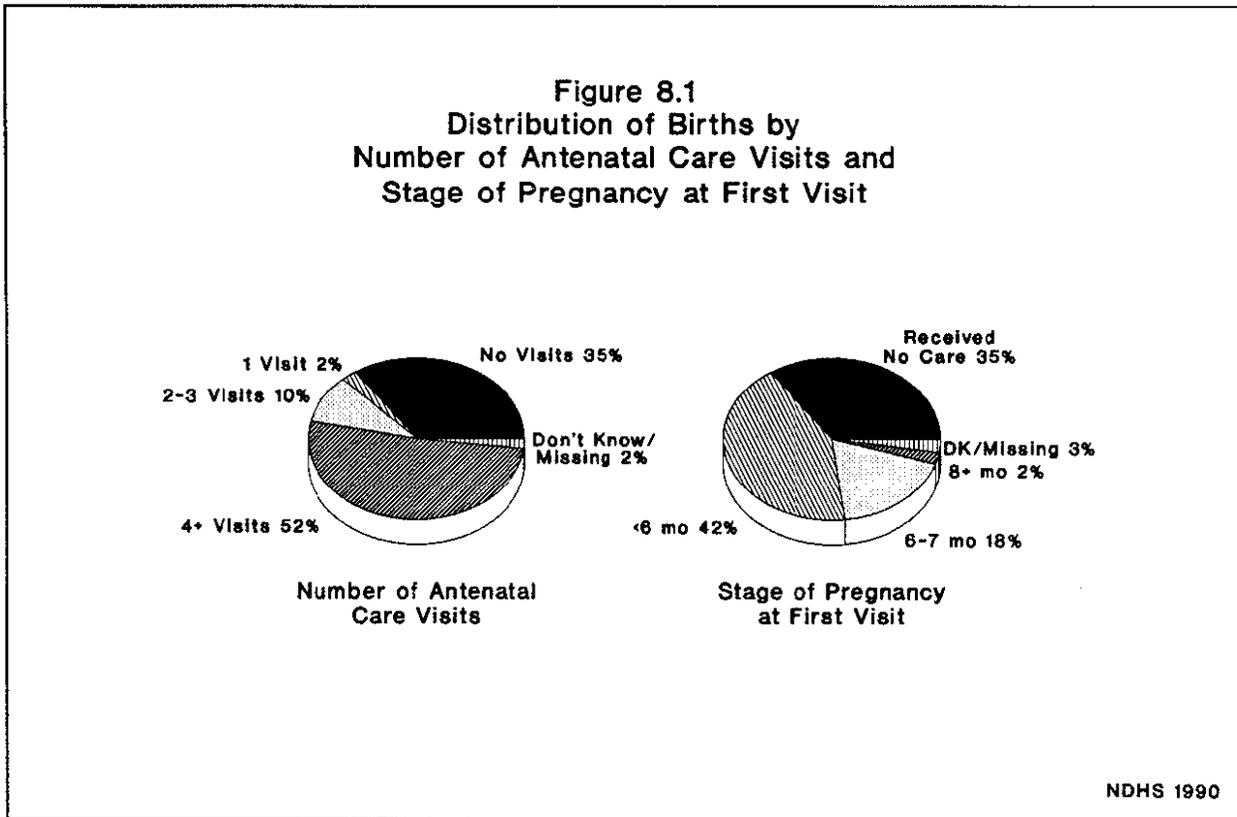
The median duration of gestation at which the first antenatal care visit was made was 5.3 months. This is rather late if mothers are to receive the maximum benefits of antenatal care. The advantage of starting antenatal care within the first three months of pregnancy is that a woman's normal baseline health can be assessed. Knowledge of a woman's baseline health will make early detection of any abnormalities easier; this, in turn, aids health workers in taking appropriate action to care for the mother.

Table 8.2 presents tetanus toxoid coverage during pregnancy for all births in the five years preceding the survey. Tetanus toxoid injections are given during pregnancy for the prevention of neonatal tetanus, one of the principal causes of death among infants in many developing countries. For full protection, a pregnant woman should receive two doses of the toxoid. However, if a woman has been vaccinated during a previous pregnancy, she may only require one dose for a current pregnancy.

Forty-one percent of births received the protection of two or more doses of tetanus toxoid during gestation; 46 percent were not protected by any tetanus toxoid vaccination. The mothers of births in the Southeast and Southwest were twice as likely to receive two or more doses during gestation (53 and 60 percent) than were mothers in the Northeast and Northwest (24 and 30 percent).

The relationship between education of mothers and vaccination status is striking; the proportion of live births in which two or more doses of tetanus toxoid were received increases steadily from 29 percent

Table 8.2 Tetanus toxoid vaccination

Percent distribution of births in the five 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, Nigeria 1990

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	54.5	11.2	32.2	2.1	100.0	48.6	1,344
20-34	43.4	11.9	43.4	1.3	100.0	60.6	5,649
35+	52.1	8.9	38.4	0.6	100.0	53.6	1,119
Birth order							
1	43.8	14.0	41.4	0.8	100.0	60.7	1,458
2-3	44.7	12.0	41.6	1.6	100.0	59.1	2,516
4-5	45.7	10.3	42.2	1.7	100.0	57.4	1,992
6+	50.9	9.8	38.4	0.9	100.0	54.1	2,147
Residence							
Urban	23.1	12.6	63.2	1.1	100.0	85.1	1,714
Rural	52.7	11.0	34.9	1.4	100.0	50.3	6,399
Region							
Northeast	65.2	10.6	24.1	0.2	100.0	35.8	1,924
Northwest	56.7	11.1	29.7	2.6	100.0	44.9	2,242
Southeast	35.8	11.0	52.5	0.7	100.0	67.7	2,422
Southwest	24.7	13.3	60.0	1.9	100.0	88.0	1,525
Mother's education							
No education	58.0	11.2	29.3	1.5	100.0	44.9	5,091
Some primary	34.6	11.8	53.2	0.4	100.0	69.1	824
Completed primary	29.0	12.0	57.8	1.3	100.0	76.5	1,212
Some secondary	20.0	12.7	66.5	0.8	100.0	85.6	459
Completed secondary/higher	16.0	10.3	72.3	1.4	100.0	96.1	521
All births	46.4	11.4	40.9	1.3	100.0	57.6	8,113

Note: Figures are for births in the period 1-59 months preceding the survey.

among women with no education, to 72 percent of births to women who completed secondary education. Educated women may have greater accessibility to modern medical care, or may have a greater understanding of the advantages of vaccinations, or may be more able to utilise the services provided.

Fifty-eight percent of births in the last five years preceding the survey were to mothers who received antenatal cards for their pregnancies. Those who were less likely to have cards were births to women under 20 years of age, births to rural women, births to women from the Northeast and Northwest, and births to women who had no education.

Women who had contact with health professionals during pregnancy were much more likely to deliver at a health facility than women who had no such contact (see Table 8.3). Fifty-three percent of births to women who made four or more antenatal care visits were delivered in a health facility, compared to two percent of births to women who made no antenatal care visits.

Table 8.3 shows the distribution of births by the place of delivery. The differences between the North and the South are substantial. While delivering births at home is not uncommon in the Southeast and Southwest (38 and 25 percent of births), it is the norm in the Northeast and Northwest where nine of ten children are still delivered at home. The high proportion of births delivered at home in the North has serious consequences for both maternal and child health.

Table 8.3 Place of delivery

Percent distribution of births in the five years preceding the survey, by place of delivery, according to selected background characteristics, Nigeria 1990

| Background characteristic	Health facility	At home	Home of health worker	Other	Don't know/ Missing	Total	Number of births
Mother's age at birth							
< 20	23.8	70.1	4.3	0.4	1.4	100.0	1,344
20-34	32.8	59.9	4.5	0.6	2.1	100.0	5,649
35+	29.8	62.0	4.9	0.5	2.8	100.0	1,119
Birth order							
1	34.7	58.3	5.1	0.3	1.5	100.0	1,458
2-3	30.1	63.7	4.1	0.3	1.8	100.0	2,516
4-5	30.7	61.1	4.9	0.8	2.4	100.0	1,992
6+	29.5	62.9	4.3	0.8	2.5	100.0	2,147
Residence							
Urban	58.2	32.8	3.8	0.4	4.8	100.0	1,714
Rural	23.6	69.7	4.7	0.6	1.4	100.0	6,399
Region							
Northeast	10.4	88.6	0.1	0.3	0.7	100.0	1,924
Northwest	9.7	89.5	0.2	0.2	0.3	100.0	2,242
Southeast	46.3	38.4	11.4	0.9	3.0	100.0	2,422
Southwest	63.6	24.9	5.6	0.9	5.0	100.0	1,525
Mother's education							
No education	15.8	80.2	2.8	0.4	0.8	100.0	5,091
Some primary	44.7	40.3	10.8	1.3	3.0	100.0	824
Completed primary	48.1	37.7	8.7	0.8	4.7	100.0	1,212
Some secondary	71.2	17.6	4.2	0.8	6.2	100.0	459
Completed secondary/higher	81.7	12.6	3.0	0.2	2.6	100.0	521
Antenatal care visits							
None	1.6	94.6	2.4	0.3	1.0	100.0	2,805
1-3 visits	25.7	69.1	3.8	0.8	0.7	100.0	963
4 or more visits	52.8	38.1	6.3	0.7	2.2	100.0	4,187
Don't know/Missing	4.6	64.9	2.6	0.0	27.8	100.0	157
All births	30.9	61.9	4.6	0.6	2.1	100.0	8,113

Note: Figures are for births in the period 1-59 months preceding the survey.

The expected pattern with regard to mother's education can be seen in Table 8.3: the proportion of births delivered in a health facility increases steadily from 16 percent of births to mothers with no education to 82 percent of births to mothers with completed secondary or higher education.

Overall, about 60 percent of births in Nigeria are delivered at home, while 30 percent are delivered in health facilities.

The type of assistance a woman receives during the birth of her child depends on the place of delivery. Births that are delivered at home are more likely to be delivered without assistance from anyone, whereas, births delivered at a health facility are more likely to be delivered by trained medical personnel (not shown).

Table 8.4 Assistance during delivery

Percent distribution of births in the five years preceding the survey, by type of assistance during delivery, according to selected background characteristics, Nigeria 1990

Background characteristic	Doctor	Trained nurse/ Midwife	Auxiliary midwife/ Assistant	Village health worker	Trained traditional birth attendant	Traditional birth attendant	Other	No one	Don't know/ Missing	Total	Number of births
Mother's age at birth											
< 20	7.7	16.0	1.1	0.7	3.7	23.0	4.9	42.4	0.7	100.0	1,344
20-34	11.1	21.7	1.2	1.0	3.5	18.9	5.3	37.0	0.4	100.0	5,649
35+	9.6	19.7	1.9	1.1	3.5	16.6	4.6	41.9	1.1	100.0	1,119
Birth order											
1	13.0	21.9	1.1	0.9	4.1	19.8	4.3	34.5	0.3	100.0	1,458
2-3	10.1	19.8	1.4	0.8	3.6	18.7	4.5	40.6	0.4	100.0	2,516
4-5	10.2	20.9	0.8	1.2	3.5	20.4	5.2	37.4	0.5	100.0	1,992
6+	8.9	20.0	1.6	1.0	3.2	18.4	6.3	40.0	0.7	100.0	2,147
Residence											
Urban	21.3	38.1	1.2	0.2	2.6	9.6	4.5	21.6	0.8	100.0	1,714
Rural	7.4	15.8	1.3	1.2	3.8	21.8	5.3	43.1	0.4	100.0	6,399
Region											
Northeast	7.2	3.7	0.1	0.3	2.9	23.4	5.8	56.1	0.7	100.0	1,924
Northwest	5.0	5.0	0.2	0.1	2.2	21.0	2.6	63.5	0.2	100.0	2,242
Southeast	10.5	35.1	1.9	2.5	5.8	21.1	6.7	15.9	0.5	100.0	2,422
Southwest	21.7	41.4	3.3	0.7	2.7	8.3	5.5	15.7	0.8	100.0	1,525
Mother's education											
No education	6.2	9.4	0.7	1.0	3.4	21.8	5.7	51.4	0.3	100.0	5,091
Some primary	9.7	34.9	2.1	1.2	4.6	18.7	5.7	22.2	0.9	100.0	824
Completed primary	14.2	34.4	2.4	1.1	4.1	17.6	3.8	21.2	1.2	100.0	1,212
Some secondary	21.6	47.4	3.1	0.5	3.4	9.4	4.8	9.3	0.5	100.0	459
Completed secondary/ higher	32.0	49.9	0.8	0.6	2.4	6.3	2.0	5.7	0.1	100.0	521
Antenatal care visits											
None	0.9	0.9	0.2	0.1	3.5	30.6	6.2	57.6	0.0	100.0	2,805
1-3 visits	12.0	14.1	0.6	0.3	4.9	16.0	5.9	46.3	0.0	100.0	963
4 or more visits	16.5	35.8	2.1	1.7	3.3	11.4	4.4	24.7	0.0	100.0	4,187
Don't know/Missing	2.6	1.1	1.6	0.0	2.1	44.4	1.4	20.4	26.3	100.0	157
Total	10.3	20.5	1.2	1.0	3.6	19.2	5.1	38.6	0.5	100.0	8,113

Note: Figures are for births in the period 1-59 months preceding the survey. If the respondent mentioned more than one attendant, only the most qualified attendant is considered.

Figure 8.2
Assistance During Delivery by Region

TBA 21%
Other 3%
Medical Person 13%
No one 63%

Northwest

TBA 24%
Other 6%
Medical Person 14%
No one 56%

Northeast

TBA 8%
Other 6%
No one 16%
Medical Person 70%

Southwest

TBA 21%
Other 7%
No one 16%
Medical Person 56%
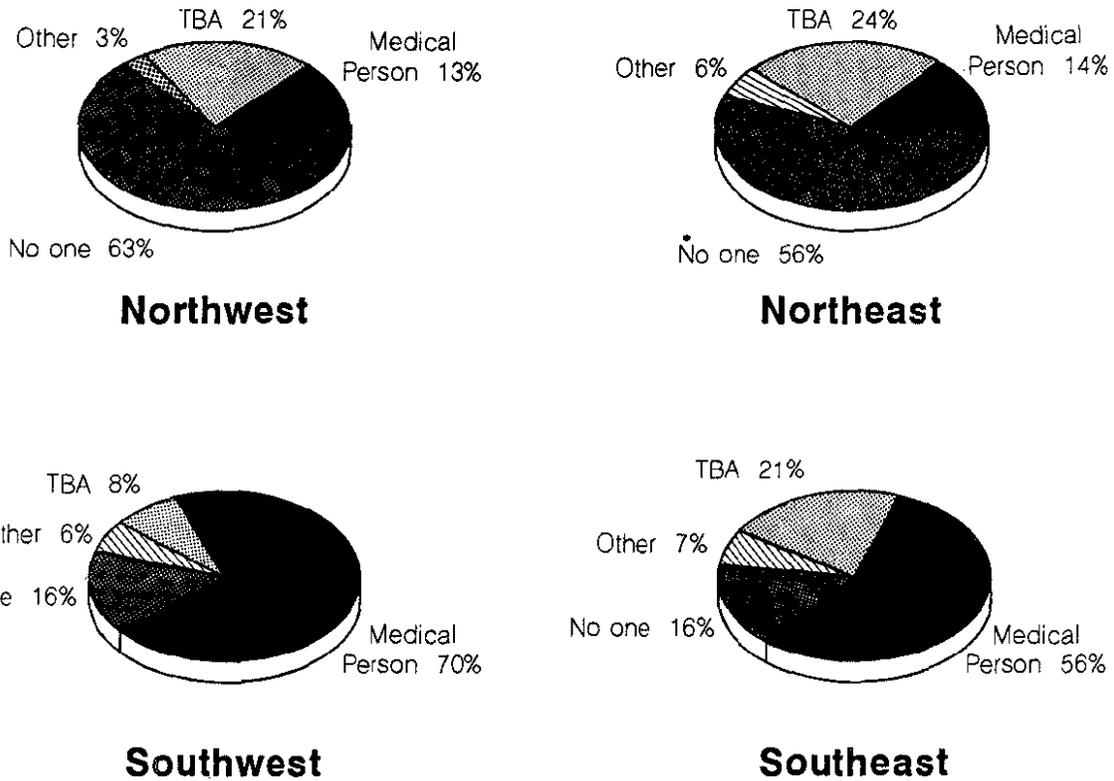
Southeast

Overall, more than half the births in the Northeast and Northwest are delivered without assistance, while only 16 percent of births in the Southeast and Southwest are delivered without assistance (see Table 8.4 and Figure 8.2).

Births to rural women, births to women in the Northeast and Northwest, births to women with no education, and births to women who made no antenatal visits, are more likely to be delivered without any type of assistance. These characteristics identify women who are at greater risk of dying due to complications occurring during pregnancy and delivery.

While doctors provided some antenatal care to 36 percent of births (see Table 8.1) they assisted in delivering only 10 percent (see Table 8.4). Trained nurses, midwives, and birth attendants delivered approximately 30 percent of the births in the Northeast and Northwest, and 62 to 52 percent of the births in the Southeast and Southwest. It is possible that many of the women who received antenatal care from doctors could not afford doctors' delivery fees; however, it is standard practice in Nigeria for normal deliveries to

be performed by nurse-midwives rather than doctors. If they are available to assist, doctors tend to do so in cases with complications.

Only 2.5 percent of births in the last five years preceding the survey were delivered by caesarean section. Less than 2 percent of births were born prematurely (see Table 8.5). For 90 percent of births, the birth weight was unknown, which is to be expected given that two-thirds of births are delivered at home.

Only 16 percent of babies born in the five years preceding the survey were reported by the mother to be *very small* or *smaller than average* at birth; 30 percent were reported to be *larger than average* or *very large;* the remaining half of births were reported to be of *average* size at birth (see Table 8.5).

8.2 Vaccinations

To assist in the evaluation of the Expanded Programme for Immunisation (EPI), the NDHS collected information on vaccination coverage for all children born in the five years preceding the survey, although data presented here are restricted to children who were alive at the time of the survey. The EPI follows the World Health Organisation's (WHO) guidelines for vaccinating children. To be considered fully vaccinated, a child should receive the following vaccinations: BCG, measles, and three doses each of DPT and polio. BCG is for protection against tuberculosis, and DPT is for protection against diphtheria, pertussis, and tetanus; both DPT and polio require three vaccinations at intervals of several weeks. WHO recommends that children receive the complete schedule of vaccinations by 12 months of age.

Information on vaccination coverage was collected in two ways: from vaccination cards shown to the interviewers and from mothers' reports. The majority of child welfare clinics in Nigeria provide cards on which vaccinations are recorded; when a mother was able to present such a card to the interviewer, this was used as the source of information. The interviewer recorded vaccination dates directly from the card. In addition to collecting vaccination information from cards, there were two ways of collecting the information from the mother herself. If a vaccination card had been presented, but a vaccine had not been recorded on the card as being given, the mother was asked to recall whether that particular vaccine had been given. If there was no card at all for the child, the mother was asked to recall whether the child had received BCG, polio (including the number of doses), or measles vaccinations. DPT coverage is not asked about for children without a written record and is assumed to be the same as mother's report for polio vaccine. (Polio and DPT are usually given at the same time.)

Table 8.5 Characteristics of delivery

Percent distribution of births in the five years preceding the survey 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, Nigeria 1990

Characteristic	Percent
Caesarean	2.5
Premature birth	1.5
Birth weight	
Less than 2.5 kg.	0.7
2.5 kg. or more	8.9
Don't know/missing	90.4
Total	100.0
Size at birth	
Very small	6.3
Smaller than average	9.9
Average	52.3
Larger than average	13.0
Very large	16.8
Don't know/missing	1.6
Total	100.0
Number of births	8,113

Note: Figures are for births in the period 1-59 months preceding the survey.

Vaccination coverage is presented in Table 8.6 according to the source of the information used to determine coverage, i.e., the vaccination card or mother's report. Data are presented for children age 12-23 months, thereby including only those children who have reached the age by which they should be fully vaccinated. Estimates of coverage are summarized in Figure 8.3, which presents coverage figures as ascertained from both vaccination cards and mothers' reports.

Table 8.6 Vaccinations by source of information

Percentage of children 12-23 months who had received specific vaccines at any time before the survey and the percentage vaccinated by 12 months of age, by whether the information was from a vaccination card or from the mother, Nigeria 1990

| | | | | | | | | | | | Number |
| Source of information | | DPT | | | Polio | | | | | | of |
	BCG	1	2	3+	1	2	3+	Measles	All[1]	None	children
Vaccinated at any time before the survey											
Vaccination card	34.2	33.2	25.0	20.0	33.7	25.2	20.1	23.9	18.0	0.0	1,380
Mother's report	26.5	26.0	21.8	13.3	26.0	21.8	13.3	22.1	11.6	36.8	1,380
Either source	60.7	59.2	46.8	33.3	59.7	47.0	33.4	46.0	29.6	36.8	1,380
Vaccinated by 12 months of age											
Vaccination card	27.2	26.6	19.9	15.3	27.0	20.1	15.3	14.6	11.1	6.5	1,380
Either source	48.3	47.5	37.2	25.4	47.8	37.4	25.4	28.1	18.3	48.6	1,380

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).

According to the information from vaccination cards, 34 percent of children received a BCG vaccination. However, not all children who get vaccinated have cards; 27 percent of children who did not have a card were reported by their mothers to have received the BCG vaccine. This translates to an overall coverage of 61 percent of children vaccinated against tuberculosis. Vaccinations are most effective when given at the proper age; according to the card information, 27 percent of children received the BCG vaccine by 12 months of age. Assuming that the proportion of vaccinations given during the first year of life is the same for children whose mothers report their status as it is for children with cards, it can be estimated that about 48 percent of children received BCG vaccinations by their first birthday.

Coverage of the first dose of polio and the first dose of DPT are about the same as for BCG. Over half the children have received the first dose (60 percent), although only 48 percent received it by 12 months of age. Coverage declines after the first dose; not as many children received the second and third doses of polio and DPT as did the first dose. Only 33 percent of children received the third doses of polio and DPT, and only 25 percent did so by 12 months of age.

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Figure 8.3
Vaccination Coverage
Among Children Age 12-23 Months
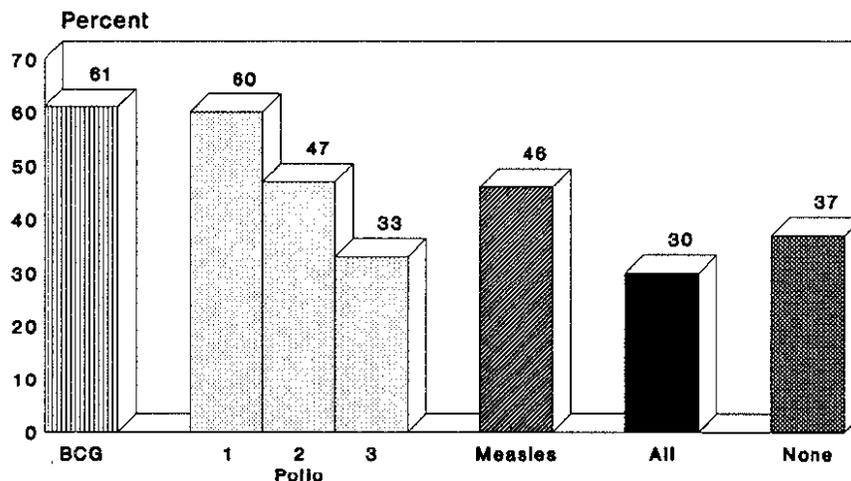
Percent

Note: Based on health card information
and mothers' reports.

NDHS 1990

Twenty-eight percent of children age 12-23 months were vaccinated against measles before their first birthday; and overall, only 18 percent have had all the recommended vaccinations by their first birthday.

As mentioned above, 61 percent of children age 12-23 months have received a BCG vaccination; the next highest coverage level is 60 percent for the first dose of polio vaccine. Thus, whether or not a child has received BCG appears to be indicative of whether the child will ever receive any vaccinations; this pattern holds true across all background variables, as shown in Table 8.7. More than one-third of children have never been vaccinated; and only 30 percent of children are fully vaccinated. Figure 8.4 shows the percentage of children age 12-23 months who are fully vaccinated (according to card information and mothers' reports) by selected background characteristics of the mother. The highest proportion of children who are fully vaccinated is among mothers with completed secondary or higher education (80 percent); the lowest proportion is among children in the Northeast region (16 percent) and children of mothers who have no education (17 percent).

Vaccination status does not differ appreciably by the sex or birth order of the child. However, it does differ markedly by characteristics of the mother. Children with the least protection are those born to women with no education; these children accounted for 61 percent of all births in the five years preceding the survey, and half of them did not receive a single vaccination. Although protection improves for children of better educated mothers, even these children may not complete the schedule of vaccinations. Nearly three-quarters of children with mothers who have some primary education begin the series for DPT and polio, but 15 percent never go on to receive the second dose, and an additional 18 percent never get the third dose. Coverage is especially low in the Northeast and Northwest, where only 1 in 6 children has completed the DPT/polio series.

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<u>Table 8.7 Vaccinations by background characteristics</u>

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, Nigeria 1990

| Background characteristic | BCG | Percentage of children who received: | | | | | | | | | Percentage with a card | Number of children |
| | | DPT | | | Polio | | | Measles | All[1] | None | | |
		1	2	3+	1	2	3+					
Sex												
Male	59.7	57.9	45.9	33.7	58.2	46.1	33.8	45.7	30.8	38.6	30.9	683
Female	61.7	60.5	47.6	32.9	61.1	47.9	32.9	46.4	28.4	35.0	38.5	697
Birth order												
1	58.4	57.4	46.1	31.1	57.4	46.1	31.4	44.9	26.2	39.9	35.5	265
2-3	62.9	61.0	45.4	36.0	62.1	45.9	36.0	47.6	33.4	35.1	35.9	441
4-5	60.6	58.8	48.8	33.9	59.1	49.0	33.9	48.1	30.4	36.0	33.1	445
6+	59.3	58.6	46.3	29.6	58.8	46.3	29.6	40.4	24.5	37.8	34.8	230
Residence												
Urban	81.3	80.8	74.5	58.9	81.6	74.8	59.1	68.8	52.5	16.3	43.9	295
Rural	55.1	53.4	39.2	26.4	53.7	39.5	26.4	39.8	23.3	42.4	32.3	1,086
Region												
Northeast	41.2	40.8	32.1	17.3	42.6	32.7	17.3	31.6	15.9	54.5	21.2	359
Northwest	52.6	51.7	35.1	18.7	51.7	35.1	18.7	39.7	17.7	45.4	36.5	373
Southeast	73.0	70.2	58.8	50.4	70.2	59.0	50.4	53.9	43.3	25.6	40.9	408
Southwest	81.6	79.8	66.5	51.0	79.8	66.5	51.3	64.0	45.3	15.9	41.8	240
Mother's education												
No education	46.2	44.8	32.6	19.1	45.3	32.7	19.1	33.8	16.6	51.4	25.7	845
Some primary	75.0	72.0	57.4	39.3	72.2	58.1	39.3	51.5	31.1	19.3	54.2	136
Completed primary	81.2	79.9	62.7	49.0	80.7	63.4	49.0	62.2	43.5	18.1	45.5	198
Some secondary	88.2	86.6	71.0	61.4	86.6	71.0	61.4	67.4	55.1	6.0	46.9	89
Completed secondary/higher	94.8	94.4	93.7	83.4	94.4	93.7	84.1	85.9	80.3	5.2	51.3	111
All children	60.7	59.2	46.8	33.3	59.7	47.0	33.4	46.0	29.6	36.8	34.7	1,380

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).

Figure 8.4
Percentage of Children 12-23 Months
Who are Fully Vaccinated

Category		Percent
TOTAL		30
RESIDENCE		
Urban		53
Rural		23
REGION		
Northeast		16
Northwest		18
Southeast		43
Southwest		46
EDUCATION		
No educ.		17
Prim. Incomp.		31
Prim. Comp.		44
Sec. Incomp.		55
Sec./Higher		80

Percent (scale: 0, 20, 40, 60, 80, 100)
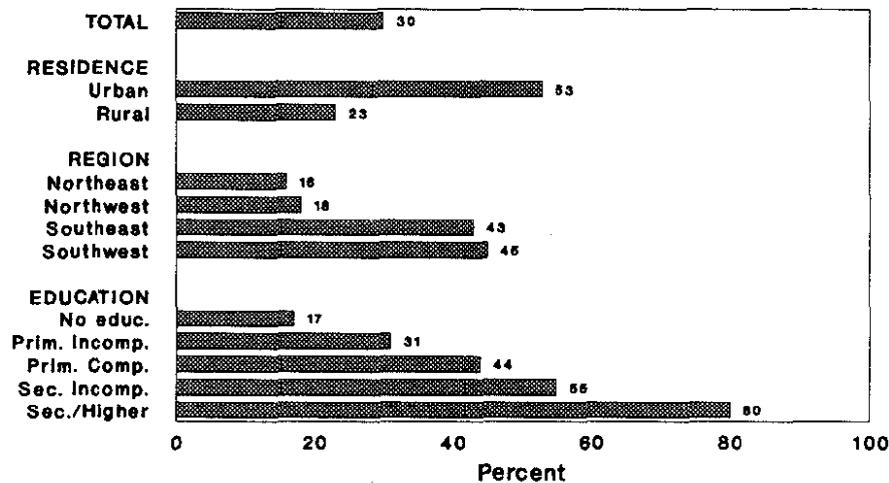
Note: Based on health card Information and mothers' reports.

NDHS 1990

Table 8.8 shows the percentage of children age 12-59 months who had been vaccinated by 12 months of age, by their current age. The table also shows the percentage of children with a vaccination card shown to the interviewer. The coverage estimates are based on both card information and mothers' reports.

The percentage of children with vaccination cards decreases with increasing age from 35 percent for children 12-23 months of age to 16 percent for children age 48-59 months. This decline could be due to either a genuine decline in coverage, or to the loss of cards over time. Cards were shown to interviewers by mothers for 26 percent of the children age 12-59 months.

Overall, 38 percent of children received the BCG vaccine before their first birthday. Thirty-six percent received the first dose of polio and DPT, and this fell to 21 percent by the third dose. Twenty-one percent of children received the measles vaccination; it seems plausible that the mothers who were regular in their attendance at the child welfare clinics and completed the polio/DPT series for their children were also the same mothers who had their children vaccinated against measles. The table is also meant to illustrate changes in the vaccination programme over time. Coverage has improved in the very recent past (it is highest for the children one year of age).

Table 8.8 Vaccinations in the first year of life

Percentage of children one to four 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, Nigeria, 1990

	Current age of child in months				All children 12-59 months
Vaccine	12-13	24-35	36-47	48-59	
Vaccination card					
shown to Interviewer	34.7	29.3	25.3	16.2	26.4
Percent vaccinated					
at 0-11 months[a]					
BCG	48.3	36.0	34.9	30.4	37.5
DPT 1[b]	47.5	34.2	33.8	27.0	35.7
DPT 2	37.2	28.4	31.0	22.6	29.9
DPT 3	25.4	18.2	22.7	16.6	20.8
Polio 1	47.8	34.1	33.5	27.1	35.7
Polio 2	37.4	28.5	31.1	22.9	30.0
Polio 3	25.4	18.2	22.6	16.5	20.7
Measles	28.1	18.8	21.0	15.8	21.0
All vaccinations[c]	18.3	11.7	15.1	11.2	14.1
No vaccinations	48.6	61.8	63.1	67.8	60.3
Number of children	1,380	1,320	1,415	1,349	5,463

[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.

8.3 Acute Respiratory Infection

Pneumonia is one of the foremost causes of infant mortality in Nigeria. Its prevalence was estimated by asking mothers if their children had experienced coughing, accompanied by short, rapid breathing, in the two weeks preceding the survey. These symptoms are compatible with pneumonia. Early diagnosis and treatment with antibiotics can prevent a large proportion of pneumonia deaths.

Table 8.9 shows that 7 percent of children under five years of age were ill with a cough and rapid breathing at some time in the two weeks preceding the survey. Thirty-five percent of these children visited a health facility of some kind, 23 percent received an antibiotic treatment, 23 percent received injections, and 35 percent received cough syrup.

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Table 8.9 Prevalence and treatment of acute respiratory infection

Percentage of children under five 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, Nigeria 1990

			Among children with cough and rapid breathing						
	Percentage of children with cough and rapid breathing	Percentage taken to a health facility or provider[1]	Percentage treated with:						
Background characteristic			Antibiotic pill or syrup	Injection	Cough syrup	Home remedy	Other	None/ Don't know/ Missing	Number of children
Child's age									
< 6 months	7.0	41.8	3.2	29.5	37.9	10.1	53.1	0.0	751
6-11 months	8.9	27.7	29.8	11.2	36.0	10.7	34.5	0.0	813
12-23 months	9.5	37.0	25.2	25.6	40.3	6.3	35.2	0.0	1,380
24-35 months	5.9	29.7	30.5	24.6	33.3	16.1	31.8	0.0	1,320
36-47 months	4.8	33.9	23.4	23.5	25.5	12.1	36.9	0.0	1,415
48-59 months	5.3	37.9	20.2	25.8	34.9	13.5	33.6	2.3	1,349
Sex									
Male	7.3	32.6	23.7	22.9	34.8	13.9	35.0	0.0	3,431
Female	6.2	36.8	22.8	24.0	35.9	7.6	38.3	0.8	3,596
Birth order									
1	6.7	35.4	17.0	25.6	30.8	17.4	33.1	0.0	1,281
2-3	6.2	35.4	22.3	21.8	33.6	16.1	32.2	0.0	2,226
4-5	7.3	41.4	27.4	23.1	34.6	3.5	47.4	0.0	1,707
6+	6.9	26.3	24.8	23.9	41.0	8.1	33.0	1.3	1,814
Residence									
Urban	4.2	43.5	35.1	24.3	47.6	4.3	48.5	0.0	1,532
Rural	7.4	33.2	21.4	23.3	33.4	12.0	34.6	0.4	5,496
Region									
Northeast	10.7	35.5	23.5	25.5	23.6	7.5	31.2	0.9	1,653
Northwest	4.8	35.0	21.2	28.3	42.2	10.9	26.7	0.0	1,862
Southeast	6.3	26.3	20.4	12.9	35.8	16.3	40.6	0.0	2,166
Southwest	5.2	47.8	31.2	32.1	55.0	9.3	54.7	0.0	1,347
Mother's education									
No education	6.8	29.4	21.3	22.9	28.6	11.3	29.9	0.6	4,330
Some primary	7.0	27.9	18.5	21.6	33.8	8.8	30.3	0.0	718
Completed primary	6.9	39.1	32.6	18.6	41.8	14.2	53.0	0.0	1,076
Some secondary	6.1	60.9	28.7	21.2	60.8	10.9	37.0	0.0	406
Completed secondary/higher	5.9	64.7	23.9	46.1	67.6	2.2	72.5	0.0	492
All children	6.7	34.6	23.3	23.4	35.3	10.9	36.5	0.4	7,028

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes health post, health centre, hospital, and private doctor.

Treatment practices for ill children differ more by background characteristics of the mother than does the prevalence of the illness itself. Children of more educated mothers are twice as likely to be taken to a health facility (60 percent) as children of less educated mothers (30 percent). Children in the Southeast were less likely to be taken to a facility than were children in the Southwest (26 versus 47 percent). There are no large differentials by age, sex, or parity.

8.4 Fever

One of the major causes of mortality and morbidity among children in Nigeria is malaria. Since the major manifestation of malaria is fever, mothers were asked whether their children had had a fever in the two weeks preceding the survey, and what type of treatment was sought, if any. "The remedy is to treat every child with fever promptly with antimalarial drugs before its major and deadly manifestations appear."[1]

Table 8.10 Prevalence and treatment of fever

Percentage of children under five years who had a fever during the two weeks preceding the survey, and the percentage of children with a fever who were treated with specific remedies, by selected background characteristics, Nigeria 1990

| Background characteristic | Percentage of children with fever | Percentage taken to a health facility or provider[1] | Among children with fever | | | | | | |
| | | | Percentage treated with: | | | | | | |
			Anti-malarial	Antibiotic pill or syrup	Injection	Home remedy	Cough syrup	None/ Don't know/ Missing	Number of children
Child's age									
< 6 months	25.4	36.7	10.3	13.1	27.5	9.2	39.4	1.0	751
6-11 Months	37.4	34.6	24.6	19.9	19.6	4.8	44.8	0.5	813
12-23 Months	41.4	34.7	23.5	24.5	25.7	4.5	49.5	0.8	1,380
24-35 Months	34.9	27.6	20.3	24.3	21.5	9.2	43.5	1.5	1,320
36-47 Months	30.3	22.3	17.7	17.3	14.3	6.0	44.7	0.6	1,415
48-59 Months	24.9	27.4	24.0	21.9	23.2	12.8	36.4	1.1	1,349
Sex									
Male	33.5	31.8	23.2	23.4	21.8	8.6	43.8	0.8	3,431
Female	31.8	28.2	18.6	18.9	21.6	6.1	44.2	1.1	3,596
Birth order									
1	29.6	27.4	17.9	21.5	18.6	11.9	39.7	0.3	1,281
2-3	30.4	32.5	23.4	22.1	26.8	6.2	39.7	1.3	2,226
4-5	33.9	30.3	20.8	19.0	21.5	5.8	46.3	0.9	1,707
6+	36.2	28.8	20.0	21.8	18.3	7.3	48.9	0.9	1,814
Residence									
Urban	22.2	49.3	30.3	28.8	27.2	5.9	61.3	0.4	1,532
Rural	35.5	26.7	19.3	19.8	20.7	7.6	41.0	1.0	5,496
Region									
Northeast	32.9	33.2	23.6	27.9	14.7	9.4	36.6	1.9	1,653
Northwest	37.5	22.7	14.9	18.2	26.5	8.7	22.3	0.8	1,862
Southeast	36.1	26.5	22.3	15.8	19.0	5.4	61.5	0.3	2,166
Southwest	19.9	53.2	26.8	31.0	31.1	5.9	64.3	1.4	1,347
Mother's education									
No education	33.6	25.0	16.8	20.3	18.6	9.1	33.9	0.9	4,330
Some primary	37.2	25.6	23.3	21.4	23.9	4.1	57.6	1.1	718
Completed primary	32.4	39.3	30.6	21.7	27.1	6.6	60.2	1.0	1,076
Some secondary	29.9	52.4	27.8	23.7	30.1	0.8	64.0	0.9	406
Completed secondary/higher	20.2	56.4	31.7	27.9	32.1	1.5	72.0	0.8	492
All children	32.6	30.0	20.9	21.1	21.7	7.4	44.0	0.9	7,028

Note: Figures are for children born in the period 1-59 months preceding the survey.
[a]Includes health post, health centre, hospital, and private doctor.

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[1] Quote from Professor O. Ransome-Kuti, Honourable Minister of Health (Ransome-Kuti et al., 1989).

Table 8.10 indicates that one-third of children under five years of age were reported to have had fever but only 21 percent of these received antimalarial treatment. Although there were no significant differences in the prevalence rate for fever, treatment practices did differ by background characteristics of the mother. Children in urban areas were twice as likely to be taken to a health facility for treatment of their fever, as children in rural areas; the same was true for children of the most educated mothers (secondary or higher) compared to children whose mothers had no education.

8.5   Diarrhoea

Dehydration brought on by severe diarrhoea is a major cause of morbidity and mortality among Nigerian children; it ranked as the number one cause for hospital admissions at the Massey Street Children's Hospital in Lagos in 1982. One treatment for dehydration is oral rehydration therapy (ORT): a solution prepared from commercially produced packets of oral rehydration salts (ORS); or a homemade solution prepared from sugar, salt and water. The former tends to be expensive, whereas, preparation of the latter is taught in child health clinics. ORT has been taught actively in Nigeria since the 1980s.

Table 8.11 shows the prevalence of diarrhoea in children under five years of age. Eighteen percent of children had experienced diarrhoea at some time in the two weeks preceding the survey; 4 percent of children had experienced bloody diarrhoea in the previous two weeks, while 8 percent were still having an episode of diarrhoea at the time of the survey (i.e., within the last 24 hours).

Children age 6-23 months were the most likely to have experienced diarrhoea in the two weeks preceding the survey. Children age 12-35 months experienced slightly higher rates of bloody diarrhoea than children in other age groups. Prevalence of diarrhoea was found to be higher in rural areas than in urban areas, and the Northeast and Northwest regions reported prevalence rates about double those in the Southeast and Southwest.

Table 8.11 Prevalence of diarrhoea

Percentage of children under five 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, Nigeria 1990

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	11.7	1.3	6.6	751
6-11 Months	26.3	3.2	12.4	813
12-23 Months	29.3	6.9	14.5	1,380
24-35 Months	20.7	5.8	10.2	1,320
36-47 Months	10.4	3.3	3.4	1,415
48-59 Months	9.6	2.5	3.8	1,349
Sex				
Male	19.4	4.0	10.2	3,431
Female	16.4	4.2	6.5	3,596
Birth order				
1	18.5	3.0	8.5	1,281
2-3	18.8	4.5	9.2	2,226
4-5	16.5	4.3	7.4	1,707
6+	17.6	4.1	8.0	1,814
Residence				
Urban	11.7	1.7	4.5	1,532
Rural	19.6	4.8	9.4	5,496
Region				
Northeast	23.9	6.1	13.7	1,653
Northwest	25.7	5.3	11.9	1,862
Southeast	12.2	2.7	4.6	2,166
Southwest	8.7	2.1	2.7	1,347
Mother's education				
No education	20.1	5.1	10.2	4,330
Some primary	14.4	1.9	4.9	718
Completed primary	17.2	4.0	7.0	1,076
Some secondary	12.7	2.0	3.9	406
Completed secondary/higher	8.9	0.5	3.1	492
All children	17.9	4.1	8.3	7,028

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes diarrhoea in the past 24 hours
[2]Includes diarrhoea with blood

Knowledge of ORS packets is quite low, only 14 percent of mothers who had births in the previous five years had ever heard of such packets (see Table 8.12). Use of ORS packets is even lower, only 8 percent of mothers had ever used a packet, which is to be expected since knowledge is low, and packets are commercially sold at prices which are expensive for the average family. Mothers most likely to have used ORS are those living in urban areas, and those who have secondary or higher education. Mothers least likely to have used ORS were those less than 20 years of age.

Table 8.12 Knowledge and use of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about and have ever used ORS packets, by selected background characteristics, Nigeria 1990

Background characteristic	Know about ORS packets	Have ever used ORS packets	Number of mothers
Age			
15-19	15.0	2.4	373
20-24	12.9	7.1	1,080
25-29	16.9	9.9	1,338
30-34	16.0	9.6	1,108
35+	11.1	4.6	1,169
Residence			
Urban	21.3	13.2	1,089
Rural	12.5	5.9	3,980
Region			
Northeast	13.6	6.3	1,232
Northwest	16.7	10.0	1,399
Southeast	14.9	7.3	1,456
Southwest	11.1	5.5	982
Education			
No education	10.6	5.6	3,209
Some primary	16.0	5.4	492
Completed primary	21.1	10.0	750
Some secondary	18.0	12.3	276
Completed secondary/higher	29.9	19.3	338
All mothers	14.4	7.5	5,069

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 8.13 and Figure 8.5 show the percentage of children with recent bouts of diarrhoea who were given treatment. One-quarter of all children who had a recent bout of diarrhoea were taken to a health facility or provider. Children in urban areas were much more likely to visit a health facility or provider than were rural children (40 percent versus 23 percent), and children in the Southwest were more than twice as likely to have been taken to a facility as children in the Southeast.

Table 8.13 Treatment of diarrhoea

Percentage of children under five years who had diarrhoea in the two weeks preceding the survey who were taken for treatment to a health facility or provider, the percentage who received oral rehydration therapy (ORT), the percentage who received increased fluids, the percentage who received neither ORT nor increased fluids, and the percentage receiving other treatments, according to selected background characteristics, Nigeria 1990

Background characteristic	Percentage taken to a health facility or provider[1]	Oral rehydration therapy (ORT)		Percentage receiving in- creased fluids	Percentage receiving neither ORT nor increased fluids	Percentage receiving other treatments:			Number of children with diarrhoea[2]
		ORS packets	Home solution			Anti- biotics	In- jection	Home remedy, Other	
Child's age									
< 6 months	24.8	10.3	18.0	14.6	70.0	6.3	3.6	29.5	88
6-11 months	25.5	12.5	21.6	7.6	70.0	16.9	9.0	28.6	214
12-23 months	27.4	10.4	29.8	8.7	61.8	11.7	5.4	28.0	404
24-35 months	21.6	10.0	22.4	12.0	67.9	12.3	3.4	28.4	273
36-47 months	21.7	12.9	15.8	14.8	65.2	12.6	7.7	27.1	148
48-59 months	28.8	16.9	22.0	8.2	71.3	3.8	6.5	24.1	129
Sex									
Male	23.6	12.0	22.7	9.7	67.8	8.5	3.7	26.7	666
Female	26.8	11.3	24.5	11.0	65.0	15.2	8.3	29.0	590
Birth order									
1	25.9	14.6	25.7	6.7	68.8	5.7	7.3	26.7	237
2-3	26.0	11.5	23.0	12.3	65.5	13.5	4.4	23.4	418
4-5	23.9	11.2	24.2	10.8	65.3	12.0	10.3	31.3	282
6+	24.5	10.0	22.1	9.9	67.1	13.2	2.6	31.3	319
Residence									
Urban	40.3	25.5	43.2	18.7	42.9	19.9	6.8	37.9	179
Rural	22.6	9.3	20.3	8.9	70.4	10.2	5.6	26.1	1,076
Region									
Northeast	25.5	13.6	18.7	8.8	70.4	8.8	6.8	25.2	395
Northwest	24.1	10.7	19.3	7.7	72.1	5.9	2.3	17.0	478
Southeast	17.1	8.9	33.3	13.1	57.6	17.5	5.8	39.2	265
Southwest	45.8	15.1	34.9	19.6	50.5	31.1	16.7	54.6	118
Mother's education									
No education	22.7	8.0	17.0	8.6	73.4	9.6	6.0	26.1	872
Some primary	23.4	11.6	30.4	15.6	60.2	19.6	4.2	25.4	103
Completed primary	37.6	25.3	39.3	12.7	49.2	11.7	6.4	30.7	185
Some secondary	16.4	19.5	41.5	11.6	53.9	14.5	5.4	42.3	52
Completed secondary/higher	35.2	17.4	50.4	20.5	32.9	28.9	4.7	37.7	44
All children	25.1	11.6	23.5	10.3	66.5	11.6	5.8	27.8	1,256

Note: Oral rehydration therapy (ORT) includes solution prepared from ORS packets, and recommended home solution (sugar, salt, water).
[1] Includes health post, health centre, hospital, and private doctor.
[2] Includes children born in the period 1-59 months preceding the survey.

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Figure 8.5
Percentage of Children Receiving
Treatment for Diarrhoea by
Type of Treatment

Treatment	Percent
Taken to Health Fac.	25
ORS Packet	12
Home Solution	24
Increased Fluids	10
Antibiotic/Injection	17
Home Remedy	28
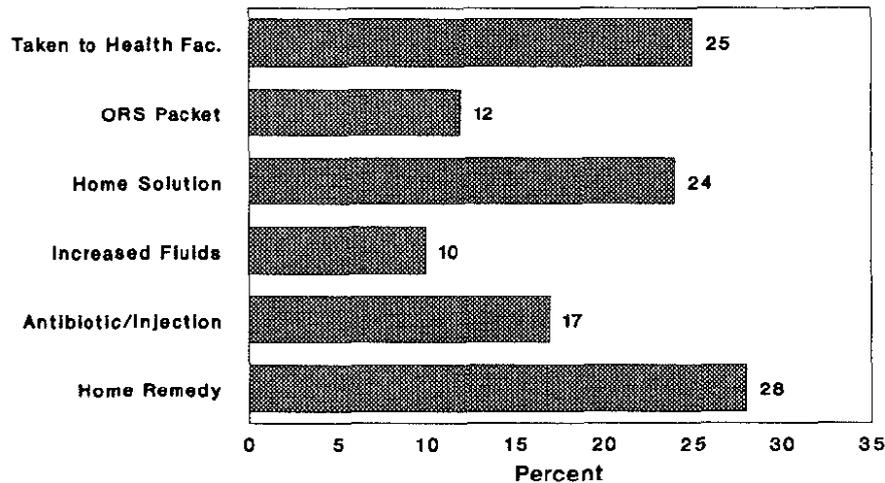
Percent

Note: Based on children age 1-59 months who had diarrhoea in the two weeks preceding the survey.

NDHS 1990

Twelve percent of children who recently had diarrhoea were given a solution prepared from ORS packets and 24 percent were given a homemade solution of sugar, salt and water: two-thirds of the children were not given either solution. The use of homemade solutions appears to be rather low; however, their use is taught mainly in the health facilities, and only 25 percent of children with diarrhoea had been taken to a health facility. A higher percentage of children from the urban areas, from the Southeast and Southwest, and who had educated mothers had been given the homemade solution. Increasing fluids during the episode of diarrhoea followed the same pattern.

Use of antibiotics and injections was low (12 and 6 percent of cases), which is consistent with the acceptance of ORT as the modern treatment for diarrhoea. Twenty-eight percent of children were given home remedies other than the recommended home solution.

Table 8.14 shows that three-quarters of children who had diarrhoea and were still being breastfed had mothers who continued their feeding as they usually did, without increasing the quantity of feeds. Most children also had mothers who did not change the amount of other fluids fed to their children with diarrhoea. However, as many as 31 percent of the children were given less fluid during the bout of diarrhoea. This high proportion of children who had the fluid intake reduced suggests that increased education efforts are needed to stress the importance of increasing fluid intake during a diarrhoeal attack.

Table 8.14 Feeding practices during diarrhoea

Feeding practices among children under five years who had diarrhoea in the two weeks preceding the survey, Nigeria 1990

Feeding practices	Percent
Breastfeeding frequency[1]	
Same as usual	74.6
Increased	12.3
Reduced	10.7
Stopped	1.3
Don't know/missing	1.0
Number of children	1,021
Amount of fluids given	
Same as usual	55.3
More	10.3
Less	31.2
Don't know/missing	0.4
Number of children with diarrhoea[2]	1,256

[1]Applies only to children who are still breastfed.
[2]Children born in the period 1-59 months preceding the survey.

CHAPTER 9

INFANT FEEDING AND CHILDHOOD NUTRITION

This chapter covers two related topics: infant feeding (including breastfeeding practices, introduction of supplementary weaning foods, and use of feeding bottles) and nutritional status (based on height and weight measurement of the respondent's children under the age of five years).

9.1 Breastfeeding and Supplementation

Infant feeding has an impact on both the child and the mother. Feeding practices are important determinants of the child's nutritional status, which in turn influences the risk of dying. The mother is affected by breastfeeding through its effects on postpartum infertility, which is related to the length of birth intervals, and thus fertility levels. These effects are influenced by both the duration and intensity of breastfeeding, and by the age at which the child receives supplemental foods and liquids.

Practically all Nigerian children (97 percent) are breastfed for some period of time (see Table 9.1). Thirty-three percent of children were put to the breast within one hour of birth and 50 percent within the first day. The timeliness with which women put their infants to the breast is one of the few behaviours in which women in the Southeast and the Southwest differ markedly. In the Southeast, 47 percent of last born children were put to the breast within the first hour of birth, whereas in the Southwest only 17 percent were put to the breast in the first hour.

Breast milk is sterile, and contains all the nutrients needed by children in the first few months of life. In addition, it provides some immunity to disease through the mother's antibodies. That breastfeeding helps in reducing the prevalence of diarrhoea and nutritional deficiencies is undisputed.

The percent distribution of living children by breastfeeding status at the time of the survey is shown in Table 9.2. Only 7 percent of children age 10-11 months were not breastfeeding; i.e., the majority of children are breastfed for at least one year. By age 16-17 months, 21 percent of children were no longer being breastfed.

Exclusive breastfeeding is rare in Nigeria: only 2 percent of children under 2 months of age are fed only breast milk. Most children are given water in addition to breast milk (57 percent of children under 2 months of age). Supplements (other than water) are introduced early; as many as 38 percent of children age 0-1 month were already being given supplements other than plain water. Fifty-seven percent of children age 2-3 months were receiving supplements. The percentage receiving supplements increases to 72 percent among children age 12-13 months, and thereafter drops as children stop breastfeeding altogether. While most children are breastfed for a full year, 17 percent of those age 12-13 months are reportedly not yet receiving supplements to their diet of breast milk and water.

<u>Table 9.1 Initial breastfeeding</u>

Percentage of children born in the five 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, Nigeria 1990

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	96.3	4072	33.1	51.0	2,588
Female	97.1	4127	33.0	48.9	2,588
Residence					
Urban	96.3	1730	28.9	51.0	1,118
Rural	96.9	6469	34.2	49.6	4,058
Region					
Northeast	96.5	1948	36.1	44.6	1,246
Northwest	96.6	2267	27.7	37.3	1,445
Southeast	97.4	2447	46.8	71.5	1,475
Southwest	96.1	1536	17.0	43.2	1,011
Mother's education					
No education	96.9	5152	33.9	46.0	3,289
Some primary	96.0	829	31.7	55.8	496
Completed primary	96.1	1224	33.9	58.1	761
Some secondary	96.6	462	25.9	53.7	281
Completed secondary/ higher	97.5	526	30.9	58.2	346
Assistance at delivery					
Medically trained person	95.6	2542	29.0	55.5	1,570
Auxiliary midwife/ village health worker	96.8	186	38.2	62.3	114
Traditional birth attendant	96.8	1894	34.5	45.8	1,181
Other or none	97.5	3577	34.9	47.7	2,312
Place of delivery					
Health facility	96.1	2532	28.8	55.5	1,565
At home	97.7	5452	35.3	47.3	3,471
Other	79.6	215	24.7	53.2	141
All children	96.7	8199	33.1	49.9	5,176

Note: Table is based on all children born in the five years preceding the survey, whether living or
dead at the time of the interview.

Table 9.2 Breastfeeding status

Percent distribution of living children by breastfeeding status, according to child's age in months, Nigeria 1990

		Percentage of living children who are:				
			Breastfeeding and:			Number
Age in months	Not breast-feeding	Exclusively breast-fed	Plain water only	Supple-ments	Total	of living children
0-1	3.1	2.1	56.8	38.0	100.0	260
2-3	0.3	1.0	41.7	57.1	100.0	279
4-5	3.6	0.1	30.9	65.4	100.0	291
6-7	1.7	0.8	30.9	66.6	100.0	338
8-9	3.6	0.5	21.1	74.9	100.0	286
10-11	7.1	0.2	18.9	73.8	100.0	189
12-13	11.6	0.0	16.8	71.7	100.0	300
14-15	15.9	0.7	14.2	69.2	100.0	260
16-17	20.8	0.7	16.5	62.0	100.0	269
18-19	39.2	0.4	8.6	51.8	100.0	214
20-21	50.5	0.0	3.1	46.5	100.0	190
22-23	65.7	0.0	12.1	22.2	100.0	147
24-25	77.2	0.0	2.8	20.0	100.0	257
26-27	88.2	0.0	2.3	9.4	100.0	264
28-29	86.8	0.0	4.5	8.7	100.0	214
30-31	94.6	0.0	1.1	4.3	100.0	205
32-33	79.3	0.0	0.0	20.7	100.0	190
34-35	82.8	0.0	0.5	16.7	100.0	190

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

Solid or mushy food is introduced into the diet early (see Table 9.3). Two percent of breastfeeding children were receiving food as early as one month of age. By age 4-5 months, one-third of breastfeeding children had food introduced into their diets; by age 20-21 months, the majority of breastfeeding infants were receiving supplements of solid or mushy food (84 percent). Over one- third (36 percent) of newborns (age 0-1 months) were being given a bottle and teat (nipple) in addition to being breastfed. These findings have important health implications, as neonates are particularly vulnerable to infections.

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, Nigeria 1990

| | Percentage of breastfeeding children who are: | | | | | |
| | Receiving supplement | | | | Using a bottle with a nipple | Number of children |
Age in months	Infant formula	Other milk	Other liquid	Solid/ mushy		
0-1	18.9	8.0	23.5	1.6	36.0	252
2-3	26.4	13.9	19.3	13.1	30.8	279
4-5	21.0	11.6	26.3	33.7	26.8	280
6-7	18.7	16.0	23.0	47.0	29.8	332
8-9	14.1	15.1	20.1	60.8	15.9	276
10-11	13.5	15.4	27.9	65.5	21.3	176
12-13	12.1	13.9	24.3	68.9	20.1	266
14-15	9.9	10.7	21.9	72.9	10.0	219
16-17	6.6	19.5	13.7	65.1	7.9	213
18-19	3.9	11.9	20.1	72.4	9.7	130
20-21	1.8	10.7	17.5	83.9	2.2	94
22-23	0.0	14.2	17.6	49.5	2.8	50
24-25	2.5	15.5	25.0	68.0	5.2	59
26-27	(4.7)	(0.0)	(12.1)	(80.2)	(4.7)	31
28-29	(0.0)	(5.6)	(6.0)	(63.0)	(7.7)	28
30-31	*	*	*	*	*	11
32-33	(0.0)	(0.0)	(4.5)	(100.0)	(0.0)	39
34-35	(3.0)	(3.0)	(5.6)	(97.2)	(0.0)	33

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

The median duration of breastfeeding is 20 months (see Table 9.4). The duration of breastfeeding is longest for children in the Northeast (22 months), children in the Northwest (21 months), and children of mothers with no education (21 months).

Children are categorized as *fully breastfed* if they are receiving only breast milk, or if water is the only addition to their diet of breast milk. The median duration of full breastfeeding is only 1.5 months. The longest median duration of full breastfeeding is for children in the Northeast (5 months). Although a duration of 2.2 months is relatively short, at 2.2 months the median duration of full breastfeeding is longer in rural areas than in urban areas (0.5 months). The duration of full breastfeeding is also longer in the North than in the South, longer for less educated women than for more educated women, and longer for those who had no assistance at delivery than for those who had medical assistance at delivery.

Ninety-three percent of children under 6 months of age were breastfed six or more times in the 24 hours preceding the interview. Children whose mothers had completed secondary education were less likely to be breast fed six or more times in the 24 hours preceding the interview (78 percent). An explanation for this may be that some of the mothers have wage jobs and are unable to breastfeed their babies during the day. There were no appreciable regional differences in the frequency of feeds in the preceding 24 hours.

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Table 9.4 Median duration and frequency of breastfeeding

Median duration of any breastfeeding and full breastfeeding, and the percentage of children under six months of age who were breastfed six or more times in the 24 hours preceding the survey, by selected to background characteristics, Nigeria 1990

Background characteristic	Median duration in months			Percentage < 6 months breastfed 6+ times in last 24 hours	Number of children
	Any breast-feeding	Full breast-feeding[1]	Number of children		
Sex					
Male	19.6	1.3	2470	92.9	448
Female	19.3	1.7	2408	93.3	382
Residence					
Urban	15.3	0.5	1021	91.7	163
Rural	20.4	2.2	3858	93.4	667
Region					
Northeast	21.5	5.2	1229	92.1	204
Northwest	20.8	2.4	1346	95.9	241
Southeast	17.4	2.0	1408	94.3	235
Southwest	16.1	0.4	895	88.1	150
Mother's education					
No education	21.3	2.3	3028	94.0	497
Some primary	19.7	2.4	499	96.9	82
Completed primary	16.2	0.8	735	92.5	146
Some secondary	15.6	0.6	283	(96.0)	48
Completed secondary/higher	13.3	0.5	330	78.3	57
Assistance at delivery					
Medically trained person	16.1	0.6	1464	92.9	265
Auxiliary midwife/ village health worker	19.0	0.7	107	*	16
Traditional birth attendant	19.8	2.2	1140	92.6	190
Other or none	21.6	3.0	2167	93.6	359
All children	19.5	1.5	4878	93.1	830
Mean	19.7	5.9	4878	NA	NA
Prevalence/incidence mean	20.1	5.6	4878	NA	NA

NA = Not applicable
Note: Medians and means are based on current status.
[1]Either exclusively breastfed or received plain water only in addition to breastfeeding. Medians for exclusive breastfeeding are not shown due to very few children being exclusively breastfed.

9.2   Nutritional Status

One of the major contributions of the NDHS to the study of child health status is the anthropometric data collected on the children of respondents. These data on children under five years of age allow for calculation of indicators of nutritional status. These indicators are important because children's nutritional status influences their susceptibility to disease and untimely death. Children's nutritional status reflects infant and child feeding practices as well as recurrent and chronic infections. Both the height and weight of children were measured; these data were used to construct the following indices:

> · height-for-age
> · weight-for-height
> · weight-for-age

The validity of these indices is determined by the coverage of the population of children under study. In the NDHS, all children under five years of age whose mothers were present in the sample household the night before the interview were eligible to be included in the anthropometric data collection. However, not all eligible children are included in the results presented here; the height or weight measurement is missing for 9 percent of eligible children, and one or both of the measurements are grossly improbable in 5 percent of cases. The month and year of birth is not known for 7 percent of cases and two of the indices (height-for-age, and weight-for-age) are influenced by the accuracy of the reporting of the child's age. Hence, height and weight data are shown for only 79 percent of the eligible children. (Although the term "height" is used here, children younger than 24 months were measured lying down on a measuring board (recumbent length), while standing height was measured for older children.)

As recommended by the World Health Organisation (WHO), the nutritional status of children in the survey is compared with an international reference population defined by the U.S. National Center for Health Statistics (NCHS) and accepted by the U.S. Centers for Disease Control (CDC). The use of this reference population is based on the finding that well-nourished young children of all population groups (for which data exist) follow very similar growth patterns (see Martorell and Habicht, 1986). The reference population serves as a point of comparison, facilitating the examination of differences in the anthropometric status of subgroups in a population and of changes in nutritional status over time. In any large population, there is variation in height and weight; this variation approximates a normal distribution.

The height-for-age index is an indicator of linear growth retardation. Children whose height-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age, "stunted," and are chronically undernourished. Children who are below minus three standard deviations (-3 SD) from the median of the reference population are considered severely stunted. Stunting reflects the outcome of a failure to receive adequate nutrition over a long period of time, and is also affected by recurrent and chronic illness. Height-for-age, therefore, represents a measure of the long-term effects of undernutrition in a population and does not vary appreciably according to the season of data collection. Stunted children are not immediately obvious in a population; a stunted three-year old child could look like a well-fed two-year old.

The weight-for-height index measures body mass in relation to body length, and describes current nutritional status. Children who are below minus two standard deviations (-2 SD) from the median of the reference population are considered thin, "wasted," and are acutely undernourished. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent episodes of illness, causing loss of weight and the onset of undernutrition. Wasting may also reflect acute food shortage. Children whose weight-for-height is below minus three standard deviations (-3 SD) from the median of the reference population are considered to be severely wasted.

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Weight-for-age is a composite index of height-for-age and weight-for-height; it takes into account both acute and chronic undernutrition. It is a useful tool in clinical settings for continuous assessment of nutritional progress and growth. Children whose weight-for-age is below minus two standard deviations from the median of the reference population are classified as "underweight." In the reference population only 2.3 percent of children fall below minus two (-2 SD) for each of the three indices.

Table 9.5 shows the percentage of children under five years of age classified as undernourished according to height-for-age, weight-for-height, and weight-for-age indices, by the child's age group and selected demographic characteristics. Two-fifths of the children (43 percent) are classified as stunted (this includes 22 percent who are severely stunted). These figures are rather high and suggest that feeding practices for children are very poor.

Table 9.5 Nutritional status by demographic characteristics

Percentage of children under five years who are classified as undernourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by selected demographic characteristics, Nigeria 1990

Demographic characteristic	Height-for-age		Weight-for-height		Weight-for-age		
	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]	Number of children
Age							
Under 6 months	5.9	12.4	0.9	6.3	0.9	7.6	796
6-11 months	9.1	25.3	2.0	11.2	7.7	35.1	588
12-23 months	20.7	44.6	3.6	15.6	15.2	45.3	1,129
24-35 months	30.1	53.3	1.8	8.2	19.2	45.6	1,018
36-47 months	31.3	55.3	1.0	6.8	13.3	37.1	1,099
48-59 months	26.8	52.9	0.9	5.8	10.6	36.0	935
Sex							
Male	23.4	43.4	1.7	9.8	12.0	35.8	2,735
Female	21.0	42.7	1.8	8.3	11.9	35.7	2,830
Birth order							
1	20.0	41.6	1.7	8.9	10.0	35.7	965
2-3	22.3	43.0	1.7	9.8	11.8	34.9	1,750
4-5	22.9	44.1	1.7	7.2	12.2	35.4	1,381
6+	22.7	43.2	1.9	9.9	13.1	37.0	1,468
Birth interval							
< 2 Years	26.6	47.6	1.3	7.6	14.4	36.4	1,138
2-3 Years	22.1	42.7	2.1	9.8	12.2	36.6	2,687
4 or more years	18.5	39.4	1.3	8.5	9.6	31.6	769
All children	22.2	43.1	1.8	9.1	12.0	35.7	5,565

Note: Figures are for children born in the period 1-59 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

Stunting becomes increasingly common as children get older; twice as many children age 6-11 months are stunted as children under 6 months of age; and then, twice as many more children are stunted by two years of age. Over 50 percent of the children two years and older are stunted. The likelihood of stunting occurring varies little by sex or birth order; however, stunting occurs more frequently among children born after a short birth interval (less than 24 months), than those born after a long interval (4 years or more) (48 percent versus 39 percent). Figure 9.1 shows the percentage of children under five years of age who are stunted, by selected socioeconomic characteristics of the mother.

The weight-for-height index gives information about children's recent nutritional status. Severe wasting represents failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent illness, or of seasonal variations in food supply. Nine percent of children are classified as wasted, i.e., below minus two standard deviations (-2 SD) from the median of the reference population; 2 percent are severely wasted (-3 SD).

Figure 9.1
Percentage of Children Under Five Years
Who Are Chronically Undernourished (Stunted)

	Percent
TOTAL	43
RESIDENCE	
Urban	36
Rural	46
REGION	
Northeast	52
Northwest	50
Southeast	37
Southwest	36
EDUCATION	
No educ.	48
Prim. Incomp.	39
Prim. Comp.	40
Sec. Incomp.	36
Sec./Higher	23

Note: Chronically undernourished children are those
who are below -2 SD from the median of the international
reference population for height-for-age.

NDHS 1990

Weight-for-age provides an index for chronic and acute undernutrition, but does not distinguish between a child who is underweight because of stunting and one who is underweight because of wasting. Overall, 36 percent of children are underweight, and 12 percent are below minus three standard deviations (-3 SD) from the median of the reference population and are therefore classified as severely underweight. The likelihood of being underweight varies little by sex or birth order, but more children with a birth interval of less than two years were underweight. Children under 6 months of age are the least likely to be underweight (8 percent). This is most likely due to the positive effects of breastfeeding; Table 9.2 showed that only 7 percent of children this age were not being breastfed. After 6 months of age, however, the percentage of children who are underweight increases substantially (35 percent of children age 6-11 months), and remains high.

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Table 9.6 shows the percentage of children under five years of age classified as undernourished (according to the three anthropometric indices) by socioeconomic characteristics; a familiar pattern emerges. Undernutrition is higher among rural children than urban, and higher among children whose mothers have no education. These findings hold for height-for-age, weight-for-height, and weight-for-age. There are also marked regional differences; the highest levels of wasting (over 10 percent) and stunting (over 50 percent) are seen in the Northeast and Northwest.

Table 9.6 Nutritional status by socioeconomic characteristics

Percentage of children under five years who are classified as undernourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height and weight-for-age, by selected socioeconomic characteristics, Nigeria 1990
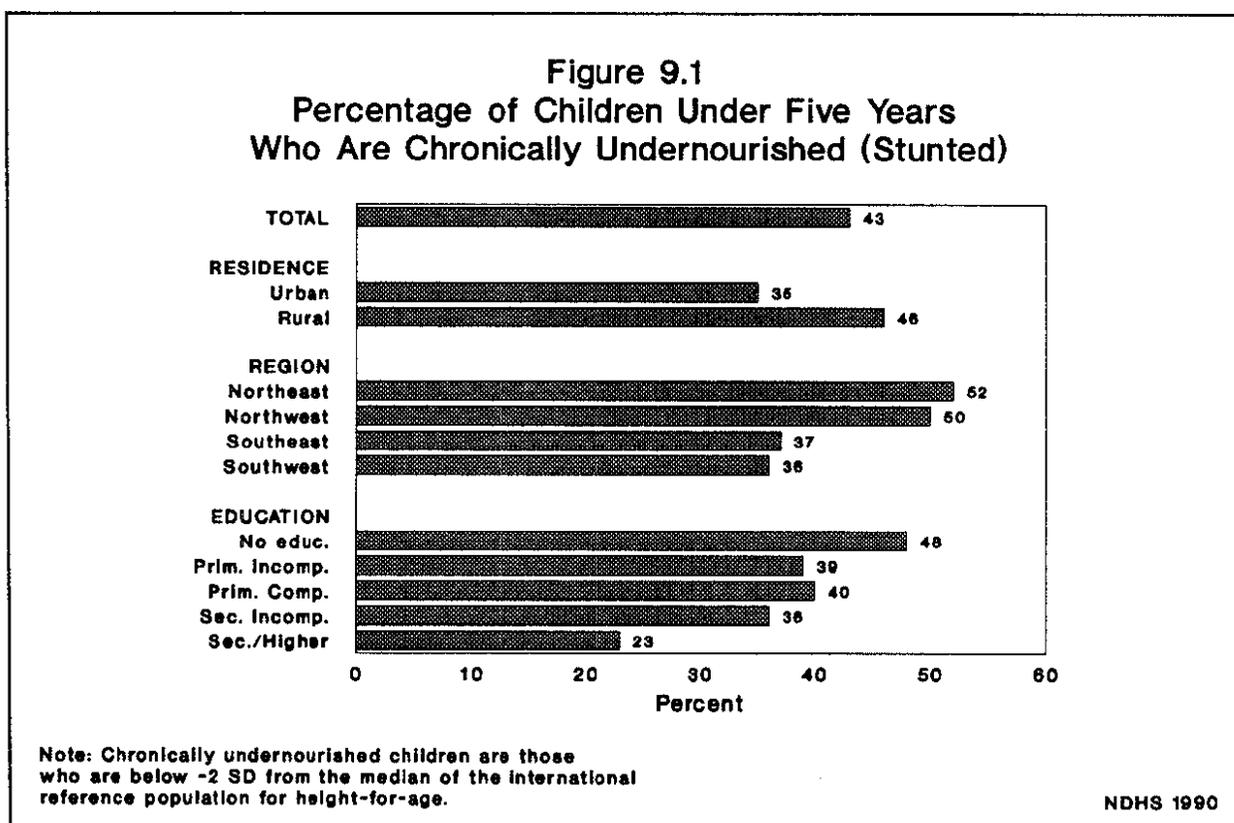
Socioeconomic characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	
Residence							
Urban	13.7	35.0	1.5	7.2	6.8	26.3	1,278
Rural	24.7	45.5	1.8	9.6	13.5	38.5	4,287
Region							
Northeast	30.1	51.9	3.2	11.3	18.6	44.6	1,199
Northwest	28.8	50.4	2.7	12.1	14.2	43.8	1,351
Southeast	17.1	36.6	0.6	7.6	9.5	29.6	1,893
Southwest	14.3	35.6	0.9	5.5	6.3	26.9	1,122
Mother's education							
No education	26.3	48.1	2.2	11.0	14.9	41.2	3,283
Some primary	17.5	38.6	0.9	8.2	9.6	31.4	618
Completed primary	18.9	39.7	1.5	5.8	8.5	29.8	899
Some secondary	15.3	35.9	1.0	5.8	7.0	28.4	347
Completed secondary/higher	9.3	23.1	0.9	4.6	3.9	17.4	415
All children	22.2	43.1	1.8	9.1	12.0	35.7	5,565

Note: Figures are for children born in the period 1-59 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

CHAPTER 10

LOCAL AVAILABILITY OF FAMILY PLANNING
AND HEALTH SERVICES

Use of family planning and health services is determined by supply as well as demand. The NDHS fielded the Nigeria Service Availability Questionnaire (reproduced in Appendix E) to assess the availability, or supply, of family planning and health services. The questionnaire was applied at the community level (enumeration area). Information was gathered from two sources: 1) groups of four or five knowledgeable informants in the community (assembled by the interviewer) and 2) informants visited in facilities. The information collected in the enumeration area (EA) and in the facilities is assigned to each respondent (individual questionnaire) to obtain population-based estimates. The number of independent data points, however, remains the same as the number of EAs for which the information was collected, 166 for rural areas and 20 for urban areas.[1] Due to the small number of actual data points, the service availability estimates are subject to larger sampling errors than are the estimates based on data from individual women in the main survey. Given that service availability differs in rural and urban areas, it is reasonable to examine the two areas separately. However, service availability is far less of a problem in urban[2] than in rural areas, and the small number of sampling points in urban areas leads to extremely large sampling errors. Given that service availability is of much greater concern in rural areas, and that all rural EAs in the NDHS (except one) were canvassed with the service availability questionnaire, this chapter focuses just on the rural EAs in Nigeria.

10.1 Organisation of the Family Planning and Health System

Due to the decentralised structure of the Federal government, the delivery of family planning and health services in Nigeria is quite complex. While policies and guidelines are set by the Federal government, policies for service provision are determined at the state level, and actual implementation and provision of care is handled by the local government areas (LGAs). The objective of the national health policy is to "achieve health for all Nigerians based on the national philosophy of social justice and equity" (Ransome-Kuti et al., 1989). The emphasis in health care provision is on the provision of primary health care (PHC), and states are free to determine how to achieve this goal. As a result, there is great diversity in the types and means of service provision across states.

The organisation of stationary facilities is structured on a three-tier system. The primary tier, based at the local level, generally provides maternal and child health (MCH) care, preventive care and basic curative care. The secondary tier, based at the state level, is largely composed of district hospitals. These hospitals provide curative services, although preventive services are also available. At the federal level is the tertiary tier, which encompasses teaching hospitals.

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[1] Due to the greater complexity of services available in urban areas, it was decided to limit the number of urban EAs covered in the service availability study to 20.

[2] For example, all urban women sampled live less than one mile from a place that offers at least one method of family planning.

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10.2 Nigeria Service Availability Questionnaire

The service availability questionnaire was designed to provide a picture of the service environment available to Nigerian women. There are two types of mechanisms for providing services: outreach programmes and stationary facilities. The former deliver services directly to people in their communities, while the latter function as repositories of services, relying on people to come to them to obtain services.

Outreach services are provided by health workers, mobile clinics, and market and retail outlets. The informants assembled for the cluster interview were asked whether their communities are served by such services, and if so, the nature of these services. For example, if a health worker visits the community, the informants were asked whether she provides family planning methods (and more specifically, the pill, condom, and foaming tablets), basic medications, ORS instruction, vitamins, and immunisations.

Many types of stationary facilities exist. Community informants were asked to identify the nearest facility of each of the following types: a hospital (representing either the secondary or tertiary level), a health centre (the most complex primary health care facility), a health clinic, maternity centre or maternity home (facilities offering limited primary health care), a family planning clinic, and a pharmacy or patent medicine shop. Facilities said to be within six hours walking distance from the community were eligible to be visited by interviewers. One facility of each type was visited if it met the eligibility requirement. A second facility of each type would be visited if the first one visited did not provide family planning methods.

When facilities were visited, detailed information regarding staff, equipment, services, fees, supplies, medications, vaccines, and contraceptives was collected. Attention was focussed on whether facilities had basic supplies, whether they experienced shortages of supplies or medicines, and whether equipment was in working order. Interviewers also verified the existence of equipment and supplies.

Despite attempts to explain to local informants the differences between the various types of facilities, there were some instances in which informants identified a facility of one type, and upon visitation, interviewers found it to be another type of facility. This is referred to as *misidentification*. Interviewers were instructed to handle such situations as follows: if the respondents identify a *health centre*, and the interviewer learns upon visiting the facility that it is in fact a *health clinic*, the interviewer should conduct the site visit interview as one for a health clinic. (It is assumed that this facility is closer than any other health clinic that may have been identified in the cluster interview, because interviewers were to order their site visits so as to go to the closest one first). Misidentification of a facility has two results: a) if a health clinic was identified in the cluster interview it is not visited, and b) no health centre is visited (it is not known whether or not there is a health centre because informants and interviewers thought a health centre had been identified during the cluster interview). When a facility of one type (e.g., health centre) is identified, but it is in fact of another type (e.g., health clinic), then the type of facility originally identified (the health centre), may or may not exist. The health centre is therefore classified in the *no facility known* category in the following tables.

10.3 Availability of Family Planning Services

Outreach Programmes

While outreach programmes are reported in only a minority of communities, they do exist (see Table 10.1). Ten percent of currently married rural women live in communities served by a health worker who provides family planning services. Health workers provide family planning services to 13 percent of the women in the Southeast and to 15 percent of the women in the Northwest.

Table 10.1 Distance to nearest family planning services

Percentage of currently married (rural) women age 15-49 who live in communities served by family planning (FP) outreach services, and the percent distribution of these women by distance to the nearest facility providing family planning services, according to region, Nigeria 1990

FP outreach services and distance to nearest facility providing FP services	Northeast	Northwest	Southeast	Southwest	Total
Outreach services					
Health worker	1.1	15.3	13.3	8.7	9.8
Mobile clinic	1.1	7.9	1.3	0.0	3.2
Market outlet	0.0	2.4	0.0	4.9	1.3
Miles to nearest stationary facility[1]					
Under 1	10.8	5.1	9.4	20.3	9.6
1-4	24.4	18.6	26.1	12.7	21.8
5-9	15.3	18.3	7.0	13.3	13.7
10-14	22.9	32.8	6.6	2.1	19.1
15-29	15.4	4.0	8.4	48.5	13.4
30+	8.4	3.4	1.0	3.0	4.2
Distance unknown	1.7	0.0	2.0	0.0	1.1
No facility known	1.0	17.8	39.6	0.0	17.1
Total	100.0	100.0	100.0	100.0	100.0
Number of women	1,622	1,668	1,545	569	5,404
Percent with a family planning campaign within past year	15.3	1.1	29.8	42.3	17.9
Number of EAs	52	36	57	21	166

Note: Regional information may be subject to large sampling errors due to the small number of sampling points.
[1]Distance was obtained from the community-level service availability survey.

Stationary Facilities

Thirty percent of currently married rural women live within 5 miles of a facility that provides family planning (see Table 10.1); however, in the Northwest, only one-quarter live within 5 miles of a facility that provides family planning.

As many as 40 percent of women in the Southeast live in communities where the informants were *unable* to identify a stationary facility which provides family planning services. The opposite is true in the Southwest, where all the women live in communities with a stationary facility providing family planning services.

Information Campaigns

Informants in the cluster interview were asked whether there had been an information campaign in the community within the past year which included family planning messages that promoted specific family planning methods or the general benefits of contraception. Whether or not there had been a family planning

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campaign in the preceding year varied greatly by region (see Table 10.1). As many as 42 percent of the women in the Southwest live in communities which had a campaign in the previous year, whereas only one percent of women in the rural Northwest live in communities which recently had a family planning information campaign. Although not presented here, informants were also asked to report what the messages of the family planning or health campaigns were.

Availability of Family Planning by User Status

Women cannot use family planning methods unless they are available (with the exception of rhythm and withdrawal). How different are the users and nonusers of family planning with regard to access? Do the contraceptive users live in communities with better access? Table 10.2 shows that 37 percent of users of supply methods live within one mile of a facility offering family planning methods, compared to 9 percent of nonusers. In fact, over one-half of nonusers either live 10 or more miles from a facility that offers family planning, or were unable to identify any facility that offers family planning. Yet, few of these nonusers live in communities served by an outreach programme. Thus, lack of availability may be one reason for nonuse.

Table 10.2 Distance to nearest family planning services for users/nonusers of family planning

Percentage of currently married (rural) women age 15-49 who live in communities served by family planning (FP) outreach services, and the percent distribution of these women by distance to the nearest facility providing family planning services, according to use of family planning and type of method used, Nigeria 1990

FP outreach services and distance to nearest facility providing FP services	Family planning users					
	Clinical methods	Supply methods	Traditional methods	All users	Nonusers	All women
Outreach services						
Health worker	19.0	5.3	12.2	10.8	9.7	9.8
Mobile clinic	3.5	0.8	2.7	2.2	3.2	3.2
Market outlet	2.1	2.5	0.0	1.3	1.3	1.3
Miles to nearest stationary facility[1]						
Under 1	21.2	37.3	28.3	30.4	8.8	9.6
1-4	36.4	14.7	38.6	29.6	21.6	21.8
5-9	13.8	9.2	12.1	11.3	13.8	13.7
10-14	2.1	11.1	3.6	6.1	19.6	19.1
15-29	13.8	15.5	6.0	10.7	13.5	13.4
30+	0.0	1.1	0.2	0.5	4.3	4.2
Distance unknown	0.0	0.0	2.0	1.0	1.1	1.1
No facility known	12.7	11.1	9.3	10.5	17.4	17.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	32	70	93	196	5,209	5,404
Percent with a family planning campaign within past year	37.3	16.3	27.8	25.2	17.6	17.9

[1]Distance was obtained from the community-level service availability survey.

Tables 10.3 and 10.4 show the distributions of women by distance and one-way travel time to the nearest facility providing family planning. (The medians are for those reporting a time or distance). The majority of rural women live in communities in which respondents were able to identify at least one facility providing family planning. Twenty-seven percent of rural women live within one hour of a hospital which provides family planning services; but nearly one-half of rural women live in communities in which respondents were unable to identify a hospital which provides family planning; and as many as three-quarters of women live in communities in which respondents were unable to identify a health clinic or pharmacy which provides family planning.

Table 10.3 Distance to nearest family planning services by type of facility

Percent distribution of currently married (rural) women age 15-49 by distance to nearest facility providing family planning (FP) services/supplies, according to type of facility, Nigeria 1990

Distance to nearest facility providing FP services/supplies	Hospital	Health clinic	Health centre	Pharmacy	FP clinic	All types	Public facility	Private facility
Miles to nearest stationary facility[1]								
Under 1	2.0	3.1	2.6	4.9	0.0	9.6	6.0	5.9
1-4	11.4	8.6	10.2	3.7	0.0	21.8	20.1	6.3
5-9	9.3	3.2	6.3	4.1	0.0	13.7	11.2	5.6
10-14	8.5	3.9	10.2	4.5	1.0	19.1	16.3	6.0
15-29	15.3	2.5	5.7	3.8	0.2	13.4	7.7	4.8
30+	6.8	1.3	0.8	0.1	1.4	4.2	1.2	0.1
Distance unknown	0.5	0.0	1.5	0.1	0.0	1.1	1.5	0.1
No facility known	46.2	77.4	62.5	78.8	97.4	17.1	35.9	71.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	5,404	5,404	5,404	5,404	5,404	5,404	5,404	5,404
Median distance[2]	12.0	4.9	9.2	7.4	34.1	8.7	8.4	7.5

[1]Distance was obtained from the community-level service availability survey.
[2]Based on women having access to a facility of a specific known type.

Table 10.4 Time to nearest family planning services by type of facility

Percent distribution of currently married (rural) women age 15-49 by one-way travel time to nearest facility providing family planning (FP) services/supplies, according to type of facility, Nigeria 1990

Time in minutes to facility providing FP services/supplies	Hospital	Health clinic	Health centre	Pharmacy	FP clinic	All types	Public facility	Private facility
One-way travel time[1]								
Under 15	1.3	3.3	2.1	3.4	0.0	8.0	4.5	4.4
15-29	3.5	3.3	2.2	2.2	0.0	5.8	5.1	3.1
30-59	22.3	4.6	8.3	7.7	0.0	24.5	22.6	10.3
60-119	9.1	5.5	6.4	3.3	0.2	14.8	11.1	4.8
120+	17.5	5.9	17.3	4.4	2.4	29.0	19.7	6.2
Time unknown	0.2	0.0	1.1	0.1	0.0	0.7	1.1	0.1
No facility known	46.2	77.4	62.5	78.8	97.4	17.1	35.9	71.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	5,404	5,404	5,404	5,404	5,404	5,404	5,404	5,404
Median time[2]	55.9	60.0	90.8	40.4	135.8	60.3	55.9	40.7

[1]Time was obtained from the community-level service availability study.
[2]Based on women having access to a facility of a specific known type.

10.4 Availability of Maternal and Child Health Services

Table 10.5 indicates that almost all women live in communities where informants were able to identify a facility which provides maternal and child health (MCH) services. Nearly 70 percent of women in the Southeast live within 5 miles of a facility which offers maternal and child health services. In the Northwest, only 38 percent of women live within 5 miles of such a facility; and, just over half of the women in the Southwest and in the Northeast live within 5 miles of an MCH facility. While everyone may not be in the immediate vicinity of a health facility, it is clear from comparing Tables 10.1 and 10.5 (see also Figure 10.1) that facilities offering health services are much more available than those offering family planning services. Utilising the existing health system for family planning services may be a viable option for increasing the availability of family planning.

Table 10.5 Distance to nearest maternal and child health services

Percentage of currently married (rural) women age 15-49 who live in communities served by maternal and child health (MCH) services, and the percent distribution of these women by distance to the nearest facility providing maternal and child health services, according to region, Nigeria 1990

MCH outreach services and distance to nearest facility providing MCH services	Northeast	Northwest	Southeast	Southwest	Total
Outreach services					
Health worker	50.6	39.7	66.3	87.5	55.6
Mobile clinic	30.3	32.7	14.3	28.5	26.3
Health post	28.6	25.9	28.6	24.3	27.3
Retail outlet	47.4	47.5	15.6	39.9	37.6
Market outlet	59.3	54.4	28.9	38.6	46.9
Miles to nearest stationary facility[1]					
Under 1	20.2	13.1	41.6	38.5	26.0
1-4	36.2	25.2	25.5	13.2	27.3
5-9	11.9	19.4	2.0	20.6	12.3
10-14	20.0	34.1	11.2	4.7	20.2
15-29	7.0	6.9	7.5	23.0	8.8
30+	3.5	1.4	6.7	0.0	3.4
Distance unknown	1.1	0.0	0.0	0.0	0.3
No facility known	0.0	0.0	5.5	0.0	1.6
Total	100.0	100.0	100.0	100.0	100.0
Number of women	1,622	1,668	1,545	569	5,404
Percent with a health campaign within past year	46.9	51.0	34.2	65.7	46.5
Number of EAs	52	36	57	21	166

Note: Regional information may be subject to large sampling errors due to the small number of sampling points.

[1]Distance was obtained from the community-level service availability study.

Figure 10.1
Distribution of Currently Married Rural Women
by Nearest Source of Family Planning/Health Services

10+ miles 37%

5-9 miles 14%

No Facility
Known 17%

0-4 miles 31%

Family Planning Services

10+ miles 32%

5-9 miles 12%

No Facility
Known 2%

0-4 miles 54%

Health Services
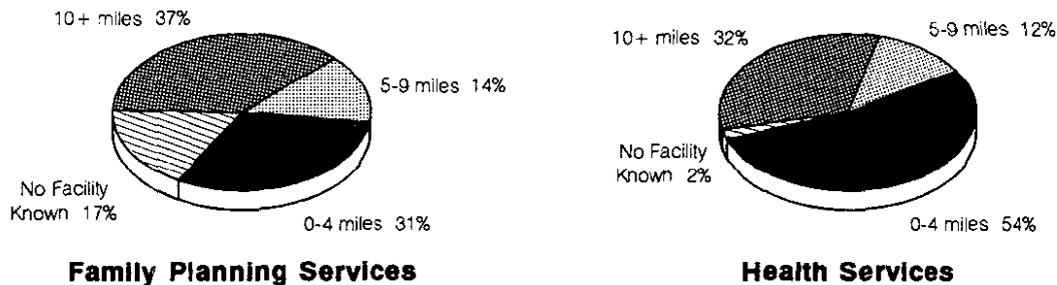
NDHS 1990

Table 10.6 shows that 55 percent of young children live within 5 miles of a stationary facility which provides MCH services. Whereas the majority of children born to mothers who received both antenatal care and delivery assistance live within 5 miles of a stationary facility providing MCH (72 percent), about one-half of children whose mothers did not receive full care (i.e., they received neither antenatal care nor delivery assistance, or received only one or the other) also live within 5 miles of a facility. So, it is not the case that all mothers who received neither antenatal care nor delivery assistance live too far from a facility offering MCH services.

Table 10.6 also shows that children who received all the recommended vaccinations before the age of one year are about 50 percent more likely than children who did not receive the full schedule of vaccinations to live within 5 miles of a facility offering MCH services. But all children, those fully vaccinated and those not, have fairly equal access to outreach services.

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Table 10.6 Distance to nearest maternal and child health services for children

Percentage of children (rural) age 0-4 years who live in communities served by maternal and child health (MCH) services, and the percent distribution of these children by distance to the nearest facility providing maternal and child health services, according to maternal care and vaccination coverage, Nigeria 1990

MCH outreach services and distance to nearest facility providing MCH services	All children	Maternal care[1]			Vaccination coverage[2]	
		ANC & DA	ANC or DA	Neither ANC nor DA	All vaccina-tions[3]	Some/no vaccina-tions
Outreach services						
Health worker	55.9	66.0	49.1	54.8	58.8	54.9
Mobile clinic	23.7	16.1	12.7	33.6	16.8	24.2
Health post	29.0	32.4	22.0	31.2	34.2	28.5
Retail outlet	33.7	23.3	27.4	42.2	26.8	34.2
Market outlet	43.9	33.7	31.4	55.8	37.4	44.3
Miles to nearest stationary facility[4]						
Under 1	27.9	49.3	23.9	19.8	42.9	26.3
1-4	27.0	22.8	21.1	32.3	23.4	27.0
5-9	11.0	9.9	6.4	14.2	5.7	11.1
10-14	19.4	9.7	34.0	15.8	16.8	20.1
15-29	8.9	5.4	8.8	10.6	5.6	9.5
30+	3.7	1.5	1.7	5.9	2.7	3.9
Distance unknown	0.5	0.2	1.2	0.3	1.4	0.4
No facility known	1.6	1.1	2.9	1.1	1.7	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of children	6,469	1,533	1,771	3,164	539	4,549
Percent with a health campaign within past year	47.8	58.7	63.4	33.9	55.0	47.8

[1]ANC = Antenatal care by doctor, nurse, or trained midwife
DA = Delivery assistance by doctor, nurse, trained midwife, or delivered in a health facility.
[2]Figures are for children age 1-4 years
[3]Received BCG, measles, and three doses of DPT and polio vaccines before first birthday
[4]Distance was obtained from the community-level service availability survey

Tables 10.7 and 10.8 show the distributions of currently married rural women by distance and one-way travel time to the nearest facility providing MCH services. Almost all women live in communities in which respondents were able to identify at least one facility providing MCH services, and one-half live within 5 miles (or within one hour travel time) of such a facility.

Table 10.7 Distance to nearest maternal and child health services by type of facility

Percent distribution of currently married (rural) women age 15-49 by distance to nearest facility providing maternal and child health (MCH) services, according to type of facility, Nigeria 1990

Distance to nearest facility providing MCH services	Hospital	Health clinic	Health centre	Pharmacy	All types	Public facility	Private facility
Miles to facility[1]							
Under 1	3.8	8.2	6.8	20.1	26.0	13.1	21.2
1-4	12.5	16.2	14.3	22.8	27.3	23.2	24.6
5-9	10.0	6.4	10.5	12.8	12.3	14.7	11.4
10-14	10.0	6.4	14.2	16.2	20.2	16.6	17.4
15-29	18.7	4.2	10.0	4.9	8.8	8.1	5.9
30+	11.4	1.9	2.6	1.2	3.4	0.6	1.2
Distance unknown	0.5	1.0	1.4	0.1	0.3	0.4	1.0
No such facility known	33.1	55.7	40.2	21.9	1.6	23.3	17.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	5,404	5,404	5,404	5,404	5,404	5,404	5,404
Median distance[2]	13.2	4.5	9.3	4.0	4.1	6.2	4.0

[1]Distance was obtained from the community-level service availability survey.
[2]Based on women having access to a facility of a known specific type.

Table 10.8 Time to nearest maternal and child health services by type of facility

Percent distribution of currently married (rural) women age 15-49 by one-way travel time to nearest facility providing maternal and child health (MCH) services, according to type of facility, Nigeria 1990

Time in minutes to nearest facility providing MCH services	Hospital	Health clinic	Health centre	Pharmacy	All types	Public facility	Private facility
One-way travel time[1]							
Under 15	2.6	8.0	7.0	18.4	22.6	11.5	19.4
15-29	3.7	8.2	3.7	9.2	12.0	8.3	8.7
30-59	24.8	6.0	11.4	12.4	16.0	18.9	12.2
60-119	11.7	9.8	9.9	12.7	15.4	13.7	14.5
120+	23.9	11.2	26.0	25.3	31.8	24.3	26.9
Time unknown	0.2	1.0	1.7	0.1	0.6	0.0	1.0
No facility known	33.1	55.7	40.2	21.9	1.6	23.3	17.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	5,404	5,404	5,404	5,404	5,404	5,404	5,404
Median time[2]	60.3	55.9	90.3	50.9	45.4	55.6	60.1

[1]Time was obtained from the community-level service availability survey.
[2]Based on women having access to a facility of a specific known type.

REFERENCES

Federal Ministry of Health [Nigeria]. 1988. *National Policy on Population for Development, Unity, Progress and Self-Reliance.* Lagos, Nigeria: Department of Population Activities.

Federal Office of Statistics [Nigeria]. 1963. *Population Census of Nigeria, 1963 Combined National Figures.* Lagos, Nigeria.

London, Kathy A., Jeanne Cushing, Shea O. Rutstein, John Cleland, John E. Anderson, Leo Morris, and Sidney H. Moore. 1985. Fertility and Family Planning Surveys: An Update. *Population Reports*, Series M, No. 8. Baltimore, Maryland: Johns Hopkins University, Population Information Program.

Martorell, R. and J.P. Habicht. 1986. Growth in Early Childhood in Developing Countries. In *Human Growth: A Comprehensive Treatise*, ed. by Frank Falkner and J.M. Tanner, Vol. 3, 241-262, New York: Plenum Press.

National Population Bureau [Nigeria] and World Fertility Survey. 1984. *The Nigeria Fertility Survey 1981/82: Principal Report.* Vol. 1: Methodology and Findings. Lagos, Nigeria: National Population Bureau.

National Population Bureau [Nigeria] and Institute for Resource Development/Westinghouse [1988]. *National Demographic Sample Survey (NDSS) 1980: Nigeria National Report.* Columbia, Maryland: IRD/Westinghouse.

Ransome-Kuti, O., A.O.O. Sorungbe, K.S. Oyegbite, and A. Bamisaiye, eds. [1989] *Strengthening Primary Health Care at Local Government Level: The Nigerian Experience.* Lagos, Nigeria: Academy Press Ltd.

Rutstein, Shea Oscar and George T. Bicego. 1990. Assessment of the Quality of Data Used to Ascertain Eligibility and Age in the Demographic and Health Surveys. In *An Assessment of DHS-I Data Quality*, 3-37. Institute for Resource Development/Macro Systems. DHS Methodological Reports, No.1. Columbia, Maryland.

Sullivan, Jeremiah M., George T. Bicego, Shea Oscar Rutstein. 1990. Assessment of the Quality of Data Used for the Direct Estimation of Infant and Child Mortality in the Demographic and Health Surveys. In *An Assessment of DHS-I Data Quality*, 113-14. Institute for Resource Development/Macro Systems. DHS Methodological Reports, No. 1. Columbia, Maryland.

APPENDIX A

PERSONS INVOLVED IN THE NIGERIA DEMOGRAPHIC AND HEALTH SURVEY

APPENDIX A

PERSONS INVOLVED IN THE
NIGERIA DEMOGRAPHIC AND HEALTH SURVEY

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APPENDIX B

SURVEY DESIGN

APPENDIX B

SURVEY DESIGN

B.1   Sample Design and Implementation

The NDHS Sample was drawn from the National Master Sample for the 1987/1992 National Integrated Survey of Households (NISH) programme being implemented by the Federal Office of Statistics (FOS). NISH, as part of the United Nations National Household Survey Capability Programme, is a multi-subject household-based survey system.

The NISH master sample was created in 1986 on the basis of the 1973 census enumeration areas (EA). Within each state, EAs were stratified into three sectors (urban, semiurban, and rural), from which an initial selection of approximately 800 EAs was made from each state. EAs were selected at this stage with equal probability within sectors. A quick count of households was conducted in each of the selected EAs, and a final selection of over 4,000 EAs was made over the entire country, with probability proportional to size. This constitutes the NISH master sample from which the NDHS EAs were subsampled.

Prior to the NDHS selection of EAs, the urban and semiurban sectors of NISH were combined into one category, while the rural retained the NISH classification. A sample of about 10,000 households in 299 EAs was designed with twofold oversampling of the urban stratum, yielding 132 urban EAs and 167 rural EAs.[1] The sample was constructed so as to provide national estimates as well as estimates for the four Ministry of Health regions. The distribution of the states across these regions is shown below.

NORTHEAST	NORTHWEST	SOUTHEAST	SOUTHWEST
Bauchi	Abuja FCT	Akwa Ibom	Bendel
Borno	Kaduna	Anambra	Lagos
Gongola	Katsina	Benue	Ogun
Kano	Kwara	Cross River	Ondo
Plateau	Niger	Imo	Oyo
Sokoto	Rivers		

The NDHS conducted its own EA identification and listing operation; a new listing of housing units and households was compiled in each of the selected 299 EAs. For each EA, a list of the names of the head of households was constructed, from which a systematic sample of 34 households was selected to be interviewed. A fixed number of 34 households per EA was taken in order to have better control of the sample size (given the variability in EA size of the NISH sample). Thus, the NDHS sample is a weighted sample, maintaining the twofold over sampling of the urban sector.

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[1] The sample for Lagos state was drawn from the newly demarcated area frame carried out by the National Population Bureau in 1990.

Table B.1 Results of the household and individual interviews by residence and region

Percent distribution of households and eligible women in the sample by results of the household and individual interviews, and household, eligible women and overall response rates, according to residence and region, Nigeria 1990

| | Residence | | Region | | | | |
	Urban	Rural	Northeast	Northwest	Southeast	Southwest	Total
Selected households							
Completed (C)	87.2	92.3	92.2	92.9	90.7	86.7	90.0
Household present but no competent respondent at home (HP)	0.4	0.1	0.0	0.1	0.2	0.5	0.2
Postponed (P)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused (R)	1.6	0.4	0.2	0.4	0.4	2.0	0.9
Dwelling not found (DNF)	0.8	0.4	0.5	0.5	0.4	0.8	0.6
Household absent (HA)	4.1	3.0	2.1	2.3	4.7	4.1	3.5
Dwelling vacant/address not a dwelling (DV)	3.1	2.6	3.8	2.7	1.5	3.3	2.8
Dwelling destroyed (DD)	0.6	0.3	0.3	0.2	0.8	0.4	0.4
Other (O)	2.2	0.9	0.9	1.1	1.3	2.2	1.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	4438	5560	2188	1695	2622	3493	9998
Household response rate (HRR)[a]	96.9	99.0	99.2	99.1	98.9	96.3	98.1
Eligible women							
Completed (EWC)	94.4	96.2	97.0	97.3	95.7	93.1	95.4
Not at home (EWNH)	3.2	2.0	1.6	1.6	2.0	4.1	2.5
Postponed (EWP)	0.1	0.1	0.0	0.1	0.2	0.2	0.1
Refused (EWR)	0.7	0.3	0.3	0.2	0.3	0.8	0.5
Partly completed (EWPC)	0.6	0.3	0.2	0.2	0.3	0.9	0.4
Other (EWO)	1.0	1.1	0.8	0.7	1.5	1.0	1.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	3741	5459	2102	1747	2428	2923	9200
Eligible woman response rate (EWRR)[b]	95.3	97.2	97.7	98.0	97.2	94.0	96.5
Overall response rate (ORR)[c]	92.4	96.3	96.9	97.1	96.1	90.6	94.6

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

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

[b]Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

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

[c]The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR$$

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Table B.1 summarises the results of the household and individual interviews by residence and region. The household response rate for the NDHS was 98.1 percent (96.9 percent in urban areas and 99 percent in rural areas). The household response rates varied by region from 96.3 percent in the Southwest to 99.2 in the Northeast. For women eligible for the individual interview, the response rate was 96.5 (95.3 percent in urban areas and 97.2 percent in rural areas). The eligible woman response rate varied by region from 94.0 percent in the Southwest to 98.0 percent in the Northwest. The overall response rate, which is the product of the household response rate and the eligible woman response rate, was 94.6 percent (92.4 percent in urban areas and 96.3 percent in rural areas). The overall response was 96 percent or higher in all the regions except Southwest (90.6 percent).

B.2   Fieldwork and Data Analysis

Questionnaires

The household and individual questionnaires were adapted from the DHS model B questionnaire, which was designed for use in countries with low contraceptive prevalence. The questionnaires were developed in English, and then translated by experienced translators into six of the major Nigerian languages: Efik, Hausa, Igbo, Kanuri, Tiv, and Yoruba. An independent translator translated the questionnaires back into English. Painstaking steps were then taken to reconcile the local language with the original English. English versions of the questionnaires are reproduced in Appendix E.

Pretest

A pretest exercise was carried out on NDHS with a view to ensuring that the questions were in a logical sequence, that the translations were comprehensible, appropriate and meaningful, and that the precoded answers were adequate. The pretest was conducted in January and February of 1990. Fieldwork was conducted in both urban and rural EAs and in each of the four regions, and all language questionnaires were tested.

Training lasted two weeks and was comprised of classroom training on the questionnaires and field practice. Invited for the first two days of the training were the FOS regional and state officers from the seven pretest states namely: Anambra, Benue, Borno, Cross River, Kano, Lagos, and Oyo. Those involved in the intensive training were: six senior officers from FOS headquarters in Lagos, and three female interviewers and one FOS supervisor from each pretest state. In all, 21 newly recruited interviewers and 7 FOS supervisors participated in the pretest training exercise. DHS staff handled the training on the questionnaire and supervised the field practice. At the end of training, the field staff went back to their respective states for the pretest fieldwork which lasted two weeks. At the end of the fieldwork, the interviewers and supervisors came back to Lagos for a debriefing exercise and all their experiences during the fieldwork were related. The six senior officers and the DHS staff who supervised the data collection in the states also related their experiences. All these experiences were used to improve the quality of the final version of the questionnaire.

Recruitment of Field Staff

The first activity before the commencement of the main survey data collection was the recruitment of interviewers and supervisors, which took place in March 1990 in the southern states, and in June 1990 in the northern states. The recruitment exercise in each state was done by NDHS project staff in the Lagos headquarters, with the assistance of FOS regional and state officers. Candidates were selected for maturity, minimum educational qualification of West African School Certificate or the General Certificate of Education

(ordinary level), ability to read and speak one of the major Nigerian languages chosen for NDHS, and willingness to work in the field for several months.

In all, 157 female candidates were recruited as interviewers and 30 FOS staff were selected as supervisors, including some who took part in the pretest exercise. At the end of four weeks intensive training, 125 female candidates (100 interviewers and 25 editors) and 25 supervisors were finally selected for the fieldwork. Assessment tests were used in selecting candidates.

Training of Field Staff

The training of field staff was carried out at four separate centres and in two phases, one in the North and one in the South. The southern training phase took place in Ibadan and Enugu, between March and April 1990. Two teams of two staff persons from FOS and one from DHS conducted the training at the centres. The same trainers conducted the northern phase of the training, which took place at Kaduna and Jos, between June and July 1990. The four FOS staff persons handled both training on the questionnaires and field practice, while DHS staff were available for back-up and technical assistance.

Apart from the interviewers and supervisors who attended the 4-week training sessions, the FOS regional and state officers who served as field coordinators in their respective regions and states were also present at each centre for the first two days of the training. Four data processing officers from FOS headquarters in Lagos attended the training in Ibadan for two weeks, to familiarise themselves with the questionnaire and their responsibilities as data entry personnel for the survey. All training participants were provided accommodations in hotels, and the conference halls in these hotels were the venue for training.

Each training session lasted four weeks. The first two weeks were devoted to classroom lectures, demonstrations of interviewing techniques, and instruction on how to complete the questionnaires and assignment sheets, using the instruction manuals as guides. By the third week of training, interviewers were grouped by language, with their supervisors, for practice reading the questionnaires and role playing.

The fourth week was devoted to practice fieldwork in non-NDHS EAs near the training centre. The interviewers were assigned households to be interviewed in the local language. The completed questionnaires for practice fieldwork were checked by the trainers and supervisors and errors were discussed during the evening sessions before proceeding to the next EA. During training, a series of assessment tests was given to the interviewers and supervisors. These tests were graded and the results were used in selecting interviewers and supervisors; those candidates who had a better grasp of the questionnaire, and were adept at detecting errors in completed questionnaires, were designated as field editors.

Two guest lecturers were invited to each training centre. A staff person from the Planned Parenthood Federation of Nigeria (PPFN) lectured on family planning methods and sources where methods can be obtained, and a staff person from Federal/State Ministry of Health, Primary Health Care Unit lectured on child health and immunisation.

Anthropometry was taught over a two-week period, alternating training time with work on other sections of the individual questionnaire. In the southern phase, training was conducted by a DHS consultant on anthropometry, who was assisted by two FOS staff. In the northern phase, the two FOS staff conducted the anthropometric training. Arrangements were made with nurseries, day care centres, and hospitals for practice measuring of infants and children. All trainees received anthropometric training.

Composition of the Fieldwork Teams

At the end of the one-month training course, the fieldworkers were selected from the larger pool of trainees. Over the four training sites, a total of 100 interviewers and 25 field editors were selected. Fieldwork teams were composed of four female interviewers, one female editor, one male or female supervisor, and one driver. In all, a total of 25 teams were engaged for the main survey. Fifteen teams were used in the southern phase of fieldwork (9 in the Southwest and 6 in the Southeast), and 10 teams were used in the northern phase (5 in the Northwest and 5 in the Northeast).

Main Survey Fieldwork

The main survey fieldwork commenced immediately after training. The first week of fieldwork was conducted in the states where training took place, covering both urban and rural EAs; one EA per team.

The first week of fieldwork was done in the South in April 1990 and in the North in July 1990. At the end of the first week, a debriefing session was held, during which field staff and trainers related their experiences and problems. There were question and answer sessions and solutions to problems were discussed. The procedures and fieldwork plan and itinerary were discussed before the teams were posted to their respective states for the fieldwork.

Fieldwork for the main survey was conducted in the South between April and July and in the North between July and October 1990.

Thirty-four households were selected for interview in each EA (selection of households was done in the Lagos office from household listings). Women eligible for the individual interview were identified during the household interview. Team supervisors located the housing units and assigned selected households to the interviewers. Completed household and individual questionnaires were handed over to the field editor, who checked to ensure that all relevant questions were correctly recorded, that the skip instructions were properly followed, and that responses were internally consistent. This field editing was done before the team left the EA so that the interviewer could return to the respondent to resolve any errors. Each questionnaire was field edited prior to being sent to the office in Lagos for data entry.

Supervisors made sure that all the selected households and eligible respondents for an EA were interviewed, and that assignment sheets for the interviewers and supervisors were duly completed. All completed records were then tied together for submission to the FOS state office, for submission to Lagos headquarters.

Data Processing

Data processing staff for the NDHS consisted of four data entry clerks and one supervisor; all were FOS staff. They were given periodic assistance by the DHS staff. Four IBM microcomputers were installed in the project office, FOS, Federal Secretariat and were used to process the data. All data entry occurred in the project office in Lagos.

Before questionnaires were passed for data entry, office editing was conducted. This entailed checking for internal consistency of responses recorded in the questionnaire, that skip instructions were properly followed, that there were no omissions, and that all entries were legible. This hastened the work of data entry staff.

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Data entry started in April and was completed in October 1990. Once all the data had been entered, a final edit was conducted by running a computer programme to check for inconsistencies, and corrections were made (when possible) by referencing the original questionnaire. This final edit was completed in December 1990. The preliminary report was published in March 1991.

SCHEDULE OF ACTIVITIES FOR THE
NIGERIA DEMOGRAPHIC AND HEALTH SURVEY

	Activity	Month	Year
1.	Survey design and questionnaire development	December	1989
2.	EA identification and household listing	January	1990
3.	Preparation of sampling frame	February	1990
4.	Pretest	January/February	1990
5.	Printing questionnaires	March	1990
6.	Training for main survey		
	1st Phase (southern states)	March/April	1990
	2nd Phase (northern states)	June/July	1990
7.	Fieldwork for main survey		
	1st Phase (southern states)	April-July	1990
	2nd Phase (northern states)	July-October	1990
8.	Data entry of main survey	April-October	1990
9.	Training for service availability questionnaire	October	1990
10.	Final data edit of main survey	December	1990
11.	Data entry of service availability questionnaire	January	1991
11.	Publication of preliminary report	March	1991
12.	Publication of first country report	April	1992
13.	Publication of summary report	May	1992

APPENDIX C

ESTIMATES OF SAMPLING ERRORS

APPENDIX C

ESTIMATES OF SAMPLING ERRORS

The estimates from a sample survey are affected by two types of errors: (1) nonsampling error, and (2) sampling error. Nonsampling error is the result of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, or data entry errors. Although numerous efforts were made during the implementation of the NDHS to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of women selected in the NDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. The sampling error is a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of women had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the NDHS sample is the result of a two-stage stratified design, and, consequently, it was necessary to use more complex formulas. The computer package CLUSTERS, developed by the International Statistical Institute for the World Fertility Survey, was used to compute the sampling errors with the proper statistical methodology.

The CLUSTERS 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 hth stratum,
- y_{hi} is the sum of the values of variable y in EA i in the hth stratum,
- x_{hi} is the sum of the number of cases (women) in EA i in the hth 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, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. CLUSTERS also computes the relative error and confidence limits for the estimates.

Sampling errors for the NDHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for the four health zones: Northeast, Northwest, Southeast, and Southwest. For each variable, the type of statistic (mean or proportion) and the base population are given in Table B.1. Tables B.2 to B.8 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable.

In general, the relative standard errors of most estimates for the country as a whole are small, except for estimates of very small proportions. There are some differentials in the relative standard error for the estimates of sub-populations such as geographical areas. For example, for the variable EVBORN (children ever born to women aged 15-49), the relative standard error as a percent of the estimated mean for the whole country, for urban areas and for the Southeast zone is 1.5 percent, 2.3 percent, and 2.7 percent, respectively.

The confidence interval (e.g., as calculated for EVBORN) can be interpreted as follows: the overall average from the national sample is 3.311 and its standard error is .051. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 3.311±.102. There is a high probability (95 percent) that the *true* average number of children ever born to all women aged 15 to 49 is between 3.209 and 3.413.

Table C.1 List of selected variables for sampling errors, Nigeria, 1990

VARIABLE		ESTIMATE	BASE POPULATION
URBAN	Urban	Proportion	All women
SECOND	With secondary education or higher	Proportion	All women
NEVMAR	Never married	Proportion	All women
CURMAR	Currently married	Proportion	All women
MAR20	Married before age 20	Proportion	Women age 20 and older
SEX18	Had first sexual intercourse before 18	Proportion	Women age 20 and older
EVBORN	Children ever born	Mean	All women
EVB4049	Children ever born to women over 40	Mean	All women age 40-49
SURVIV	Children surviving	Mean	All women
KMETHOD	Know any contraceptive method	Proportion	Currently married women
KSOURCE	Know source for any method	Proportion	Currently married women
EVUSE	Ever used any contraceptive method	Proportion	Currently married women
CUSING	Currently using any method	Proportion	Currently married women
CUMODERN	Currently using a modern method	Proportion	Currently married women
CUPILL	Currently using pill	Proportion	Currently married women
CUIUD	Currently using IUD	Proportion	Currently married women
CUSTERIL	Currently using female sterilisation	Proportion	Currently married women
CUPABST	Currently using periodic abstinence	Proportion	Currently married women
NOMORE	Want no more children	Proportion	Currently married women
DELAY	Want to delay next birth at least 2 years	Proportion	Currently married women
IDEAL	Ideal number of children	Mean	All women
TETANUS	Mothers received tetanus injection	Proportion	Births in last 5 years
MDCARE	Received medical care at birth	Proportion	Births in last 5 years
DIARR1	Had diarrhoea in last 24 hours	Proportion	Children under 5
DIARR2	Had diarrhoea in last 2 weeks	Proportion	Children under 5
ORSTRE	Treated with ORS packets	Proportion	Children under 5 with diarrhoea in last 2 weeks
MEDTRE	Consulted a medical facility	Proportion	Children under 5 with diarrhoea in last 2 weeks
HCARD	Having health card, seen	Proportion	Children 12-23 months
BCG	Received BCG vaccination	Proportion	Children 12-23 months
DPT3	Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
POLIO3	Received polio vaccination (3 doses)	Proportion	Children 12-23 months
MEASLES	Received measles vaccination	Proportion	Children 12-23 months
FULLIM	Fully immunised	Proportion	Children 12-23 months

Table C.2 Sampling Errors - Entire Sample, Nigeria 1990

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.249	.017	8,781.0	8,781.0	3.750	.069	.214	.284
SECOND	.189	.013	8,781.0	8,781.0	3.142	.069	.163	.216
NEVMAR	.172	.008	8,781.0	8,781.0	2.084	.049	.156	.189
CURMAR	.784	.011	8,781.0	8,781.0	2.403	.013	.762	.805
MAR20	.706	.010	7,103.0	7,169.4	1.829	.014	.686	.726
SEX18	.633	.016	7,103.0	7,169.4	2.835	.026	.601	.666
EVBORN	3.311	.051	8,781.0	8,781.0	1.570	.015	3.210	3.412
EVB4049	6.488	.145	1,429.0	1,460.4	1.734	.022	6.198	6.778
SURVIV	2.624	.036	8,781.0	8,781.0	1.399	.014	2.552	2.696
KMETHOD	.436	.017	6,696.0	6,880.1	2.833	.039	.402	.470
KSOURCE	.319	.018	6,696.0	6,880.1	3.207	.057	.283	.356
EVUSE	.140	.010	6,696.0	6,880.1	2.412	.073	.119	.160
CUSING	.060	.006	6,696.0	6,880.1	2.099	.101	.048	.073
CUMODERN	.035	.003	6,696.0	6,880.1	1.478	.094	.029	.042
CUPILL	.012	.002	6,696.0	6,880.1	1.225	.134	.009	.016
CUIUD	.008	.001	6,696.0	6,880.1	1.123	.153	.006	.010
CUSTERIL	.003	.000	6,696.0	6,880.1	.000	.000	.003	.003
CUPABST	.014	.003	6,696.0	6,880.1	1.886	.197	.008	.019
NOMORE	.151	.007	6,696.0	6,880.1	1.542	.045	.138	.165
DELAY	.328	.008	6,696.0	6,880.1	1.424	.025	.311	.344
IDEAL	5.823	.084	3,752.0	3,438.0	2.106	.014	5.655	5.992
TETANUS	.535	.028	7,819.0	8,118.2	3.867	.052	.480	.591
MDCARE	.308	.019	7,819.0	8,118.2	2.902	.063	.269	.347
DIARR1	.083	.006	6,784.0	7,027.6	1.650	.069	.072	.095
DIARR2	.179	.009	6,784.0	7,027.6	1.784	.049	.161	.196
ORSTRE	.116	.013	1,117.0	1,255.7	1.288	.108	.091	.142
MEDTRE	.251	.023	1,117.0	1,255.7	1.713	.090	.206	.296
HCARD	.315	.020	1,488.0	1,535.5	1.636	.062	.276	.355
BCG	.574	.020	1,488.0	1,535.5	1.560	.035	.534	.614
DPT3	.311	.023	1,488.0	1,535.5	1.933	.074	.265	.357
POLIO3	.312	.023	1,488.0	1,535.5	1.934	.074	.265	.358
MEASLES	.426	.021	1,488.0	1,535.5	1.661	.050	.384	.469
FULLIM	.276	.021	1,488.0	1,535.5	1.830	.077	.234	.318

Table C.3 Sampling Errors - Urban Areas, Nigeria 1990

| Variable | Value (R) | Standard error (SE) | Number of cases | | Design effect (DEFT) | Relative error (SE/R) | Confidence limits | |
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
URBAN	1.000	.000	3,530.0	2,187.2	.000	.000	1.000	1.000
SECOND	.421	.018	3,530.0	2,187.2	2.127	.042	.386	.457
NEVMAR	.281	.012	3,530.0	2,187.2	1.579	.043	.257	.305
CURMAR	.675	.013	3,530.0	2,187.2	1.646	.019	.649	.701
MAR20	.542	.016	2,793.0	1,725.5	1.648	.029	.510	.573
SEX18	.522	.017	2,793.0	1,725.5	1.821	.033	.487	.556
EVBORN	2.749	.064	3,530.0	2,187.2	1.322	.023	2.622	2.876
EVB4049	6.014	.246	462.0	290.0	1.713	.041	5.522	6.506
SURVIV	2.353	.050	3,530.0	2,187.2	1.222	.021	2.253	2.452
KMETHOD	.704	.022	2,368.0	1,475.8	2.313	.031	.660	.747
KSOURCE	.598	.023	2,368.0	1,475.8	2.284	.038	.552	.644
EVUSE	.316	.016	2,368.0	1,475.8	1.699	.051	.283	.348
CUSING	.149	.011	2,368.0	1,475.8	1.548	.076	.126	.172
CUMODERN	.096	.007	2,368.0	1,475.8	1.189	.075	.081	.110
CUPILL	.031	.004	2,368.0	1,475.8	1.151	.131	.023	.040
CUIUD	.025	.003	2,368.0	1,475.8	.912	.116	.019	.031
CUSTERIL	.004	.001	2,368.0	1,475.8	.978	.335	.001	.006
CUPABST	.035	.006	2,368.0	1,475.8	1.625	.176	.022	.047
NOMORE	.201	.011	2,368.0	1,475.8	1.282	.053	.180	.222
DELAY	.330	.015	2,368.0	1,475.8	1.534	.045	.301	.360
IDEAL	5.008	.071	1,981.0	1,207.6	1.656	.014	4.866	5.149
TETANUS	.769	.015	2,739.0	1,713.8	1.469	.019	.740	.798
MDCARE	.593	.021	2,739.0	1,713.8	1.807	.036	.550	.636
DIARR1	.045	.005	2,471.0	1,531.8	1.154	.114	.034	.055
DIARR2	.117	.008	2,471.0	1,531.8	1.221	.071	.101	.134
ORSTRE	.255	.041	246.0	179.4	1.522	.161	.173	.337
MEDTRE	.403	.041	246.0	179.4	1.349	.101	.322	.485
HCARD	.391	.027	523.0	336.6	1.245	.068	.337	.444
BCG	.773	.020	523.0	336.6	1.089	.026	.733	.812
DPT3	.541	.030	523.0	336.6	1.368	.055	.481	.601
POLIO3	.544	.030	523.0	336.6	1.380	.056	.483	.604
MEASLES	.633	.026	523.0	336.6	1.226	.041	.581	.685
FULLIM	.484	.030	523.0	336.6	1.367	.062	.424	.544

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Table C.4 Sampling Errors - Rural Areas, Nigeria 1990

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.000	.000	5,251.0	6,593.8	.000	.000	.000	.000
SECOND	.112	.012	5,251.0	6,593.8	2.864	.111	.087	.137
NEVMAR	.136	.009	5,251.0	6,593.8	1.931	.067	.118	.155
CURMAR	.820	.012	5,251.0	6,593.8	2.219	.014	.796	.843
MAR20	.758	.013	4,310.0	5,443.8	1.984	.017	.732	.784
SEX18	.668	.022	4,310.0	5,443.8	3.113	.034	.624	.713
EVBORN	3.497	.067	5,251.0	6,593.8	1.581	.019	3.364	3.631
EVB4049	6.605	.168	967.0	1,170.5	1.649	.025	6.269	6.942
SURVIV	2.714	.045	5,251.0	6,593.8	1.373	.017	2.623	2.805
KMETHOD	.363	.019	4,328.0	5,404.3	2.649	.053	.324	.402
KSOURCE	.243	.018	4,328.0	5,404.3	2.793	.075	.207	.279
EVUSE	.091	.010	4,328.0	5,404.3	2.207	.106	.072	.111
CUSING	.036	.006	4,328.0	5,404.3	2.145	.168	.024	.048
CUMODERN	.019	.003	4,328.0	5,404.3	1.434	.157	.013	.025
CUPILL	.007	.002	4,328.0	5,404.3	1.226	.221	.004	.010
CUIUD	.003	.001	4,328.0	5,404.3	.000	.374	.001	.006
CUSTERIL	.003	.000	4,328.0	5,404.3	.000	.000	.003	.003
CUPABST	.008	.003	4,328.0	5,404.3	2.143	.368	.002	.014
NOMORE	.137	.008	4,328.0	5,404.3	1.521	.058	.121	.153
DELAY	.327	.010	4,328.0	5,404.3	1.342	.029	.308	.346
IDEAL	6.265	.117	1,771.0	2,230.4	1.889	.019	6.032	6.499
TETANUS	.473	.038	5,080.0	6,404.4	4.173	.080	.397	.548
MDCARE	.232	.020	5,080.0	6,404.4	2.592	.087	.192	.272
DIARR1	.094	.008	4,313.0	5,495.8	1.618	.080	.079	.109
DIARR2	.196	.011	4,313.0	5,495.8	1.661	.054	.175	.217
ORSTRE	.093	.013	871.0	1,076.3	1.183	.138	.068	.119
MEDTRE	.226	.026	871.0	1,076.3	1.696	.117	.173	.279
HCARD	.294	.024	965.0	1,198.9	1.651	.083	.245	.343
BCG	.518	.025	965.0	1,198.9	1.540	.049	.468	.568
DPT3	.246	.025	965.0	1,198.9	1.821	.103	.195	.297
POLIO3	.246	.025	965.0	1,198.9	1.821	.103	.195	.297
MEASLES	.368	.026	965.0	1,198.9	1.648	.070	.317	.420
FULLIM	.218	.023	965.0	1,198.9	1.744	.107	.171	.265

Table C.5 Sampling Errors - Northeast Region, Nigeria 1990

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.127	.019	2,038.0	1,999.5	2.636	.153	.088	.166
SECOND	.044	.012	2,038.0	1,999.5	2.734	.281	.019	.069
NEVMAR	.057	.009	2,038.0	1,999.5	1.749	.158	.039	.075
CURMAR	.925	.010	2,038.0	1,999.5	1.627	.010	.905	.944
MAR20	.891	.014	1,682.0	1,647.1	1.874	.016	.863	.920
SEX18	.823	.019	1,682.0	1,647.1	2.001	.023	.786	.861
EVBORN	3.340	.086	2,038.0	1,999.5	1.318	.026	3.169	3.511
EVB4049	5.751	.285	350.0	339.4	1.450	.050	5.181	6.321
SURVIV	2.543	.074	2,038.0	1,999.5	1.527	.029	2.395	2.691
KMETHOD	.240	.028	1,877.0	1,848.6	2.878	.118	.183	.297
KSOURCE	.181	.022	1,877.0	1,848.6	2.438	.120	.137	.224
EVUSE	.057	.011	1,877.0	1,848.6	2.030	.190	.035	.079
CUSING	.020	.004	1,877.0	1,848.6	1.244	.201	.012	.028
CUMODERN	.013	.003	1,877.0	1,848.6	1.041	.205	.008	.019
CUPILL	.005	.002	1,877.0	1,848.6	1.275	.401	.001	.010
CUIUD	.001	.000	1,877.0	1,848.6	.000	.000	.001	.001
CUSTERIL	.002	.001	1,877.0	1,848.6	1.302	.639	-.001	.005
CUPABST	.000	.000	1,877.0	1,848.6	.000	.000	.000	.000
NOMORE	.089	.013	1,877.0	1,848.6	2.025	.149	.063	.116
DELAY	.339	.021	1,877.0	1,848.6	1.913	.062	.297	.380
IDEAL	6.634	.237	517.0	541.3	1.840	.036	6.160	7.108
TETANUS	.348	.033	1,933.0	1,923.7	2.489	.096	.282	.414
MDCARE	.108	.016	1,933.0	1,923.7	1.789	.148	.076	.141
DIARR1	.137	.014	1,647.0	1,653.2	1.526	.102	.109	.165
DIARR2	.239	.022	1,647.0	1,653.2	1.986	.093	.194	.284
ORSTRE	.136	.028	395.0	395.2	1.570	.205	.080	.192
MEDTRE	.255	.030	395.0	395.2	1.295	.119	.194	.315
HCARD	.196	.027	401.0	397.7	1.390	.140	.141	.251
BCG	.392	.039	401.0	397.7	1.616	.101	.313	.471
DPT3	.167	.022	401.0	397.7	1.175	.132	.123	.211
POLIO3	.167	.022	401.0	397.7	1.175	.132	.123	.211
MEASLES	.293	.029	401.0	397.7	1.289	.100	.234	.351
FULLIM	.149	.020	401.0	397.7	1.149	.137	.108	.190

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Table C.6 Sampling Errors - Northwest Region, Nigeria 1990

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.157	.036	1,699.0	2,098.1	4.120	.232	.084	.229
SECOND	.043	.010	1,699.0	2,098.1	2.131	.245	.022	.063
NEVMAR	.060	.010	1,699.0	2,098.1	1.699	.163	.040	.079
CURMAR	.926	.008	1,699.0	2,098.1	1.325	.009	.910	.943
MAR20	.829	.041	1,428.0	1,790.3	4.070	.049	.748	.911
SEX18	.742	.074	1,428.0	1,790.3	6.368	.099	.595	.890
EVBORN	3.441	.124	1,699.0	2,098.1	1.814	.036	3.192	3.690
EVB4049	6.207	.391	276.0	340.1	2.016	.063	5.424	6.990
SURVIV	2.579	.062	1,699.0	2,098.1	1.168	.024	2.455	2.703
KMETHOD	.303	.030	1,561.0	1,943.6	2.537	.097	.244	.362
KSOURCE	.152	.019	1,561.0	1,943.6	2.143	.128	.113	.191
EVUSE	.044	.008	1,561.0	1,943.6	1.603	.190	.027	.060
CUSING	.012	.004	1,561.0	1,943.6	1.563	.356	.004	.021
CUMODERN	.007	.003	1,561.0	1,943.6	1.225	.362	.002	.013
CUPILL	.004	.002	1,561.0	1,943.6	1.094	.418	.001	.008
CUIUD	.002	.000	1,561.0	1,943.6	.000	.000	.002	.002
CUSTERIL	.000	.000	1,561.0	1,943.6	.000	.000	.000	.000
CUPABST	.000	.000	1,561.0	1,943.6	.000	.000	.000	.000
NOMORE	.100	.013	1,561.0	1,943.6	1.668	.126	.075	.126
DELAY	.322	.011	1,561.0	1,943.6	.946	.035	.300	.344
IDEAL	6.731	.425	323.0	319.5	2.549	.063	5.880	7.581
TETANUS	.433	.101	1,870.0	2,241.5	6.542	.233	.231	.636
MDCARE	.101	.016	1,870.0	2,241.5	1.726	.155	.070	.132
DIARR1	.119	.017	1,532.0	1,862.2	1.925	.141	.085	.152
DIARR2	.257	.016	1,532.0	1,862.2	1.381	.064	.224	.290
ORSTRE	.107	.019	364.0	478.3	1.029	.177	.069	.144
MEDTRE	.241	.045	364.0	478.3	1.919	.186	.151	.331
HCARD	.327	.041	347.0	416.8	1.590	.126	.245	.409
BCG	.484	.036	347.0	416.8	1.290	.073	.413	.555
DPT3	.171	.030	347.0	416.8	1.438	.174	.112	.231
POLIO3	.171	.030	347.0	416.8	1.438	.174	.112	.231
MEASLES	.363	.029	347.0	416.8	1.094	.080	.305	.421
FULLIM	.162	.029	347.0	416.8	1.436	.180	.104	.221

Table C.7 Sampling Errors - Southeast Region, Nigeria 1990

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
URBAN	.160	.018	2,324.0	2,768.5	2.354	.112	.125	.196
SECOND	.231	.022	2,324.0	2,768.5	2.511	.095	.187	.275
NEVMAR	.262	.016	2,324.0	2,768.5	1.776	.062	.229	.294
CURMAR	.650	.018	2,324.0	2,768.5	1.855	.028	.614	.687
MAR20	.618	.013	1,844.0	2,198.6	1.158	.021	.592	.644
SEX18	.541	.015	1,844.0	2,198.6	1.250	.027	.512	.570
EVBORN	3.344	.090	2,324.0	2,768.5	1.375	.027	3.164	3.524
EVB4049	6.993	.215	389.0	452.6	1.555	.031	6.562	7.424
SURVIV	2.773	.066	2,324.0	2,768.5	1.221	.024	2.641	2.906
KMETHOD	.566	.038	1,506.0	1,800.5	2.976	.067	.490	.643
KSOURCE	.423	.036	1,506.0	1,800.5	2.803	.084	.351	.494
EVUSE	.199	.020	1,506.0	1,800.5	1.914	.099	.160	.238
CUSING	.090	.012	1,506.0	1,800.5	1.640	.135	.066	.114
CUMODERN	.039	.006	1,506.0	1,800.5	1.141	.146	.027	.050
CUPILL	.008	.002	1,506.0	1,800.5	1.072	.308	.003	.013
CUIUD	.009	.003	1,506.0	1,800.5	1.230	.326	.003	.016
CUSTERIL	.005	.002	1,506.0	1,800.5	.920	.321	.002	.009
CUPABST	.035	.009	1,506.0	1,800.5	1.943	.265	.016	.053
NOMORE	.213	.016	1,506.0	1,800.5	1.558	.077	.180	.246
DELAY	.314	.015	1,506.0	1,800.5	1.257	.048	.284	.344
IDEAL	5.888	.103	1,313.0	1,562.3	1.592	.018	5.681	6.094
TETANUS	.641	.036	1,985.0	2,428.0	2.569	.055	.570	.712
MDCARE	.455	.039	1,985.0	2,428.0	2.726	.086	.377	.533
DIARR1	.046	.009	1,784.0	2,165.6	1.885	.201	.028	.065
DIARR2	.122	.013	1,784.0	2,165.6	1.700	.110	.095	.149
ORSTRE	.089	.022	218.0	264.6	1.152	.248	.045	.133
MEDTRE	.171	.032	218.0	264.6	1.202	.189	.107	.236
HCARD	.374	.041	370.0	452.1	1.642	.111	.292	.457
BCG	.698	.045	370.0	452.1	1.885	.064	.609	.788
DPT3	.474	.054	370.0	452.1	2.082	.113	.366	.581
POLIO3	.474	.054	370.0	452.1	2.082	.113	.366	.581
MEASLES	.507	.051	370.0	452.1	1.967	.100	.405	.608
FULLIM	.410	.049	370.0	452.1	1.923	.119	.312	.507

Table C.8 Sampling Errors - Southwest Region, Nigeria 1990

| Variable | Value (R) | Standard error (SE) | Number of cases | | Design effect (DEFT) | Relative error (SE/R) | Confidence limits | |
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
URBAN	.606	.045	2,720.0	1,914.9	4.776	.074	.516	.695
SECOND	.441	.019	2,720.0	1,914.9	2.043	.044	.402	.480
NEVMAR	.287	.017	2,720.0	1,914.9	2.010	.061	.252	.322
CURMAR	.672	.019	2,720.0	1,914.9	2.133	.029	.634	.711
MAR20	.489	.016	2,149.0	1,533.5	1.456	.032	.457	.520
SEX18	.434	.017	2,149.0	1,533.5	1.552	.038	.401	.467
EVBORN	3.091	.124	2,720.0	1,914.9	2.066	.040	2.844	3.338
EVB4049	6.844	.295	414.0	328.3	2.072	.043	6.254	7.434
SURVIV	2.543	.087	2,720.0	1,914.9	1.802	.034	2.368	2.717
KMETHOD	.736	.029	1,752.0	1,287.4	2.762	.040	.677	.794
KSOURCE	.625	.028	1,752.0	1,287.4	2.390	.044	.570	.681
EVUSE	.319	.025	1,752.0	1,287.4	2.234	.078	.270	.369
CUSING	.150	.018	1,752.0	1,287.4	2.157	.123	.113	.187
CUMODERN	.105	.011	1,752.0	1,287.4	1.534	.107	.082	.127
CUPILL	.040	.006	1,752.0	1,287.4	1.264	.148	.028	.052
CUIUD	.025	.004	1,752.0	1,287.4	1.082	.160	.017	.034
CUSTERIL	.004	.002	1,752.0	1,287.4	1.317	.468	.000	.009
CUPABST	.023	.004	1,752.0	1,287.4	1.029	.159	.016	.031
NOMORE	.230	.017	1,752.0	1,287.4	1.732	.076	.195	.265
DELAY	.340	.015	1,752.0	1,287.4	1.359	.045	.310	.371
IDEAL	5.007	.078	1,599.0	1,014.9	1.743	.016	4.851	5.162
TETANUS	.753	.024	2,031.0	1,524.9	2.142	.032	.704	.801
MDCARE	.631	.030	2,031.0	1,524.9	2.266	.047	.572	.690
DIARR1	.027	.006	1,821.0	1,346.7	1.512	.212	.016	.039
DIARR2	.087	.007	1,821.0	1,346.7	1.021	.080	.073	.101
ORSTRE	.151	.035	140.0	117.7	1.215	.233	.081	.222
MEDTRE	.458	.078	140.0	117.7	1.880	.171	.301	.615
HCARD	.376	.040	370.0	268.8	1.581	.106	.297	.456
BCG	.774	.034	370.0	268.8	1.567	.043	.707	.841
DPT3	.468	.032	370.0	268.8	1.243	.069	.404	.532
POLIO3	.471	.032	370.0	268.8	1.253	.069	.406	.535
MEASLES	.586	.051	370.0	268.8	1.983	.086	.485	.688
FULLIM	.417	.031	370.0	268.8	1.199	.073	.355	.478

APPENDIX D

DATA QUALITY TABLES

APPENDIX D

DATA QUALITY TABLES

Table D.1 Household age distribution

Single year age distribution of the de facto household population by sex (weighted), Nigeria 1990

	Males		Females	
	Number	Percent	Number	Percent
0	840	3.6	821	3.5
1	683	2.9	697	3.0
2	737	3.1	696	3.0
3	807	3.4	881	3.7
4	770	3.3	861	3.7
5	695	3.0	696	3.0
6	1,025	4.4	957	4.1
7	890	3.8	775	3.3
8	984	4.2	864	3.7
9	700	3.0	718	3.0
10	914	3.9	943	4.0
11	456	1.9	451	1.9
12	745	3.2	715	3.0
13	515	2.2	558	2.4
14	485	2.1	622	2.6
15	687	2.9	420	1.8
16	384	1.6	346	1.5
17	350	1.5	349	1.5
18	529	2.3	379	1.6
19	243	1.0	255	1.1
20	587	2.5	754	3.2
21	173	0.7	212	0.9
22	253	1.1	303	1.3
23	175	0.7	280	1.2
24	174	0.7	227	1.0
25	672	2.9	812	3.4
26	165	0.7	243	1.0
27	201	0.9	241	1.0
28	267	1.1	336	1.4
29	105	0.4	152	0.6
30	858	3.7	969	4.1
31	89	0.4	113	0.5
32	231	1.0	186	0.8
33	79	0.3	99	0.4
34	63	0.3	124	0.5
35	653	2.8	561	2.4
36	85	0.4	106	0.4
37	87	0.4	76	0.3
38	134	0.6	154	0.7
39	75	0.3	85	0.4
40	747	3.2	586	2.5

Table D.1 (continued)

Single year age distribution of the de facto household population by sex (weighted), Nigeria 1990

	Males		Females	
	Number	Percent	Number	Percent
41	31	0.1	50	0.2
42	117	0.5	137	0.6
43	49	0.2	66	0.3
44	28	0.1	66	0.3
45	462	2.0	368	1.6
46	50	0.2	53	0.2
47	78	0.3	68	0.3
48	109	0.5	101	0.4
49	72	0.3	64	0.3
50	539	2.3	506	2.1
51	25	0.1	100	0.4
52	91	0.4	221	0.9
53	34	0.1	137	0.6
54	40	0.2	108	0.5
55	209	0.9	349	1.5
56	52	0.2	74	0.3
57	39	0.2	65	0.3
58	93	0.4	101	0.4
59	50	0.2	26	0.1
60	485	2.1	450	1.9
61	23	0.1	13	0.1
62	51	0.2	68	0.3
63	26	0.1	21	0.1
64	30	0.1	15	0.1
65	269	1.1	150	0.6
66	20	0.1	13	0.1
67	41	0.2	22	0.1
68	39	0.2	39	0.2
69	42	0.2	13	0.1
70+	909	3.9	474	2.0
Don't know, missing	40	0.2	18	0.1
Total	23,450	100.0	23,578	100.0

Table D.2 Age distribution of eligible and interviewed women

Five year age distribution of the de facto household population of women age 10-54, five year age distribution of interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), Nigeria 1990

	All women	Interviewed women		Percentage interviewed
		Number	Percent	
10-14	3,288	NA	NA	NA
15-19	1,749	1,612	18.4	92.2
20-24	1,777	1,676	19.1	94.4
25-29	1,784	1,669	19.0	93.6
30-34	1,491	1,410	16.1	94.6
25-39	982	954	10.9	97.2
40-44	905	836	9.5	92.4
45-49	654	624	7.1	95.4
50-54	1,072	NA	NA	NA
15-49	9,340	8,781	100.0	94.0

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

NA = Not applicable

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<u>Table D.3 Completeness of reporting</u>

Percentage of observations missing information for selected demographic and health questions, Nigeria 1990

Subject	Reference group	Percentage of reference group with missing information	Number
Birthdate	Last 15 years		
Month only		16.1	22,171
Month and year		0.1	22,171
Age at death	Last 15 years	0.6	4,060
Age at first union[a]	Ever-married respondents	0.1	7,268
Respondent's education	All respondents	0.1	8,781
Child's size at birth	Births in last 1-59 months	0.5	8,113
Anthropometry[b]	Living children age 1-59 months		
Child's weight		9.4	7,028
Child's height		9.4	7,028
Diarrhoea in last 2 weeks	Living children age 1-59 months	1.7	7,028

[a]Both year and age missing
[b]Child not measured

Distribution of births by calendar years since 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 (weighted), Nigeria 1990

Complete calendar years prior to survey	Number of births			Percent with complete birthdate			Sex ratio at birth			Calendar year ratio		
	L	D	T	L	D	T	L	D	T	L	D	T
0	1,012.6	63.1	1,075.7	98.3	91.7	97.9	106.8	147.4	108.8	NA	NA	NA
1	1,589.1	141.0	1,730.1	95.8	86.1	95.0	97.2	107.9	98.0	NA	NA	NA
2	1,270.0	257.0	1,527.0	93.0	75.9	90.1	99.3	123.3	103.0	83.2	135.8	89.0
3	1,461.9	237.6	1,699.5	89.2	74.6	87.1	93.7	135.5	98.6	112.2	80.7	106.4
4	1,336.0	331.8	1,667.8	85.0	73.2	82.6	83.7	117.3	89.5	101.1	135.7	106.5
5	1,182.1	251.4	1,433.6	87.7	73.6	85.2	101.8	120.4	104.9	80.7	61.9	76.7
6	1,592.1	480.2	2,072.3	84.2	66.5	80.1	103.5	109.7	104.9	131.6	174.6	139.6
7	1,237.7	298.5	1,536.3	82.6	69.3	80.0	108.6	118.0	110.4	81.4	71.3	79.2
8	1,449.2	357.1	1,806.3	83.9	69.2	81.0	110.7	104.1	109.3	129.6	123.4	128.3
9	998.8	280.2	1,279.1	77.4	68.3	75.4	106.1	80.5	99.9	NA	NA	NA
0-4	6,669.7	1,030.4	7,700.1	92.0	77.1	90.0	95.3	123.1	98.6	NA	NA	NA
5-9	6,460.1	1,667.6	8,127.6	83.4	69.0	80.5	106.1	105.8	106.0	NA	NA	NA
10-14	4,718.4	1,300.3	6,018.6	81.5	69.8	79.0	93.3	119.3	98.4	NA	NA	NA
15-19	2,729.9	927.0	3,656.8	80.2	70.4	77.7	117.5	126.5	119.7	NA	NA	NA
20+	2,463.6	1,107.5	3,571.1	79.5	71.2	76.9	133.0	113.1	126.5	NA	NA	NA
All	23,041.6	6,032.7	29,074.3	84.7	71.2	81.9	103.9	115.9	106.2	NA	NA	NA

NA = Not applicable

Table D.5 Reporting of age at death in days

Distribution of reported deaths under 1 month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey, Nigeria 1990

| Age at | Years preceding survey | | | | |
death (days)	0-4	5-9	10-14	15-19	0-19
0	104.0	63.4	53.6	43.8	264.8
1	42.4	45.9	23.5	18.4	130.2
2	30.4	27.6	35.2	17.4	110.7
3	23.8	39.2	26.4	27.2	116.6
4	28.7	30.4	16.9	16.6	92.6
5	13.6	24.2	14.0	9.0	60.8
6	5.5	8.1	15.6	5.8	35.1
7	21.5	42.1	32.4	26.3	122.3
8	9.6	22.1	13.4	7.0	52.0
9	3.5	13.5	8.2	6.7	32.0
10	0.8	9.4	3.0	3.5	16.7
11	2.0	1.2	1.4	1.1	5.7
12	5.4	13.9	5.3	0.0	24.6
13	1.3	2.2	0.9	2.6	7.0
14	15.8	17.7	19.8	13.9	67.2
15	3.8	9.3	7.0	3.5	23.7
16	0.4	1.2	3.1	0.0	4.6
17	3.4	0.0	0.3	1.4	5.1
18	3.6	0.0	1.3	3.4	8.3
20	9.2	6.9	3.8	2.8	22.7
21	7.8	4.6	8.9	8.3	29.6
22	1.6	0.6	0.3	0.0	2.5
23	0.0	0.5	0.0	0.0	0.5
24	0.0	0.3	2.2	0.0	2.5
25	2.8	0.0	0.6	0.9	4.3
26	1.4	0.5	0.8	0.0	2.7
27	0.0	0.9	0.0	1.5	2.3
28	2.5	2.4	2.5	4.7	12.2
29	1.0	0.0	0.0	0.0	1.0
30	6.5	5.7	13.4	5.8	31.4
Missing	0.5	2.1	1.7	0.0	4.3
Percent early neonatal	70.5	60.6	59.0	59.7	62.8
Total 0-30	352.0	393.7	314.0	231.7	1,291.5

Table D.6 Reporting of age at death in months

Distribution of reported deaths under 2 years of age by age at death in days and the percentage of infant deaths reported to occur at ages under one month, for five-year periods of birth preceding the survey, Nigeria 1990

Age at death (months)	Years preceding survey				
	0-4	5-9	10-14	15-19	0-19
<1 month including days	352.6	395.8	315.7	231.7	1,295.8
1	13.9	22.1	26.1	14.0	76.1
2	42.9	61.6	34.4	33.0	171.9
3	25.1	47.2	35.8	30.5	138.6
4	17.5	19.7	22.2	17.8	77.1
5	23.7	31.9	23.6	15.7	94.9
6	57.0	35.3	18.9	21.4	132.6
7	25.0	43.0	23.2	27.3	118.5
8	29.8	40.0	26.3	15.1	111.3
9	30.9	29.5	25.5	11.5	97.4
10	15.3	30.0	19.6	11.5	76.4
11	30.0	15.6	11.0	7.6	64.2
12	74.4	95.4	81.3	59.4	310.5
13	11.6	29.6	10.9	6.1	58.3
14	19.2	31.7	13.8	15.2	79.8
15	15.9	14.7	11.3	5.5	47.3
16	13.1	12.4	8.3	4.9	38.6
17	3.0	9.4	2.9	4.0	19.3
18	20.9	43.2	26.2	19.7	110.0
19	7.3	7.0	8.6	2.1	25.0
20	7.7	2.4	4.6	3.1	17.9
21	2.8	0.7	0.0	1.1	4.5
22	3.1	3.0	0.0	0.0	6.1
23	1.1	0.0	0.0	2.9	3.9
Missing	0.5	0.0	0.0	0.0	0.5
1 Year	27.7	52.7	34.4	29.3	144.1
Percent neonatal	55.2	54.2	58.7	56.2	55.9
Total 0-23	663.7	771.7	582.3	437.2	2,454.9

APPENDIX E

SURVEY INSTRUMENTS

Household Questionnaire

Individual Questionnaire

Service Availability Questionnaire

NIGERIA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD SCHEDULE--ENGLISH

IDENTIFICATION	
PLACE NAME _____	
NAME OF RESPONDENT_____	
CLUSTER NUMBER..................................	⬚⬚⬚⬚
HOUSEHOLD NUMBER...............................	⬚⬚
STATE..	⬚⬚
URBAN/RURAL (urban=1, rural=2).................	⬚
CITY/TOWN/RURAL (city=1, town=2, rural(village)=3).....	⬚

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
				DAY MONTH YEAR
DATE	_____	_____	_____	⬚⬚ ⬚⬚ ⬚⬚
INTERVIEWER'S NAME	_____	_____	_____	⬚⬚⬚
RESULT*	_____	_____	_____	
NEXT VISIT: DATE / TIME	_____	_____		TOTAL NUMBER OF VISITS ⬚

*RESULT CODES:
1 COMPLETED
2 HOUSEHOLD PRESENT BUT NO COMPETENT RESP. AT HOME
3 HOUSEHOLD ABSENT
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 ⬚⬚

NAME DATE	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
	_____	_____	_____	⬚⬚

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HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	EDUCATION			FOSTERING ***		ELIGI-BILITY
	Please give me the names of the persons who usually live in your household or are staying with you now, 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 he/she?	Has (NAME) ever been to school?	What is the highest level and grade of schooling** he/she completed?	FOR ALL AGED LESS THAN 25 YRS. ——— Is he/she still in school?	FOR EVERYONE AGED LESS THAN 15 YRS. Does his/her natural mother live here? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER	Does his/her natural father live here? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDI-VIDUAL INTER-VIEW
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
			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			01
02			1 2	1 2	1 2		1 2		1 2			02
03			1 2	1 2	1 2		1 2		1 2			03
04			1 2	1 2	1 2		1 2		1 2			04
05			1 2	1 2	1 2		1 2		1 2			05
06			1 2	1 2	1 2		1 2		1 2			06
07			1 2	1 2	1 2		1 2		1 2			07
08			1 2	1 2	1 2		1 2		1 2			08
09			1 2	1 2	1 2		1 2		1 2			09
10			1 2	1 2	1 2		1 2		1 2			10
11			1 2	1 2	1 2		1 2		1 2			11
12			1 2	1 2	1 2		1 2		1 2			12
13			1 2	1 2	1 2		1 2		1 2			13
14			1 2	1 2	1 2		1 2		1 2			14

* 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/FOSTER CHILD
11= NOT RELATED
98= DK
*** RECORD '00' IF PARENT NOT MEMBER OF HOUSEHOLD.

** CODES FOR Q.9
LEVEL OF EDUCATION:
1= PRIMARY
2= SECONDARY
3= HIGHER
8= DK

GRADE: 00= LESS THAN ONE YEAR COMPLETED
98=DK

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NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	EDUCATION			FOSTERING *** FOR EVERYONE AGED LESS THAN 15 YRS.		ELIGI-BILITY
	Please give me the names of the persons who usually live in your household or are staying with you now, 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 he/she?	Has (NAME) ever been to school?	What is the highest level and grade of schooling** he/she completed?	FOR ALL AGED LESS THAN 25 YRS. Is he/she still in school?	Does his/her natural mother live here? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER	Does his/her natural father live here? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
			YES NO	YES NO	M F	IN YEARS	YES NO	LEVEL GRADE	YES NO			
15			1 2	1 2	1 2		1 2		1 2			15
16			1 2	1 2	1 2		1 2		1 2			16
17			1 2	1 2	1 2		1 2		1 2			17
18			1 2	1 2	1 2		1 2		1 2			18
19			1 2	1 2	1 2		1 2		1 2			19
20			1 2	1 2	1 2		1 2		1 2			20
21			1 2	1 2	1 2		1 2		1 2			21
22			1 2	1 2	1 2		1 2		1 2			22
23			1 2	1 2	1 2		1 2		1 2			23
24			1 2	1 2	1 2		1 2		1 2			24
25			1 2	1 2	1 2		1 2		1 2			25
26			1 2	1 2	1 2		1 2		1 2			26

TICK HERE IF CONTINUATION SHEET USED. ☐   TOTAL NUMBER OF ELIGIBLE WOMEN ☐☐

Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed?   YES ☐──► ENTER EACH IN TABLE   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 IN TABLE   NO ☐

3) Do you have any guests or temporary visitors staying here, or anyone else who slept here last night?   YES ☐──► ENTER EACH IN TABLE   NO ☐

NIGERIA DEMOGRAPHIC AND HEALTH SURVEY
INDIVIDUAL QUESTIONNAIRE--ENGLISH

IDENTIFICATION	
PLACE NAME _____	
NAME OF HOUSEHOLD HEAD _____	
CLUSTER NUMBER.....................................	
HOUSEHOLD NUMBER...................................	
STATE...	
URBAN/RURAL (urban=1, rural=2).....................	
CITY/TOWN/RURAL (city=1, town=2, rural(village)=3).....	
NAME AND LINE NUMBER OF WOMAN _____	

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
				DAY MONTH YEAR
DATE	_____	_____	_____	
INTERVIEWER'S NAME	_____	_____	_____	
RESULT*	_____	_____	_____	
NEXT VISIT: DATE TIME	_____ _____	_____ _____		TOTAL NUMBER OF VISITS

*RESULT CODES:

1 COMPLETED	3 POSTPONED	5 PARTLY COMPLETED
2 NOT AT HOME	4 REFUSED	6 OTHER _____
		(SPECIFY)

LANGUAGE OF QUESTIONNAIRE.................................
LANGUAGE OF INTERVIEW....................................
NATIVE LANGUAGE OF RESPONDENT...........................
TRANSLATOR USED....................... YES...1 NO...2

LANGUAGE CODES:

1 HAUSA	3 IGBO	5 KANURI	7 ENGLISH
2 YORUBA	4 EFIK	6 TIV	8 OTHER _____
			(SPECIFY)

NAME DATE	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
	_____	_____	_____	

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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 rural village?	CITY.............................1 TOWN.............................2 RURAL VILLAGE....................3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS.................... ☐☐ ALWAYS..........................95 VISITOR:........................96 ──→105	
104	Just before you moved here, did you live in a city, in a town, or in a rural village?	CITY.............................1 TOWN.............................2 RURAL 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, secondary, or higher?	PRIMARY..........................1 SECONDARY........................2 HIGHER...........................3	
109	What is the highest (class/form/year) you completed at that level?	CLASS.................... ☐☐	
110	CHECK 108: PRIMARY ☐ SECONDARY ☐ OR HIGHER		──→112
111	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	
112	Do you usually listen to a radio at least once a week?	YES..............................1 NO...............................2	
113	Do you usually watch television at least once a week?	YES..............................1 NO...............................2	

1

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
114	What is the source of water your household uses for handwashing and dishwashing?	PIPED INTO RESIDENCE...........01 PIPED INTO YARD OR PLOT........02 →116 PUBLIC TAP.....................03 WELL WITH HANDPUMP.............04 WELL WITHOUT HANDPUMP..........05 RIVER, SPRING, SURFACE WATER...06 TANKER TRUCK, OTHER VENDOR.....07 RAINWATER......................08 OTHER _____09 (SPECIFY)	
115	How long does it take to go there, get water, and come back?	MINUTES...............[ ][ ][ ] ON PREMISES....................996	
116	Does your household get drinking water from this same source?	YES............................1 →118 NO.............................2	
117	What is the source of drinking water for members of your household?	PIPED INTO RESIDENCE...........01 PIPED INTO YARD OR PLOT........02 PUBLIC TAP.....................03 WELL WITH HANDPUMP.............04 WELL WITHOUT HANDPUMP..........05 RIVER, SPRING, SURFACE WATER...06 TANKER TRUCK, OTHER VENDOR.....07 RAINWATER......................08 OTHER _____09 (SPECIFY)	
118	What kind of toilet facility does your household have?	FLUSH..........................1 BUCKET.........................2 PIT............................3 OTHER _____4 (SPECIFY) NO FACILITIES..................5	
119	Does your house have: Electricity? A radio? A television? A refrigerator?	YES NO ELECTRICITY.................1 2 RADIO.......................1 2 TELEVISION..................1 2 REFRIGERATOR................1 2	
120	How many rooms in your household are used for sleeping?	ROOMS....................[ ][ ]	
121	MAIN MATERIAL OF THE FLOOR. (RECORD OBSERVATION.)	PARQUET OR POLISHED WOOD........1 VINYL OR ASPHALT STRIPS.........2 CERAMIC TILES...................3 WOOD PLANKS.....................4 CEMENT..........................5 ANIMAL DUNG.....................6 EARTH/SAND......................7 OTHER _____8 (SPECIFY)	
122	Does any member of your household own: A clock or watch? A donkey, horse, or camel? A canoe? A bicycle? A motorcycle? A car?	YES NO CLOCK OR WATCH..............1 2 DONKEY/HORSE/CAMEL..........1 2 CANOE.......................1 2 BICYCLE.....................1 2 MOTORCYCLE..................1 2 CAR.........................1 2	
123	What religion do you belong to?	PROTESTANTISM...................1 CATHOLICISM.....................2 ISLAM...........................3 TRADITIONAL RELIGION............4 NO RELIGION.....................5 OTHER _____6 (SPECIFY)	

2

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
201	I would like to ask about all the children with whom God has blessed you. Please do not feel that I am counting your children, but it is very important to obtain complete information on childbearing in Nigeria. God will certainly bless and protect your children. Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES...............................1 NO................................2	→206
202	Do you have any sons or daughters you have given birth to 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 ENTER '00'.	SONS AT HOME............... DAUGHTERS AT HOME..........	
204	Do you have any sons or daughters you have given birth to 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 ENTER '00'.	SONS ELSEWHERE............. DAUGHTERS ELSEWHERE........	
206	It does happen that sometimes children die. I pray that this never happens to you. If it already has, may it never happen again to you. It may be very painful to talk about and we are very sorry to bring back these bad memories, but it will help the government to take measures to improve the health of the mothers so that all babies born are blessed with life. Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any boy or girl who cried or showed any sign of life but only survived a few hours or days?	YES...............................1 NO................................2	→208
207	How many boys have died? And how many girls have died? IF NONE ENTER '00'.	BOYS DEAD.................. GIRLS DEAD.................	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE ENTER '00'.	TOTAL......................	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ live births during your life. Is that correct? YES ☐ NO ☐ → PROBE AND CORRECT 201-209 AS NECESSARY		
210	CHECK 208: ONE OR MORE ☐ NO BIRTHS ☐ BIRTHS		→223

3

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?	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.
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 (GO 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 (GO 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 (GO 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 (GO 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 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 ☐☐
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 (GO 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 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 ☐☐

212	213	214	215	216	217 IF ALIVE:	218 IF ALIVE:	219 IF LESS THAN 15 YRS. OF AGE:	220 IF DEAD:
What name was given to your next baby?	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?	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	Is (NAME) living with you?	With whom does he/she live? IF 15+: GO TO NEXT BIRTH	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.
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 (GO 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 ☐☐
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 221) NO........2 (FOR 15+, GO TO 221)	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)

| 222 | CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1985. IF NONE, ENTER 0. | ☐ |

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..................... ▢▢	
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 ▢▢ BEFORE LAST BIRTH.............994 NEVER MENSTRUATED.............995 IN MENOPAUSE..................996	
227	Between the first day of a woman's period and the first day of her next period, when do you think she has the greatest chance of becoming pregnant? PROBE: Which days of a woman's monthly cycle does she have to be careful to avoid 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 AT ANY TIME.....................5 OTHER _____6 (SPECIFY) DK..............................8	

6

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301 Now I would like to talk about family planning - 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 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 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 FOAMING TABLETS Women can place a foaming tablet or pill inside them before intercourse.	YES/SPONT....................1 YES/PROBED...................2 NO...........................3	YES...............1 NO................2	YES........................1 NO.........................2
05 DIAPHRAGM,FOAM,JELLY Women can place a sponge, diaphragm, jelly or cream inside them before intercourse.	YES/SPONT....................1 YES/PROBED...................2 NO...........................3	YES...............1 NO................2	YES........................1 NO.........................2
06 DUREX OR 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
07 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
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 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 the rhythm method? 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?	YES/SPONT....................1 NO...........................3		
1 _____ (SPECIFY)		YES...............1 NO................2	
2 _____ (SPECIFY)		YES...............1 NO................2	
3 _____ (SPECIFY)		YES...............1 NO................2	

305   CHECK 303: NOT A SINGLE "YES" ☐   AT LEAST ONE "YES" ☐ → SKIP TO 308
                    (NEVER USED)   (EVER USED)

7

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.............................☐	➤328
307	What have you used or done? CORRECT 303-305 (AND 302 IF NECESSARY)		
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 ENTER '00'.	NUMBER OF CHILDREN........☐☐	
309	CHECK 223: NOT PREGNANT ☐ PREGNANT ☐ OR UNSURE		➤328
310	Are you currently doing something or using any method to avoid getting pregnant?	YES.............................1 NO..............................2	➤328
311	Which method are you using?	PILL...........................01 IUD............................02 INJECTIONS.....................03 ➤319 FOAMING TABLETS................04 ➤317 DIAPHRAGM/FOAM/JELLY...........05 ➤319 DUREX OR CONDOM................06 ➤317 FEMALE STERILIZATION..........07 MALE STERILIZATION............08 ➤319 RHYTHM.........................09 WITHDRAWAL.....................10 ➤326 OTHER _____ 11 (SPECIFY)	
312	At the time you first started using the pill, did you consult a doctor or a nurse ?	YES.............................1 NO..............................2 DK..............................8	
313	At the time you last got pills, did you consult a doctor or a nurse?	YES.............................1 NO..............................2	
314	May I see the package of pills you are using now? (RECORD NAME OF BRAND.)	PACKAGE SEEN....................1 BRAND NAME_____ ☐☐ PACKAGE NOT SEEN................2	➤316
315	Do you know the brand name of the pills you are now using? (RECORD NAME OF BRAND.)	BRAND NAME _____ ☐☐ DK.............................98	
316	How much does one packet of pills cost you?	COST..............☐☐ ☐☐ FREE.........................9996 DK...........................9998	➤319

8

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
317	How much does one (condom/foaming tablet) cost you?	COST.............. ☐☐ · ☐☐ FREE......................9996 DK........................9998	
318	What is the average number of (condoms/foaming tablets) you use in one month?	NUMBER................. ☐☐ DK........................98	

319	CHECK 311 AND MARK BOX:
	
	SHE/HE STERILIZED ☐ USING ANOTHER METHOD ☐
	
	↓ ↓
	Where did the Where did you obtain
	sterilization take (METHOD) the last time?
	place?
	
	_____
	(NAME OF PLACE)
		HOSPITAL.....................01
		HEALTH CENTER, MATERNITY CENTER,
		  FAMILY PLANNING CLINIC, OR
		  HEALTH CLINIC/POST...........02
		DOCTOR.......................03
		PLANNED PARENTHOOD FED. CLINIC..04
		PRIVATE CLINIC...............05
		PHARMACY.....................06
		PATENT MEDICINE SHOP.........07
		MARKET.......................08
		HUSBAND'S PLACE OF WORK......09
		YOUR PLACE OF WORK..........10
		CHURCH.......................11
		FRIENDS/RELATIVES...........12
		OTHER _____13
		         (SPECIFY)
		DK...........................98
			→321
			
			→322
			
			→324

320	Was this place operated by the government, a mission, or by a private organization?	GOVERNMENT....................1 MISSION.......................2 PRIVATE ORGANIZATION..........3 DK............................8	→322
321	Was the method given at a government facility, a mission, or at the doctor's private practice?	GOVERNMENT....................1 MISSION.......................2 PRIVATE PRACTICE..............3 DK............................8	
322	How long does it take to travel from your home to this place?	MINUTES..................1 ☐☐ HOURS....................2 ☐☐ DK.....................998	
323	Is it easy or difficult to get there?	EASY..........................1 DIFFICULT.....................2	
324	CHECK 311: SHE/HE STERILIZED ☐ USING ANOTHER METHOD ☐ _____		→326
325	In what month and year was the sterilization operation done?	MONTH................. ☐☐ YEAR.................. ☐☐	→327

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |

326 For how many months have you been using (CURRENT METHOD) continuously?

MONTHS....................☐☐

---

327 What is the main reason you are using a method of family planning?

SPACE BIRTHS.....................1 ┐
STOP CHILDBEARING...............2 │
ECONOMIC COSTS..................3 ├─►339
HEALTH..........................4 │

OTHER _____ 5 ┘
(SPECIFY)

---

328 Do you intend to use a method to avoid pregnancy at any time in the future?

YES.............................1──►330
NO..............................2
DK..............................8──►333

---

329 What is the main reason you do not intend to use a method?

WANTS CHILDREN..................01 ┐
LACK OF KNOWLEDGE...............02 │
FATALISTIC......................03 │
COST TOO MUCH...................04 │
SIDE EFFECTS....................05 │
HEALTH CONCERNS.................06 │
HARD TO GET METHODS.............07 │
RELIGION........................08 ├─►333
OPPOSED TO FAMILY PLANNING.....09 │
PARTNER OPPOSED TO FP..........10 │
OTHER PEOPLE OPPOSED TO FP.....11 │
INFREQUENT SEX..................12 │
DIFFICULT TO GET PREGNANT......13 │
MENOPAUSAL/HAD HYSTERECTOMY....14 │
INCONVENIENT....................15 │
NOT MARRIED.....................16 │
OTHER _____ 17 │
(SPECIFY)
DK..............................98 ┘

---

330 Do you intend to use a method within the next 12 months?

YES.............................1
NO..............................2
DK..............................8

---

331 When you use a method, which method would you prefer to use?

PILL............................01
IUD.............................02
INJECTIONS......................03
FOAMING TABLETS.................04
DIAPHRAGM/FOAM/JELLY............05
DUREX OR CONDOM.................06
FEMALE STERILIZATION...........07
MALE STERILIZATION.............08
RHYTHM..........................09 ┐
WITHDRAWAL......................10 │
OTHER _____ 11 ├─►333
(SPECIFY)
UNSURE..........................98 ┘

---

332 Where can you get (METHOD MENTIONED IN 331)?

_____
(NAME OF PLACE)

HOSPITAL........................01 ┐
HEALTH CENTER, MATERNITY CENTER, ├─►335
FAMILY PLANNING CLINIC, OR │
HEALTH CLINIC/POST.............02 ┘
DOCTOR..........................03──►336
PLANNED PARENTHOOD FED. CLINIC..04 ┐
PRIVATE CLINIC..................05 │
PHARMACY........................06 │
PATENT MEDICINE SHOP...........07 │
MARKET..........................08 ├─►337
HUSBAND'S PLACE OF WORK.........09 │
YOUR PLACE OF WORK..............10 │
CHURCH..........................11 │
FRIENDS/RELATIVES...............12 │
OTHER _____ 13 ┘
(SPECIFY)
DK..............................98

10

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
333	Do you know of a place where you can obtain a method of family planning?	YES............................1 NO.............................2 →339	

334	Where is that?
	
	_____
	(NAME OF PLACE)
		HOSPITAL.........................01
		HEALTH CENTER, MATERNITY CENTER,
		  FAMILY PLANNING CLINIC, OR
		  HEALTH CLINIC/POST.............02
		DOCTOR...........................03 →336
		PLANNED PARENTHOOD FED. CLINIC..04
		PRIVATE CLINIC...................05
		PHARMACY.........................06
		PATENT MEDICINE SHOP.............07
		MARKET...........................08 →337
		HUSBAND'S PLACE OF WORK.........09
		YOUR PLACE OF WORK..............10
		CHURCH...........................11
		FRIENDS/RELATIVES...............12
		OTHER _____13
		        (SPECIFY)
		DK...............................98 →339	

335	Is this place operated by the government, a mission, or by a private organization?	GOVERNMENT......................1 MISSION.........................2 PRIVATE ORGANIZATION............3 →337 DK..............................8	
336	Is the doctor at a government facility, a mission, or at a private office?	GOVERNMENT......................1 MISSION.........................2 PRIVATE OFFICE..................3 DK..............................8	
337	How long does it take to travel from your home to this place?	MINUTES.................1 HOURS...................2 DK.............................998	
338	Is it easy or difficult to get there?	EASY............................1 DIFFICULT.......................2	
339	Who would you talk to if you wanted to get factual information about using a contraceptive method?	VILLAGE HEALTH WORKER..........01 HEALTH CLINIC/POST.............02 HEALTH CENTER...................03 HOSPITAL.......................04 PRIVATE DOCTOR.................05 FAMILY PLANNING CLINIC.........06 MOTHER.........................07 MOTHER-IN-LAW..................08 FEMALE FRIEND..................09 MALE FRIEND....................10 HUSBAND/PARTNER................11 OTHER _____12 (SPECIFY)	
340	Who would you talk to if you wanted to get personal advice about using a contraceptive method?	VILLAGE HEALTH WORKER..........01 HEALTH CLINIC/POST.............02 HEALTH CENTER...................03 HOSPITAL.......................04 PRIVATE DOCTOR.................05 FAMILY PLANNING CLINIC.........06 MOTHER.........................07 MOTHER-IN-LAW..................08 FEMALE FRIEND..................09 MALE FRIEND....................10 HUSBAND/PARTNER................11 OTHER _____12 (SPECIFY)	
341	In the last month have you heard a message about family planning on the radio or television?	YES............................1 NO.............................2	
342	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..............................3	

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401	CHECK 222 : ONE OR MORE LIVE BIRTHS SINCE JAN.1985 ☐ NO LIVE BIRTHS SINCE JAN. 1985 ☐ ⟶ (SKIP TO 501)

402	ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1985 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN THREE BIRTHS, USE ADDITIONAL FORMS). Now I would like to ask you some more questions about the health of children you had in the past five 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 then, did you want to wait until later or did you want no more 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?	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 an antenatal check on this pregnancy?
	
	IF YES, Whom did you see?
	
	Anyone else?
	
	PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.
		DOCTOR.................1
		NURSE/MIDWIFE/COMMUNITY
		  HEALTH OFFICER.........1
		AUXILIARY MIDWIFE/COMMUN.
		  HEALTH ASSISTANT........1
		VILLAGE HEALTH WORKER....1
		TRAINED (TRADITIONAL)
		  BIRTH ATTENDANT.........1
		TRADITIONAL BIRTH
		  ATTENDANT...............1
		OTHER _____ 1
		   (SPECIFY)
		NO ONE.................1 ⌐ (SKIP TO 409)<────┘
			DOCTOR.................1
			NURSE/MIDWIFE/COMMUNITY
			  HEALTH OFFICER.........1
			AUXILIARY MIDWIFE/COMMUN.
			  HEALTH ASSISTANT........1
			VILLAGE HEALTH WORKER....1
			TRAINED (TRADITIONAL)
			  BIRTH ATTENDANT.........1
			TRADITIONAL BIRTH
			  ATTENDANT...............1
			OTHER _____ 1
			   (SPECIFY)
			NO ONE.................1 ⌐ (SKIP TO 409)<────┘
				DOCTOR.................1
				NURSE/MIDWIFE/COMMUNITY
				  HEALTH OFFICER.........1
				AUXILIARY MIDWIFE/COMMUN.
				  HEALTH ASSISTANT........1
				VILLAGE HEALTH WORKER....1
				TRAINED (TRADITIONAL)
				  BIRTH ATTENDANT.........1
				TRADITIONAL BIRTH
				  ATTENDANT.,............1
				OTHER _____ 1
				   (SPECIFY)
				NO ONE.................1 ⌐ (SKIP TO 409)<────┘

406	Were you given an antenatal 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 that pregnancy?	NUMBER OF VISITS...☐☐	NUMBER OF VISITS...☐☐	NUMBER OF VISITS...☐☐
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	How many times did you get this injection?	TIMES...............☐ DK......................8	TIMES...............☐ DK......................8	TIMES...............☐ DK......................8

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

411	Where did you give birth to (NAME)?	YOUR HOME..............01
		HOME OF RELATIVE
		  OR FRIEND.............02
		HOME OF VILLAGE
		  HEALTH WORKER.........03
		HOME OF TRADITIONAL
		  BIRTH ATTENDANT.......04
		HEALTH CLINIC/POST......05
		HEALTH CENTER..........06
		MATERNITY CENTER.......07
		HOSPITAL...............08
		OTHER _____09
		(SPECIFY)
			YOUR HOME..............01
			HOME OF RELATIVE
			  OR FRIEND.............02
			HOME OF VILLAGE
			  HEALTH WORKER.........03
			HOME OF TRADITIONAL
			  BIRTH ATTENDANT.......04
			HEALTH CLINIC/POST......05
			HEALTH CENTER..........06
			MATERNITY CENTER.......07
			HOSPITAL...............08
			OTHER _____09
			(SPECIFY)
				YOUR HOME..............01
				HOME OF RELATIVE
				  OR FRIEND.............02
				HOME OF VILLAGE
				  HEALTH WORKER.........03
				HOME OF TRADITIONAL
				  BIRTH ATTENDANT.......04
				HEALTH CLINIC/POST......05
				HEALTH CENTER..........06
				MATERNITY CENTER.......07
				HOSPITAL...............08
				OTHER _____09
				(SPECIFY)

412	Who assisted with the delivery of (NAME)?
	
	Anyone else?
	
	PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.
		DOCTOR.................1
		NURSE/MIDWIFE/COMMUNITY
		  HEALTH OFFICER........1
		AUXILIARY MIDWIFE/COMMUN.
		  HEALTH ASSISTANT......1
		VILLAGE HEALTH WORKER....1
		TRAINED (TRADITIONAL)
		  BIRTH ATTENDANT.......1
		TRADITIONAL BIRTH
		  ATTENDANT.............1
		OTHER _____1
		(SPECIFY)
		NO ONE.................1
			DOCTOR.................1
			NURSE/MIDWIFE/COMMUNITY
			  HEALTH OFFICER........1
			AUXILIARY MIDWIFE/COMMUN.
			  HEALTH ASSISTANT......1
			VILLAGE HEALTH WORKER....1
			TRAINED (TRADITIONAL)
			  BIRTH ATTENDANT.......1
			TRADITIONAL BIRTH
			  ATTENDANT.............1
			OTHER _____1
			(SPECIFY)
			NO ONE.................1
				DOCTOR.................1
				NURSE/MIDWIFE/COMMUN.
				  HEALTH OFFICER........1
				AUXILIARY MIDWIFE/COMMUN.
				  HEALTH ASSISTANT......1
				VILLAGE HEALTH WORKER....1
				TRAINED (TRADITIONAL)
				  BIRTH ATTENDANT.......1
				TRADITIONAL BIRTH
				  ATTENDANT.............1
				OTHER _____1
				(SPECIFY)
				NO ONE.................1

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	Was (NAME) weighed at birth?	YES....................1 NO.....................2 (SKIP TO 417)<—	YES....................1 NO.....................2 (SKIP TO 417)<—	YES....................1 NO.....................2 (SKIP TO 417)<—
416	How much did (NAME) weigh?	KILOGRAMS........ ☐.☐ DK....................98	KILOGRAMS........ ☐.☐ DK....................98	KILOGRAMS........ ☐.☐ DK....................98
417	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
418	Has your period returned since the birth of (NAME)?	YES ....1 NO....................2 (SKIP TO 420)<—		
419	For how many months after the birth of (NAME) did you not have a period?	MONTHS............ ☐☐ DK....................98	MONTHS............ ☐☐ DK....................98	MONTHS............ ☐☐ DK....................98

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
420	IF PREGNANT CIRCLE '3', OTHERWISE ASK: Have you resumed sexual relations since the birth of (NAME)?	YES.....................1 NO......................2 (SKIP TO 422)<——— PREGNANT................3		
421	For how many months after the birth of (NAME) did you not have sexual relations?	MONTHS............□□ DK.....................98	MONTHS............□□ DK.....................98	MONTHS............□□ DK.....................98

422	Did you ever
	breastfeed (NAME)?
		YES.....................1
		  (SKIP TO 424)<———
		NO......................2
			YES.....................1
			  (SKIP TO 432)<———
			NO......................2
				YES.....................1
				  (SKIP TO 432)<———
				NO......................2

423	Why did you not
	breastfeed (NAME)?
		MOTHER ILL/WEAK........1
		CHILD ILL/WEAK.........2
		CHILD DIED.............3
		NIPPLE/BREAST PROBLEM..4
		NO MILK................5
		WORKING................6
		CHILD REFUSED..........7
		OTHER _____8
		       (SPECIFY)
		
		  (SKIP TO 434)<———
			MOTHER ILL/WEAK........1
			CHILD ILL/WEAK.........2
			CHILD DIED.............3
			NIPPLE/BREAST PROBLEM..4
			NO MILK................5
			WORKING................6
			CHILD REFUSED..........7
			OTHER _____8
			       (SPECIFY)
			
			  (SKIP TO 434)<———
				MOTHER ILL/WEAK........1
				CHILD ILL/WEAK.........2
				CHILD DIED.............3
				NIPPLE/BREAST PROBLEM..4
				NO MILK................5
				WORKING................6
				CHILD REFUSED..........7
				OTHER _____8
				       (SPECIFY)
				
				  (SKIP TO 434)<———

424	Did you feed (NAME)
	colostrum from the breast
	or wait until colostrum
	had passed?
		FED COLOSTRUM..........1
		  (SKIP TO 426)<———
		WAITED.................2
		DK......................8
		  (SKIP TO 426)<———		

425	While you waited for colostrum to pass, what did you feed (NAME)?	PLAIN WATER............1 SUGAR/GLUCOSE WATER......2 BABY FORMULA...........3 FRESH MILK.............4 SOYA MILK..............5 OTHER _____6 (SPECIFY)		
426	How long after birth did you first put (NAME) to the breast? RECORD IN DAYS IF MORE THAN 24 HOURS	IMMEDIATELY...........000 HOURS.............1 □□ DAYS..............2 □□		
427	IF DEAD CIRCLE '3', OTHERWISE ASK: Are you still breast- feeding (NAME)?	YES.....................1 NO......................2 (SKIP TO 432)<——— DEAD....................3		

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
428	How many times did you breastfeed last night between sundown and sunup? (IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NO.)	NUMBER OF NIGHTTIME FEEDINGS ☐☐		
429	How many times did you breastfeed yesterday during the daylight hours? (IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NO.)	NUMBER OF DAYLIGHT FEEDINGS ☐☐		
430	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? Soya milk? Any solid or mushy food, such as mashed banana or mashed grain?	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 SOYA MILK.............1 2 SOLID/MUSHY FOOD......1 2		

431	CHECK 430 :
	FOOD OR LIQUID GIVEN
	YESTERDAY?
		YES TO NO TO ALL
		ONE OF
		MORE ⌐ ⌐
		    ⌐ T
		            v
		    v (SKIP TO
		(SKIP TO 435)
		436)		

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	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
432 For how many months did you breastfeed (NAME)?	MONTHS............☐☐ UNTIL DIED............95⌐ (SKIP TO 435)<────	MONTHS............☐☐ UNTIL DIED............95⌐ (SKIP TO 435)<────	MONTHS............☐☐ UNTIL DIED............95⌐ (SKIP TO 435)<────
433 Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 NO MILK.................05 WORKING.................06 CHILD REFUSED...........07 WEANING AGE.............08 BECAME PREGNANT.........09 OTHER _____10 (SPECIFY)	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 NO MILK.................05 WORKING.................06 CHILD REFUSED...........07 WEANING AGE.............08 BECAME PREGNANT.........09 OTHER _____10 (SPECIFY)	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 NO MILK.................05 WORKING.................06 CHILD REFUSED...........07 WEANING AGE.............08 BECAME PREGNANT.........09 OTHER _____10 (SPECIFY)
434 CHECK 216: CHILD ALIVE?	ALIVE ☐ DEAD ☐ ▼ (SKIP TO 436)	ALIVE ☐ DEAD ☐ ▼ (SKIP TO 436)	ALIVE ☐ DEAD ☐ ▼ (SKIP TO 436)
435 Was (NAME) ever given any water, or something else to drink or eat (other than breastmilk)?	YES.....................1 NO......................2⌐ (SKIP TO 438)<────	YES.....................1 NO......................2⌐ (SKIP TO 438)<────	YES.....................1 NO......................2⌐ (SKIP TO 438)<────
436 How many months old was (NAME) when you started giving the following on a regular basis?: Formula or milk other than breastmilk, such as soya milk? Water or other liquids? Any solid or mushy food, such as mashed banana or mashed grain?	AGE IN MONTHS.......☐☐ NOT GIVEN.................96 AGE IN MONTHS.......☐☐ NOT GIVEN.................96 AGE IN MONTHS......☐☐ NOT GIVEN.................96	AGE IN MONTHS.......☐☐ NOT GIVEN.................96 AGE IN MONTHS.......☐☐ NOT GIVEN.................96 AGE IN MONTHS......☐☐ NOT GIVEN.................96	AGE IN MONTHS.......☐☐ NOT GIVEN.................96 AGE IN MONTHS.......☐☐ NOT GIVEN.................96 AGE IN MONTHS......☐☐ NOT GIVEN.................96
437 IF DEAD CIRCLE '3', OTHERWISE ASK: Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....................1 NO......................2 DEAD....................3 DK......................8		
438	GO BACK TO 403 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO FIRST COLUMN OF QUESTION 439.		

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439	ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1985 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN THREE BIRTHS, USE ADDITIONAL FORMS).

	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 ☐
440	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it, please?	YES, SEEN.............1 (SKIP TO 442)<——— YES, NOT SEEN..........2 (SKIP TO 444)<——— NO CARD.................3	YES, SEEN.............1 (SKIP TO 442)<——— YES, NOT SEEN..........2 (SKIP TO 444)<——— NO CARD.................3	YES, SEEN.............1 (SKIP TO 442)<——— YES, NOT SEEN..........2 (SKIP TO 444)<——— NO CARD.................3
441	Did you ever have a vaccination card for (NAME)?	YES....................1 (SKIP TO 444)<——— NO.....................2	YES....................1 (SKIP TO 444)<——— NO.....................2	YES....................1 (SKIP TO 444)<——— NO.....................2
442	(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
443	Has (NAME) received any vaccinations that are not recorded on this card?	YES....................1 (PROBE FOR VACCINATIONS, AND WRITE '66' IN THE <——— CORRESPONDING DAY COLUMN) NO.....................2 DK.....................8 (SKIP TO 446)	YES....................1 (PROBE FOR VACCINATIONS, AND WRITE '66' IN THE <——— CORRESPONDING DAY COLUMN) NO.....................2 DK.....................8 (SKIP TO 446)	YES....................1 (PROBE FOR VACCINATIONS, AND WRITE '66' IN THE <——— CORRESPONDING DAY COLUMN) NO.....................2 DK.....................8 (SKIP TO 446)
444	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES....................1 NO.....................2 (SKIP TO 446)<——— DK.....................8	YES....................1 NO.....................2 (SKIP TO 446)<——— DK.....................8	YES....................1 NO.....................2 (SKIP TO 446)<——— DK.....................8

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	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
445 Please tell me if (NAME) (has) received any of the following vaccinations: A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that left 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? IF YES: How many times?	YES......................1 NO.......................2 DK.......................8 NUMBER OF TIMES.............☐	YES......................1 NO.......................2 DK.......................8 NUMBER OF TIMES.............☐	YES......................1 NO.......................2 DK.......................8 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
446 CHECK 216: CHILD ALIVE?	ALIVE ☐ DEAD ☐ (SKIP TO 448)	ALIVE ☐ DEAD ☐ (SKIP TO 448)	ALIVE ☐ DEAD ☐ (SKIP TO 448)
447 GO BACK TO 440 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 482.			
448 Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8
449 Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES......................1 NO......................2 (SKIP TO 452) DK.......................8	YES......................1 NO......................2 (SKIP TO 452) DK.......................8	YES......................1 NO......................2 (SKIP TO 452) DK.......................8
450 How long did the cough last?	DAYS ☐☐ (IF LESS THAN 1 DAY, RECORD '00')	DAYS ☐☐ (IF LESS THAN 1 DAY, RECORD '00')	DAYS ☐☐ (IF LESS THAN 1 DAY, RECORD '00')
451 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
452 CHECK 448 AND 449: FEVER OR COUGH?	"YES" IN EITHER 448 OR 449 ☐ ☐ OTHER →(SKIP TO 462)	"YES" IN EITHER 448 OR 449 ☐ ☐ OTHER →(SKIP TO 462)	"YES" IN EITHER 448 OR 449 ☐ ☐ OTHER →(SKIP TO 462)
453 Did you seek advice or treatment for the fever/cough?	YES......................1 NO......................2 (SKIP TO 462)	YES......................1 NO......................2 (SKIP TO 462)	YES......................1 NO......................2 (SKIP TO 462)

454 When you perceived that (NAME) was ill, who began treatment?	VILLAGE HEALTH WORKER...01
	HEALTH CLINIC/POST......02
	HEALTH CENTER...........03
	HOSPITAL................04
	PRIVATE DOCTOR..........05
	TRADITIONAL/SPIRITUAL
	  HEALER................06
	VILLAGE CHEMIST AT
	  PATENT MEDICINE SHOP...07
	PHARMACY................08
	MYSELF/RELATIVES........09
	OTHER _____10
	    (SPECIFY)
		VILLAGE HEALTH WORKER...01
		HEALTH CLINIC/POST......02
		HEALTH CENTER...........03
		HOSPITAL................04
		PRIVATE DOCTOR..........05
		TRADITIONAL/SPIRITUAL
		  HEALER................06
		VILLAGE CHEMIST AT
		  PATENT MEDICINE SHOP...07
		PHARMACY................08
		MYSELF/RELATIVES 09
		OTHER _____10
		    (SPECIFY)
			VILLAGE HEALTH WORKER...01
			HEALTH CLINIC/POST......02
			HEALTH CENTER...........03
			HOSPITAL................04
			PRIVATE DOCTOR..........05
			TRADITIONAL/SPIRITUAL
			  HEALER................06
			VILLAGE CHEMIST AT
			  PATENT MEDICINE SHOP...07
			PHARMACY................08
			MYSELF/RELATIVES 09
			OTHER _____10
			    (SPECIFY)

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
455	Was this treatment given at home or away from home?	AT HOME/COMPOUND.........1 (SKIP TO 458)<———┘ AWAY FROM HOME...........2	AT HOME/COMPOUND.........1 (SKIP TO 458)<———┘ AWAY FROM HOME...........2	AT HOME/COMPOUND.........1 (SKIP TO 458)<———┘ AWAY FROM HOME...........2
456	How much time did it take to go to this place?	MINUTES..........1 ☐☐ HOURS............2	MINUTES..........1 ☐☐ HOURS............2	MINUTES..........1 ☐☐ HOURS............2
457	How much did it cost to travel to this place?	COST...... ☐☐.☐☐ NO COST.............. 9996	COST...... ☐☐.☐☐ NO COST.............. 9996	COST...... ☐☐.☐☐ NO COST.............. 9996
458	How much did it cost for the treatment obtained at this place? (RECORD CASH OR CASH EQUIVALENT OF NON-CASH PAYMENTS)	CASH...1 ☐☐☐.☐☐ CASH EQUIV..2 ☐☐☐.☐☐ NO COST............999996	CASH...1 ☐☐☐.☐☐ CASH EQUIV..2 ☐☐☐.☐☐ NO COST............999996	CASH...1 ☐☐☐.☐☐ CASH EQUIV..2 ☐☐☐.☐☐ NO COST............999996
459	What was given to treat the fever/cough, if anything? Anything else? (CIRCLE EACH MENTIONED)	NOTHING GIVEN............1 INJECTION................1 ANTIBIOTIC (PILL OR SYRUP).........1 ANTIMALARIAL (PILL OR SYRUP).........1 COUGH SYRUP..............1 OTHER PILL OR SYRUP......1 UNKNOWN PILL OR SYRUP....1 HOME REMEDY/ HERBAL MEDICINE.........1 OTHER _____ 1 (SPECIFY)	NOTHING GIVEN............1 INJECTION................1 ANTIBIOTIC (PILL OR SYRUP).........1 ANTIMALARIAL (PILL OR SYRUP).........1 COUGH SYRUP..............1 OTHER PILL OR SYRUP......1 UNKNOWN PILL OR SYRUP....1 HOME REMEDY/ HERBAL MEDICINE.........1 OTHER _____ 1 (SPECIFY)	NOTHING GIVEN............1 INJECTION................1 ANTIBIOTIC (PILL OR SYRUP).........1 ANTIMALARIAL (PILL OR SYRUP).........1 COUGH SYRUP..............1 OTHER PILL OR SYRUP......1 UNKNOWN PILL OR SYRUP....1 HOME REMEDY/ HERBAL MEDICINE.........1 OTHER _____ 1 (SPECIFY)
460	If you purchased drugs or other preparations for (NAME)'s treatment, where did you buy them?	VILLAGE HEALTH WORKER...01 HEALTH CLINIC/POST......02 HEALTH CENTER...........03 HOSPITAL................04 PRIVATE DOCTOR..........05 TRADITIONAL/SPIRITUAL HEALER.................06 VILLAGE CHEMIST AT PATENT MEDICINE SHOP...07 PHARMACY................08 NO DRUGS PURCHASED......09 OTHER _____10 (SPECIFY)	VILLAGE HEALTH WORKER...01 HEALTH CLINIC/POST......02 HEALTH CENTER...........03 HOSPITAL................04 PRIVATE DOCTOR..........05 TRADITIONAL/SPIRITUAL HEALER.................06 VILLAGE CHEMIST AT PATENT MEDICINE SHOP...07 PHARMACY................08 NO DRUGS PURCHASED......09 OTHER _____10 (SPECIFY)	VILLAGE HEALTH WORKER...01 HEALTH CLINIC/POST......02 HEALTH CENTER...........03 HOSPITAL................04 PRIVATE DOCTOR..........05 TRADITIONAL/SPIRITUAL HEALER.................06 VILLAGE CHEMIST AT PATENT MEDICINE SHOP...07 PHARMACY................08 NO DRUGS PURCHASED......09 OTHER _____10 (SPECIFY)
461	What was the most important reason why you chose to go to this source of care?	LOWER TRANSPORTATION COSTS...................1 LOWER TREATMENT COSTS...................2 SHORTER WAITING TIME AT FACILITY.............3 BETTER QUALITY CARE....................4 GREATER AVAILABILITY OF DRUGS...............5 SHORTER TRAVEL TIME TO SOURCE OF CARE.......6 NO ALTERNATIVE SOURCE OF CARE..........7 OTHER _____ 8 (SPECIFY)	LOWER TRANSPORTATION COSTS...................1 LOWER TREATMENT COSTS...................2 SHORTER WAITING TIME AT FACILITY.............3 BETTER QUALITY CARE....................4 GREATER AVAILABILITY OF DRUGS...............5 SHORTER TRAVEL TIME TO SOURCE OF CARE.......6 NO ALTERNATIVE SOURCE OF CARE..........7 OTHER _____ 8 (SPECIFY)	LOWER TRANSPORTATION COSTS...................1 LOWER TREATMENT COSTS...................2 SHORTER WAITING TIME AT FACILITY.............3 BETTER QUALITY CARE....................4 GREATER AVAILABILITY OF DRUGS...............5 SHORTER TRAVEL TIME TO SOURCE OF CARE.......6 NO ALTERNATIVE SOURCE OF CARE..........7 OTHER _____ 8 (SPECIFY)

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
462	Has (NAME) had diarrhea in the last two weeks?	YES..........................1 (SKIP TO 464)<——┘ NO...........................2 DK...........................8	YES..........................1 (SKIP TO 464)<——┘ NO...........................2 DK...........................8	YES..........................1 (SKIP TO 464)<——┘ NO...........................2 DK...........................8
463	GO BACK TO 440 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 482.			
464	Has (NAME) had diarrhea in the last 24 hours?	YES.........................1 NO..........................2 DK..........................8	YES.........................1 NO..........................2 DK..........................8	YES.........................1 NO..........................2 DK..........................8
465	How long has the diarrhea lasted/did the diarrhea last?	DAYS ☐☐ (IF LESS THAN 1 DAY, ENTER '00')	DAYS ☐☐ (IF LESS THAN 1 DAY, ENTER '00')	DAYS ☐☐ (IF LESS THAN 1 DAY, ENTER '00')
466	Was there any blood in the stools?	YES.........................1 NO..........................2 DK..........................8	YES.........................1 NO..........................2 DK..........................8	YES.........................1 NO..........................2 DK..........................8
467	What do you think may be the reason (NAME) had diarrhea?	TEETHING..................1 CONTAMINATED FOOD/WATER..2 OTHER _____ 3 (SPECIFY) DK.........................8	TEETHING..................1 CONTAMINATED FOOD/WATER..2 OTHER _____ 3 (SPECIFY) DK.........................8	TEETHING..................1 CONTAMINATED FOOD/WATER..2 OTHER _____ 3 (SPECIFY) DK.........................8
468	Do you think (NAME'S) diarrhea was not dangerous to his/her health, or was it slightly or very dangerous?	NOT DANGEROUS............1 SLIGHTLY DANGEROUS.......2 VERY DANGEROUS...........3 DK.........................8	NOT DANGEROUS............1 SLIGHTLY DANGEROUS.......2 VERY DANGEROUS...........3 DK.........................8	NOT DANGEROUS............1 SLIGHTLY DANGEROUS.......2 VERY DANGEROUS...........3 DK.........................8

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		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

469	CHECK 427:
	LAST CHILD STILL
	BREASTFED?
		YES ☐ NO ☐
		              v
		       (SKIP TO 472)		

470	When (NAME) had diarrhea, did you change the frequency of breastfeeding?	YES.....................1 NO......................2 (SKIP TO 472)<		
471	During the diarrhea, did you <u>increase</u> the number of feeds or <u>reduce</u> them, or did you <u>stop completely</u>?	INCREASED...............1 REDUCED.................2 STOPPED COMPLETELY......3		
472	(Aside from breastmilk) Was he/she given the same amount to drink as before the diarrhea, 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
473	Was (NAME) given a fluid made from a special packet?	YES.....................1 NO......................2 DK......................8	YES.....................1 NO......................2 DK......................8	YES.....................1 NO......................2 DK......................8
474	Was (NAME) given a recommended home-made fluid made from sugar, salt and water?	YES.....................1 NO......................2 DK......................8	YES.....................1 NO......................2 DK......................8	YES.....................1 NO......................2 DK......................8

475	CHECK 473 AND 474:
	CHILD GIVEN
	FLUID FROM PACKET (473)
	AND/OR RECOMMENDED
	HOME-MADE FLUID (474)?
		YES GIVEN NO ☐
		FLUID FLUID
		(PKT./HOME)
		☐ v
		    (SKIP TO
		    477)
		v
			YES GIVEN NO ☐
			FLUID FLUID
			(PKT./HOME)
			☐ v
			    (SKIP TO
			    477)
			v
				YES GIVEN NO ☐
				FLUID FLUID
				(PKT./HOME)
				☐ v
				    (SKIP TO
				    477)
				v

476	For how many days was (NAME) given this fluid?	DAYS.............. ☐☐ DK......................98	DAYS.............. ☐☐ DK......................98	DAYS.............. ☐☐ DK......................98

477	Was anything given for the
	diarrhea (other than this
	fluid)?
		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	What was given
	to treat the diarrhea?
	
	Anything else?
	
	(CIRCLE EACH MENTIONED)
		INJECTION...............1
		ANTIBIOTIC
		 (PILL OR SYRUP).........1
		OTHER PILL OR SYRUP......1
		(I.V.) INTRAVENOUS.......1
		UNKNOWN PILL OR SYRUP....1
		HOME REMEDY/
		 HERBAL MEDICINE.........1
		OTHER _____ 1
		    (SPECIFY)
			INJECTION...............1
			ANTIBIOTIC
			 (PILL OR SYRUP).........1
			OTHER PILL OR SYRUP......1
			(I.V.) INTRAVENOUS.......1
			UNKNOWN PILL OR SYRUP....1
			HOME REMEDY/
			 HERBAL MEDICINE.........1
			OTHER _____ 1
			    (SPECIFY)
				INJECTION...............1
				ANTIBIOTIC
				 (PILL OR SYRUP).........1
				OTHER PILL OR SYRUP......1
				(I.V.) INTRAVENOUS.......1
				UNKNOWN PILL OR SYRUP....1
				HOME REMEDY/
				 HERBAL MEDICINE.........1
				OTHER _____ 1
				    (SPECIFY)

479	Did you seek advice or
	treatment for the
	diarrhea?
		YES.....................1
		
		NO......................2
		  (SKIP TO 481)<
			YES.....................1
			
			NO......................2
			  (SKIP TO 481)<
				YES.....................1
				
				NO......................2
				  (SKIP TO 481)<

480	From whom did you seek
	advice or treatment?
	
	Anyone else?
	
	(CIRCLE EACH MENTIONED)
		VILLAGE HEALTH WORKER....1
		HEALTH CLINIC/POST.......1
		HEALTH CENTER............1
		HOSPITAL.................1
		PRIVATE DOCTOR...........1
		TRADITIONAL/SPIRITUAL
		 HEALER.................1
		VILLAGE CHEMIST AT
		 PATENT MEDICINE SHOP....1
		PHARMACY.................1
		OTHER _____ 1
		    (SPECIFY)
			VILLAGE HEALTH WORKER....1
			HEALTH CLINIC/POST.......1
			HEALTH CENTER............1
			HOSPITAL.................1
			PRIVATE DOCTOR...........1
			TRADITIONAL/SPIRITUAL
			 HEALER.................1
			VILLAGE CHEMIST AT
			 PATENT MEDICINE SHOP....1
			PHARMACY.................1
			OTHER _____ 1
			    (SPECIFY)
				VILLAGE HEALTH WORKER....1
				HEALTH CLINIC/POST.......1
				HEALTH CENTER............1
				HOSPITAL.................1
				PRIVATE DOCTOR...........1
				TRADITIONAL/SPIRITUAL
				 HEALER.................1
				VILLAGE CHEMIST AT
				 PATENT MEDICINE SHOP....1
				PHARMACY.................1
				OTHER _____ 1
				    (SPECIFY)

481	GO BACK TO 440 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO 482.			

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
482	CHECK 473: ORS SOLUTION MENTIONED ☐ (ANY YES IN 473) ORS SOLUTION NOT MENTIONED ☐ OR 473 NOT ASKED		→484
483	Have you ever seen a packet like this before? (SHOW PACKET)	YES...............................1 NO................................2→487	
484	Have you ever prepared a solution with one of these packets to treat diarrhea in yourself or someone else? (SHOW PACKET)	YES...............................1 NO................................2→486	
485	How much water did you use to prepare (LOCAL NAME)?	SOFT DRINK BOTTLES.........1 ☐ BEER BOTTLES...............2 ☐ CUPS.......................3 ☐ FOLLOWED PACKAGE INSTRUCTIONS..95 OTHER_____96 (SPECIFY) DK............................98	
486	Where can you get the (LOCAL NAME) packet? PROBE: Anywhere else? (CIRCLE ALL PLACES MENTIONED)	VILLAGE HEALTH WORKER...........1 HEALTH CLINIC/POST..............1 HEALTH CENTER...................1 HOSPITAL........................1 PRIVATE DOCTOR..................1 TRADITIONAL/SPIRITUAL HEALER....1 VILLAGE CHEMIST AT PATENT MEDICINE SHOP...........1 PHARMACY........................1 OTHER _____ 1 (SPECIFY) DK..............................1	

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
487	CHECK 474: RECOMMENDED HOME-MADE ☐ FLUID MENTIONED (ANY YES IN 474)	RECOMMENDED HOME-MADE FLUID NOT MENTIONED OR 474 NOT ASKED ☐	→489
488	Have you ever prepared a recommended home-made fluid made from sugar, salt and water to treat diarrhea in yourself or someone else?	YES..............................1 NO...............................2	→501

489	Who taught you to prepare the home fluid made from sugar, salt and water?	VILLAGE HEALTH WORKER..........01
		HEALTH CLINIC/POST.............02
		HEALTH CENTER..................03
		HOSPITAL.......................04
		PRIVATE DOCTOR.................05
		TRADITIONAL/SPIRITUAL HEALER...06
		VILLAGE CHEMIST AT
		  PATENT MEDICINE SHOP.........07
		PHARMACY.......................08
		IMMUNIZATION CARD..............09
		OTHER _____ 10
		        (SPECIFY)
		DK.............................98	

490	How much water did you use to prepare the home fluid?	SOFT DRINK BOTTLES.........1 BEER BOTTLES...............2 CUPS......................3 OTHER_____96 (SPECIFY) DK.............................98	
491	How much sugar did you use to prepare the home fluid?	CUBES....................1 TEASPOONS...............2 OTHER_____996 (SPECIFY) DK.........................998	
492	How much salt did you use to prepare the home fluid?	1 TEASPOON.....................1 2 TEASPOONS....................2 3 TEASPOONS....................3 OTHER_____4 (SPECIFY) DK.............................8	
493	Do you consider the home fluid effective for treating diarrhea?	YES..............................1 NO...............................2 DK...............................8	

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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	→510
502	Are you now married or living with a man, or are you now widowed, divorced or no longer living together?	MARRIED..........................1 LIVING TOGETHER..................2 WIDOWED..........................3 DIVORCED.........................4 NO LONGER LIVING TOGETHER.......5	→504 →507
503	Does your husband/partner live with you or does he live elsewhere?	LIVES WITH HER...................1 LIVES ELSEWHERE..................2	
504	Does your husband/partner have any other wives besides yourself?	YES..............................1 NO...............................2 DK...............................8	→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	How old were you when you started living with your (first) husband or partner?	AGE....................⬚⬚	
509	In what month and year did you start living with him? COMPARE 508 AND 509 WITH 105 AND 106. MAKE CORRECTIONS IF INCONSISTENT.	MONTH..................⬚⬚ DK MONTH......................98 YEAR...................⬚⬚ DK YEAR.......................98	→511
510	IF NEVER IN UNION: Have you ever had sexual intercourse?	YES..............................1 NO...............................2	→515

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
511	Now we need some details about your sexual activity in order to get a better understanding of contraception and fertility. How many times did you have sexual intercourse in the last four weeks?	TIMES...................... ☐☐	
512	How many times a month do you <u>usually</u> have sexual intercourse?	TIMES...................... ☐☐	
513	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	
514	How old were you when you first had sexual intercourse?	AGE........................ ☐☐ FIRST TIME WHEN MARRIED........96	
515	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10..........1 2 HUSBAND....................1 2 OTHER MALES................1 2 OTHER FEMALES..............1 2	

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
601	CHECK 311: NEITHER STERILIZED ☐　　HE OR SHE STERILIZED ☐		→606
602	CHECK 501 AND 502: CURRENTLY MARRIED OR LIVING TOGETHER ☐　　NOT CURRENTLY IN UNION ☐		→613
603	Now I have some questions about the future. CHECK 223 AND MARK BOX: NOT PREGNANT OR UNSURE ☐　　PREGNANT ☐ Would you like to have (a/another) child or would you prefer not to have any (more) children?　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..........................2 SAYS SHE CAN'T GET PREGNANT....3 UNDECIDED OR DK................8	→609
604	CHECK 223 AND MARK BOX: NOT PREGNANT OR UNSURE ☐　　PREGNANT ☐ How long would you like to wait from now before the birth of (a/another) child?　How long would you like to wait after the birth you are expecting before the birth of another child?	DURATION MONTHS...................1 ☐☐ YEARS....................2 SOON/NOW.......................994 SAYS SHE CAN'T GET PREGNANT....995 OTHER _____ 996 　　　(SPECIFY) DK............................998	→609
605	CHECK 216: IF NO LIVING CHILDREN, CIRCLE '96', OTHERWISE ASK: How old would you like your youngest child to be before having another child?	AGE OF YOUNGEST YEARS..................... ☐☐ NO LIVING CHILDREN...............96 DK...............................98	→609
606	Do you regret that you (your husband) had the operation not to have any (more) children?	YES.........................,......1 NO..............................2	→608
607	Why do you regret it?	WANTS ANOTHER CHILD.............1 OTHER REASON _____ 2 　　　(SPECIFY)	→613
608	Given your present circumstances, if you had to do it over again, do you think you would make the same decision to have a sterilization?	YES..............................1 NO...............................2	→613

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199

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
609	Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES........................1 DISAPPROVES.....................2 DK..............................8	
610	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	
611	Have you and your husband/partner ever discussed the number of children you would like to have?	YES.............................1 NO..............................2	
612	Do you think your husband/partner wants the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER.....................1 MORE CHILDREN...................2 FEWER CHILDREN.................3 DK..............................8	
613	How long should a couple wait before starting sexual intercourse after the birth of a baby?	MONTHS.................1 YEARS..................2 OTHER_____996 (SPECIFY)	
614	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	
615	In general, do you approve or disapprove of couples using a method to avoid pregnancy?	APPROVE.........................1 DISAPPROVE......................2	
616	CHECK 216 AND MARK BOX: NO LIVING CHILDREN ☐ HAS LIVING CHILDREN ☐ ┌─────── ┌─────── v v If you could choose If you could go back to the time exactly the number of you did not have any children children to have in and could choose exactly the your whole life, how number of children to have in many would that be? your whole life, how many would that be? RECORD SINGLE NUMBER OR OTHER ANSWER.	NUMBER..................☐☐ UP TO GOD......................95 OTHER _____96 (SPECIFY)	

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SECTION 7. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701	CHECK 501: EVER MARRIED ☐ OR LIVED TOGETHER NEVER MARRIED, ☐ NEVER LIVED TOGETHER ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER.		→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, secondary, or higher?	PRIMARY ....1 SECONDARY......................2 HIGHER.........................3 DK.............................8	→705
704	What was the highest (class, form, year) he completed at that level?	CLASS.....................[ ][ ] DK............................98	
705	What kind of work does (did) your (last) husband/partner mainly do?	_____ [ ][ ] _____ _____	
706	CHECK 705: WORKS (WORKED) ☐ IN AGRICULTURE DOES (DID) ☐ NOT WORK IN AGRICULTURE		→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	

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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
708	As you know, many women work - I mean aside from doing their own housework. Some take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any such work?	YES..............................1 NO...............................2	→716
709	What is your occupation, that is, what kind of work do you do?	☐☐ _____ _____ _____	
710	In your work, are you an employee, self-employed, or an employer?	EMPLOYEE........................1 SELF-EMPLOYED...................2 EMPLOYER........................3	
711	Do you earn cash for this work?	YES.............................1 NO..............................2	
712	Do you do this work at home or away from home?	HOME............................1 AWAY............................2	
713	CHECK 215/216/218: HAS CHILD BORN SINCE JAN. 1985 AND LIVING AT HOME? ☐ YES	NO ☐	→716
714	While you are working, do you usually have (NAME OF YOUNGEST CHILD AT HOME) with you, sometimes have him/her with you, or never have him/her with you?	USUALLY.........................1 →716 SOMETIMES.......................2 NEVER...........................3	
715	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	HUSBAND.........................01 OLDER CHILD(REN)................02 OTHER RELATIVES.................03 NEIGHBORS.......................04 FRIENDS.........................05 SERVANTS/HIRED HELP.............06 CHILD IS IN SCHOOL..............07 INSTITUTIONAL CHILDCARE.........08 OTHER _____09 (SPECIFY)	
716	RECORD THE TIME	HOUR................... ☐☐ MINUTES................ ☐☐	

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801	CHECK 215/216:
	ONE OR MORE LIVING CHILDREN BORN SINCE JAN. 1985 ☐↓ NO LIVING CHILDREN BORN SINCE JAN. 1985 ☐→END

INTERVIEWER: IN 802-804, RECORD THE LINE NUMBERS, NAMES, AND BIRTH DATES OF ALL LIVING CHILDREN BORN SINCE JANUARY 1, 1985 STARTING WITH THE YOUNGEST CHILD. RECORD WEIGHT AND LENGTH IN 805 AND 806.

	1 YOUNGEST LIVING CHILD	2 NEXT-TO-YOUNGEST LIVING CHILD	3 SECOND-TO-YOUNGEST LIVING CHILD
802 LINE NO. FROM Q.212	☐☐	☐☐	☐☐
803 NAME FROM Q.212	(NAME) _____	(NAME) _____	(NAME) _____
804 DATE OF BIRTH FROM Q.215 AND ASK FOR DAY	DAY...... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY...... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY...... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐
805 WEIGHT (in kg.)	☐☐.☐	☐☐.☐	☐☐.☐
806 LENGTH (in cm.)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
807 BCG SCAR ON ARM OR SHOULDER	SCAR SEEN.....1 NO SCAR.......2	SCAR SEEN.....1 NO SCAR.......2	SCAR SEEN.....1 NO SCAR.......2
808 DATE CHILD WEIGHED AND MEASURED	DAY...... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY...... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐	DAY...... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐
809 RESULT	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)
810 NAME OF MEASURER: _____ ☐☐☐	NAME OF ASSISTANT: _____ ☐☐☐		

30

INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments about
 respondent:

_____

_____

_____

Comments about
specific questions:

_____

_____

_____

Any other comments:

_____

_____

_____

SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Supervisor: _____   Date: _____

EDITOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Field Editor: _____   Date: _____

Name of Keyer: _____   Date: _____

NIGERIA SERVICE AVAILABILITY QUESTIONNAIRE

IDENTIFICATION

STATE..

CLUSTER NUMBER ....

CLUSTER VISIT START DATE.....................

CLUSTER VISIT END DATA.......................

URBAN/RURAL RESIDENCE:
        URBAN.......................1
        RURAL.......................2

TYPE OF AREA:
        CITY........................1
        TOWN........................2
        RURAL (VILLAGE)............3

QUESTIONNAIRE NUMBER.........................

INTERVIEWER NAME _____

DATA ENTRY CLERK _____

STATE

CLUSTER NUMBER

DAY   MONTH

DAY   MONTH

URBAN/RURAL

TYPE OF AREA

QUESTIONNAIRE NO.

LANGUAGE OF CLUSTER INTERVIEW............................

| 1 | HAUSA | 3 | IGBO | 5 | KANURI | 7 | ENGLISH |
| 2 | YORUBA | 4 | EFIK | 6 | TIV | 8 | OTHER_____ |

(SPECIFY)

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
	QUESTIONS 100 TO 102 ARE TO BE ANSWERED BY THE INTERVIEWER UPON ARRIVAL AT THE CLUSTER.		
100	RECORD THE TIME.	HOUR...................☐☐ MINUTES................☐☐	
101	TYPE OF AREA (in which EA is found/nearest to EA)	CITY............................1 ——→ 113 TOWN............................2 ——→ 109 RURAL (VILLAGE)................3	
102	DENSITY OF RURAL VILLAGE	COMPACT........................1 SCATTERED......................2	
	THE REMAINING QUESTIONS IN SECTIONS 1 AND 2 ARE TO BE ANSWERED BY KNOWLEDGEABLE INFORMANTS FROM THE CLUSTER.		
103	What is the name of the nearest city/town?	_____	
104	What is the most commonly used form of transportation to go to the nearest city/town?	MOTORIZED......................1 CYCLING........................2 ANIMAL.........................3 WALKING........................4 BOATING........................5 OTHER_____...6	
105	How long does it take to reach the nearest city/town using the the most common type of transportation?	HOURS.................☐☐ MINUTES...............☐☐	
106	What is the main access route to this community?	PAVED ROAD.....................1 UNPAVED ROAD...................2 RIVER..........................3 OTHER (RAILWAY)................4 PATH...........................5	
107	Is the main access route usuable during the rainy season?	YES............................1 NO.............................2	
108	What are the major economic activities of the inhabitants of this community? (CIRCLE ALL APPLICABLE)	AGRICULTURAL...................1 FISHING........................1 TRADING/MARKETING..............1 MANUFACTURING..................1 MINING.........................1 OTHER_____...1	
109	What is the main source of drinking water in the community?	PIPED..........................1 PUBLIC TAP.....................2 BOREHOLE.......................3 WELL...........................4 RIVER, SPRING, SURFACE WATER....5 OTHER_____...6	
110	Is there electricity in this community?	YES............................1 NO.............................2	
111	What is the main means of waste disposal in this community?	INCINERATION...................1 BURNING........................2 DUNG HILL......................3 REFUSE BINS/COLLECTION.........4 OTHER_____...5 NO METHOD......................6	
112	What type of toilet facilities are used by most households in this community?	FLUSH (WATER CLOSET)...........1 BUCKET.........................2 PIT............................3 OTHER_____...4 NO FACILITIES..................5	

1-1

INTERVIEWER: Now I would like to ask you about the distances to various schools and services, how you usually go there and how far it is from here.

INSTRUCTION FOR INTERVIEWER: IF THE LOCATION OF THE SERVICE IS UNKNOWN TO THE INFORMANTS, RECORD '998' FOR QUESTION 113 AND CONTINUE WITH THE NEXT SERVICE.

SERVICES	113 TRAVEL TIME TO GET THERE (MINUTES)	114 MOST COMMON TRANSPORT [a]	115 DISTANCE IN MILES [b]
A. EDUCATION			
1 Primary School	☐☐☐	☐	☐☐
	IF '998' ⌐		
2 Secondary School	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐		
3 University/Polytechnical/ Technical School	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐		
B. GENERAL SERVICES			
1 Post Office/Mail Service	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐		
2 Daily Market	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐		
3 Weekly Market	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐		
4 Cinema	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐		
5 Public Transportation	☐☐☐ ↵	☐	☐☐
	IF '998' ⌐ 116 ↵		

CODES: [a] Motorized....1
              Cycling......2
              Animal.......3
              Walking......4
              Boating......5
              Other........6

[b] 97 = 97+
     00 = Less than 1/located
          in rural cluster
     98 = Distance unknown

1-2

COMMENTS:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
116	Is this community visited by a health worker (such as a CHEW, family planning worker, community health assistant, motivator)?	YES.................................1 NO..................................2	→ 117
116a	Does this health worker supply (LIST) and what does it cost? a: Basic Medications?	BASIC MEDICATIONS: YES.................................1 NO..................................2 AVERAGE COST... ☐.☐☐ ←	
	b: ORT instruction (sugar/salt)?	ORT: YES.................................1 NO..................................2 ONE PACKET..... ☐.☐☐ ←	
	c: Vitamins?	VITAMINS: YES.................................1 NO..................................2 AVERAGE COST... ☐.☐☐ ←	
	d: Immunizations?	IMMUNIZATIONS: YES.................................1 NO..................................2 SPECIFY WHICH: ☐ ← _____ AVERAGE COST ☐.☐☐	
	e: Family Planning Services?	FAMILY PLANNING: YES.................................1 NO..................................2	→ 116b
	Pill?	YES.................................1 NO..................................2 COST OF 1 ☐.☐☐ ← MONTH CYCLE....	
	Condom?	CONDOM: YES.................................1 NO..................................2 COST OF 3...... ☐.☐☐ ←	
	Foaming Tablets?	FOAMING TABLETS: YES.................................1 NO..................................2 COST OF PACKET. ☐.☐☐ ← QUANTITY............ ☐☐	
116b	How often does the health worker visit this community?	NO. OF TIMES ☐☐ PER MONTH..1 YEAR...2	
116c	For whom does this health worker work?	FEDERAL MOH......................1 STATE MOH........................2 LOCAL GOVERNMENT.................3 PRIVATE ORGANIZATION............4 CHURCH/MISSION...................5 LOCAL FACILITY..................6 OTHER_____...7 DON'T KNOW.......................8	
116d	How many health workers do you know of who work in this area?	NO. OF WORKERS......... ☐☐	

1-3

208

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
117	Is this community visited by a mobile health clinic?	YES................................1 NO.................................2 →	118
117a	Does this mobile health clinic supply (LIST) and what does it cost? a: Basic Medications?	BASIC MEDICATIONS: YES................................1 NO.................................2 AVERAGE COST... ▯.▯▯ ←	
	b: ORT instruction (sugar/salt)?	ORT: YES................................1 NO.................................2 ONE PACKET..... ▯.▯▯ ←	
	c: Vitamins?	VITAMINS: YES................................1 NO.................................2 AVERAGE COST... ▯.▯▯ ←	
	d: Immunizations?	IMMUNIZATIONS: YES................................1 NO.................................2 SPECIFY WHICH: ▯.▯▯ ← _____ AVERAGE COST	
	e: Family Planning Services?	FAMILY PLANNING: YES................................1 NO.................................2 →	117b
	Pill?	YES................................1 NO.................................2 COST OF 1 MONTH CYCLE.... ▯.▯▯ ←	
	Condom?	CONDOM: YES................................1 NO.................................2 COST OF 3...... ▯.▯▯ ←	
	Foaming Tablets?	FOAMING TABLETS: YES................................1 NO.................................2 COST OF PACKET. ▯.▯▯ ← QUANTITY:........... ▯▯	
117b	How often does the mobile health clinic visit this community?	NO. OF TIMES ▯▯ PER MONTH..1 YEAR...2	
117c	Who sponsors the mobile health clinic?	FEDERAL MOH......................1 STATE MOH........................2 LGA..............................3 PRIVATE ORGANIZATION.............4 CHURCH/MISSION...................5 LOCAL FACILITY...................6 OTHER_____...7 DON'T KNOW.......................8	

1-4

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
118	Is there a health post in this community?	YES...............................1 NO................................2	→ 119
118a	Do residents in this community think that the health post is a place to go when health care is needed?	YES...............................1 NO................................2	→ 119
118b	Why not?	_____	
119	Is there a traditional healer in this community?	YES...............................1 NO................................2	
120	Is there a traditional birth attendant available to women here who regularly assists during delivery?	YES...............................1 NO................................2	→ 121
120a	Has the traditional birth attendant had any special training from the MOH or other organization?	YES...............................1 NO................................2	
121	Is the area visited by a trained midwife?	YES...............................1 NO................................2	
122	Is there a neighbourhood retail stand (a stall or table from which items are sold) in this community?	YES...............................1 NO................................2	→ 123
122a	Does this neighbourhood retail stand sell (LIST) and what does it cost? a: Basic Medications?	BASIC MEDICATIONS: YES...............................1 NO................................2 AVERAGE COST... ☐.☐☐	
	b: ORT packets?	ORT: YES...............................1 NO................................2 ONE PACKET..... ☐.☐☐	
	c: Vitamins?	VITAMINS: YES...............................1 NO................................2 AVERAGE COST... ☐.☐☐	
	e: Family Planning Supplies?	FAMILY PLANNING: YES...............................1 NO................................2	→ 123
	Pill?	YES...............................1 NO................................2 COST OF 1 MONTH CYCLE.... ☐.☐☐	
	Condom?	CONDOM: YES...............................1 NO................................2 COST OF 3....... ☐.☐☐	
	Foaming Tablets?	FOAMING TABLETS: YES...............................1 NO................................2 COST OF PACKET. ☐.☐☐ QUANTITY............. ☐☐	
123	In any of the markets commonly attended by inhabitants of this community, is there a market outlet?	YES...............................1 NO................................2	→ 124

1-5

210

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
123a	Does this market outlet sell (LIST) and what is the cost? a: Basic Medications?	BASIC MEDICATIONS: YES...............................1 NO................................2 AVERAGE COST...☐ ☐☐	
	b: ORT packets?	ORT: YES...............................1 NO................................2 ONE PACKET.....☐ ☐☐	
	c: Vitamins?	VITAMINS: YES...............................1 NO................................2 AVERAGE COST...☐ ☐☐	
	e: Family Planning Supplies?	FAMILY PLANNING: YES...............................1 NO................................2	→ 124
	Pill?	YES...............................1 NO................................2 COST OF 1 MONTH CYCLE....☐ ☐☐	
	Condom?	CONDOM: YES...............................1 NO................................2 COST OF 3......☐ ☐☐	
	Foaming Tablets?	FOAMING TABLETS: YES...............................1 NO................................2 COST OF PACKET.☐ ☐☐ QUANTITY..............☐☐	
124	Have there been any information campaigns about health or family planning in the community in the last year?	YES...............................1 NO................................2	→ A201
124a	What specifically was the message of this campaign? (CIRCLE ALL APPLICABLE) PROBE: Anything else?	CHILD SPACING....................1 BENEFITS OF BIRTH CONTROL........1 USE OF FAMILY PLANNING...........1 SPECIFIC METHOD(S) PROMOTION....1 WHERE METHODS AVAILABLE.........1 BENEFITS OF PROLONGED LACTATION.1 FAMILY PLANNING TV PROGRAMS.....1 FAMILY PLANNING RADIO PROGRAMS..1 EPI.............................1 ORT.............................1 AIDS............................1 DRUG ABUSE......................1 NUTRITION.......................1 SANITATION......................1 OTHER (SPECIFY)_____...1	

1-6

COMMENTS:

211

INTERVIEWER: Now I am going to ask some questions about the facilities close to your community that provide health and family planning services.

A. HOSPITALS

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
A201	What is the name of the nearest hospital to this community that has services such as antenatal care and immunization?	HOSPITAL NAME_____ _____ NONE KNOWN.........................98	→ B201
A202	Where is it located?	ADDRESS_____ _____	
A203	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES.....................[ ][ ]	
A204	What is the most common type of transport inhabitants in this community would use to go to the hospital?	MOTORIZED...........................1 CYCLING.............................2 ANIMAL..............................3 WALKING.............................4 BOATING.............................5 OTHER_____6	→ A206
A205	How long does it take in hours and minutes to get from here to (HOSPITAL NAME) using most common type of transport?	HOURS.....................[ ][ ] MINUTES...................[ ][ ]	
A206	How long in hours and minutes does it take to get from here to (HOSPITAL NAME) by walking?	HOURS.....................[ ][ ] MINUTES...................[ ][ ] IF MC THAN 6 HOURS	→ A217

A207	Does this hospital provide:
	    antenatal services?
	    delivery?
	    postnatal services?
	    immunization (EPI)?
	    growth monitoring (nutrition)?
		YES NO
		ANTENATAL...................1 2
		DELIVERY....................1 2
		POSTNATAL...................1 2
		IMMUNIZATION................1 2
		NUTRITION...................1 2	

A208	Generally do people in this community think:
	    there are long waiting times at (HOSPITAL NAME)?
	    the staff are competent?
	    the services at the facility are expensive?
	    medicines are readily available?
	    medicines are fake?
	    (HOSPITAL NAME) is too far away?
		YES NO
		LONG WAITING TIMES..........1 2
		STAFF COMPETENT.............1 2
		EXPENSIVE...................1 2
		MEDICINES READILY AVAILABLE.1 2
		MEDICINES ARE FAKE..........1 2
		TOO FAR AWAY................1 2	

A209	Does (HOSPITAL NAME) provide family planning services?	YES...................................1 NO....................................2 DON'T KNOW..........................8	→ A216

2-1

COMMENTS:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
A210	What is the name of the nearest hospital providing family planning services to this community?	HOSPITAL NAME_____ _____ NONE KNOWN.........................98	→A216
A211	Where is it located?	ADDRESS_____ _____	
A212	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES..................... ☐☐	
A213	What is the most common type of transport to the hospital?	MOTORIZED...........................1 CYCLING.............................2 ANIMAL..............................3 WALKING.............................4 BOATING.............................5 OTHER_____ 6	→A215
A214	How long does it take to get from here to (HOSPITAL NAME) using most common type of transport?	HOURS..................... ☐☐ MINUTES................... ☐☐	
A215	How long in hours and minutes does it take to get from here to (HOSPITAL NAME) by walking?	HOURS..................... ☐☐ MINUTES................... ☐☐	
A216	How many hospitals in total are there within 6 hours walk?	NO. HOSPITALS.............. ☐☐	→ B201
A217	Does (HOSPITAL NAME) provide family planning services?	YES.................................1 NO..................................2 DON'T KNOW..........................8	→ B201
A218	What is the name of the nearest hospital providing family planning services to this community?	HOSPITAL NAME_____ _____ NONE KNOWN.........................98	→ B201
A219	How long in hours and minutes does it take to get from here to (HOSPITAL NAME) by walking?	HOURS..................... ☐☐ MINUTES................... ☐☐	

2-2

COMMENTS:

213

B. HEALTH CLINIC/MATERNITY CENTER/MATERNITY HOME

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
B201	What is the name of the nearest clinic, maternity center or maternity home to this community that has services such as antenatal care and immunization?	CLINIC/MATERNITY CENTER NAME_____ _____ NONE KNOWN.........................98	→ C201
B202	Where is it located?	ADDRESS_____ _____	
B203	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF '97' MILES OR MORE, WRITE IN WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES.................., ☐☐	
B204	What is the most common type of transport inhabitants in this community would use to go to the clinic/maternity center?	MOTORIZED...........................1 CYCLING.............................2 ANIMAL..............................3 WALKING.............................4 BOATING.............................5 OTHER_____6	→ B206
B205	How long does it take in hours and minutes to get from here to (CLINIC/MATERNITY CENTER NAME) using most common type of transport?	HOURS................... ☐☐ MINUTES................ ☐☐	
B206	How long in hours and minutes does it take to get from here to (CLINIC/MATERNITY CENTER NAME) by walking?	HOURS................... ☐☐ MINUTES................ ☐☐ IF MORE THAN 6 HOURS	→ B217

B207	Does this clinic/maternity center provide:
	        antenatal services?
	        delivery?
	        postnatal services?
	        immunization (EPI)?
	        growth monitoring (nutrition)?
		YES NO
		ANTENATAL....................1 2
		DELIVERY.....................1 2
		POSTNATAL....................1 2
		IMMUNIZATION.................1 2
		NUTRITION....................1 2	

B208	Generally do people in this community think:
	        there are long waiting times at (CLINIC/MATERNITY CTR)?
	        the staff are competent?
	        the services at the facility are expensive?
	        medicines are readily available?
	        medicines are fake?
	        (CLINIC/MATERNITY CENTER NAME) is too far away?
		YES NO
		LONG WAITING TIMES..........1 2
		STAFF COMPETENT.......... ' 2
		EXPENSIVE....................1 2
		MEDICINES READILY AVAILABLE.1 2
		MEDICINES ARE FAKE..........1 2
		TOO FAR AWAY.................1 2	

B209	Does (CLINIC/MATERNITY CENTER NAME) provide family planning services?	YES.................................1 NO..................................2 DON'T KNOW..........................8	→ B216

2-3

COMMENTS:

214

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
B210	What is the name of the nearest clinic or maternity center providing family planning services to this community?	CLINIC/MATERNITY CENTER NAME_____ _____ NONE KNOWN.........................98	→B216
B211	Where is it located?	ADDRESS_____ _____	
B212	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98')	MILES..................... [__][__]	
B213	What is the most common type of transport to the clinic/ maternity center?	MOTORIZED..........................1 CYCLING............................2 ANIMAL.............................3 WALKING............................4 BOATING............................5 OTHER_____6	→ B215
B214	How long does it take to get from here to (CLINIC/MATERNITY CENTER NAME) using most common type of transport?	HOURS..................... [__][__] MINUTES................... [__][__]	
B215	How long in hours and minutes does it take to get from here to (CLINIC/MATERNITY CENTER NAME) by walking?	HOURS..................... [__][__] MINUTES................... [__][__]	
B216	How many clinics, maternity centers and maternity homes in total are there within 6 hours walk?	NO. CLINICS/MATERNITIES.... [__][__]	→ C201
B217	Does (CLINIC/MATERNITY CENTER NAME) provide family planning services?	YES................................1 NO.................................2 DON'T KNOW.........................8	→ C201
B218	What is the name of the nearest clinic or maternity center providing family planning services to this community?	CLINIC/MATERNITY CENTER NAME_____ _____ NONE KNOWN.........................98	→ C201
B219	How long in hours and minutes does it take to get from here to (CLINIC/MATERNITY CENTER NAME) by walking?	HOURS..................... [__][__] MINUTES................... [__][__]	

2-4

COMMENTS:

C. HEALTH CENTER

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
C201	What is the name of the nearest health center to this community that has services such as antenatal care and immunization?	HEALTH CENTER NAME_____ _____ NONE KNOWN.........................98	→ D201
C202	Where is it located?	ADDRESS_____ _____	
C203	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES.................... ☐☐	
C204	What is the most common type of transport inhabitants in this community would use to go to the health center?	MOTORIZED.........................1 CYCLING...........................2 ANIMAL............................3 WALKING...........................4 BOATING...........................5 OTHER_____6	→ C206
C205	How long does it take in hours and minutes to get from here to (HEALTH CENTER NAME) using most common type of transport?	HOURS.................... ☐☐ MINUTES.................. ☐☐	
C206	How long in hours and minutes does it take to get from here to (HEALTH CENTER NAME) by walking?	HOURS.................... ☐☐ MINUTES.................. ☐☐ IF MORE THAN 6 HOURS→	→ C217

C207	Does this health center provide:
	    antenatal services?
	    delivery?
	    postnatal services?
	    immunization (EPI)?
	    growth monitoring (nutrition)?
		YES NO
		ANTENATAL.....................1 2
		DELIVERY......................1 2
		POSTNATAL.....................1 2
		IMMUNIZATION..................1 2
		NUTRITION.....................1 2	

C208	Generally do people in this community think:
	    there are long waiting times at (HEALTH CENTER NAME)?
	    the staff are competent?
	    the services at the facility are expensive?
	    medicines are readily available?
	    medicines are fake?
	    (HEALTH CENTER NAME) is too far away?
		: NO
		LONG WAITING TIMES..........1 2
		STAFF COMPETENT.............1 2
		EXPENSIVE...................1 2
		MEDICINES READILY AVAILABLE.1 2
		MEDICINES ARE FAKE..........1 2
		TOO FAR AWAY................1 2	

C209	Does (HEALTH CENTER NAME) provide family planning services?	YES................................1 NO.................................2 DON'T KNOW.........................8	→ C216

2-5

COMMENTS:

216

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
C210	What is the name of the nearest health center providing family planning services to this community?	HEALTH CENTER NAME_____ _____ NONE KNOWN.........................98	→C216
C211	Where is it located?	ADDRESS_____ _____	
C212	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98')	MILES...................☐☐	
C213	What is the most common type of transport to the health center?	MOTORIZED.........................1 CYCLING...........................2 ANIMAL............................3 WALKING...........................4 BOATING...........................5 OTHER_____6	→ C215
C214	How long does it take to get from here to (HEALTH CENTER NAME) using most common type of transport?	HOURS.....................☐☐ MINUTES...................☐☐	
C215	How long in hours and minutes does it take to get from here to (HEALTH CENTER NAME) by walking?	HOURS.....................☐☐ MINUTES...................☐☐	
C216	How many health centers in total are there within 6 hours walk?	NO. HEALTH CENTERS.........☐☐	→ D201
C217	Does (HEALTH CENTER NAME) provide family planning services?	YES...............................1 NO................................2 DON'T KNOW........................8	→ D201
C218	What is the name of the nearest health center providing family planning services to this community?	HEALTH CENTER NAME_____ _____ NONE KNOWN.........................98	→ D201
C219	How long in hours and minutes does it take to get from here to (HEALTH CENTER NAME) by walking?	HOURS.....................☐☐ MINUTES...................☐☐	

2-6

COMMENTS:

D. FAMILY PLANNING CLINIC

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
D201	What is the name of the nearest family planning clinic to this community?	FAMILY PLANNING CLINIC NAME_____ _____ NONE KNOWN.........................98	→ E201
D202	Where is it located?	ADDRESS_____ _____	
D203	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES..................... ☐☐	
D204	What is the most common type of transport inhabitants in this community would use to go to the family planning clinic?	MOTORIZED...........................1 CYCLING.............................2 ANIMAL..............................3 WALKING.............................4 BOATING.............................5 OTHER_____6	→ D206
D205	How long does it take in hours and minutes to get from here to (FAMILY PLANNING CLINIC NAME) using most common type to transport?	HOURS..................... ☐☐ MINUTES................... ☐☐	
D206	How long in hours and minutes does it take to get from here to (FAMILY PLANNING CLINIC NAME) by walking?	HOURS..................... ☐☐ MINUTES................... ☐☐ IF MORE THAN 6 HOURS	→ E201

D208	Generally do people in this community think:
	    there are long waiting times at (FAMILY PLANNING CLINIC)?
	    the staff are competent?
	    the services at the facility are expensive?
	    contraceptives are available?
	    contraceptives are fake?
	    (FAMILY PLANNING CLINIC NAME) is too far away?
		YES NO
		LONG WAITING TIMES..........1 2
		STAFF COMPETENT.............1 2
		EXPENSIVE...................1 2
		CONTRACEPTIVES AVAILABLE....1 2
		CONTRACEPTIVES FAKE.........1 2
		TOO FAR AWAY............ ..1 2	

D216	How many family planning clinics in total are there within 6 hours walk?	NO. F.P. CLINICS........... ☐☐	

2-7

COMMENTS:

218

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
E201	What is the name of the nearest private pharmacy, patent medicine store or chemist store to this community?	PHARMACY/PATENT MEDICINE/CHEMIST NAME_____ _____ NONE KNOWN.........................98	→ 220
E202	Where is it located?	ADDRESS_____ _____	
E203	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES.....................☐☐	
E204	What is the most common type of transport inhabitants in this community would use to go to the pharmacy/patent medicine store/chemist?	MOTORIZED............................1 CYCLING..............................2 ANIMAL...............................3 WALKING..............................4 BOATING..............................5 OTHER_____6	→ E206
E205	How long does it take in hours and minutes to get from here to (PHARMACY/PATENT MEDICINE STORE/CHEMIST) using most common type of transport?	HOURS......... ....☐☐ MINUTES...................☐☐	
E206	How long in hours and minutes does it take to get from here to (PHARMACY/PATENT MEDICINE STORE/CHEMIST NAME) by walking?	HOURS.....................☐☐ MINUTES...................☐☐ IF MORE THAN 6 HOURS	→ E217
E208	Generally do people in this community think: medicines at the pharmacy/store are expensive? medicines are readily available? medicines are fake? (PHARMACY/PATENT MEDICINE/CHEMIST NAME) is too far away?	YES NO EXPENSIVE....................1 2 MEDICINES READILY AVAILABLE.1 2 MEDICINES ARE FAKE..........1 2 TOO FAR AWAY.................1 2	
E209	Does (PHARMACY/PATENT MEDICINE STORE/CHEMIST NAME) carry family planning supplies?	YES.................................1 NO..................................2 DON'T KNOW..........................8	→ E216

2-8

COMMENTS:

219

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
E210	What is the name of the nearest pharmacy, patent medicine store or chemist store to this community that has family planning supplies?	PHARMACY/PATENT MEDICINE/CHEMIST NAME_____ NONE KNOWN........................98	→ E216
E211	Where is it located?	ADDRESS_____	
E212	How far is it (in miles) from here? (WRITE IN '00' IF LESS THAN 1 MILE. IF 1 TO 96 MILES, WRITE IN DISTANCE AS GIVEN IN CLUSTER. IF 97 MILES OR MORE, WRITE IN '97'. IF DISTANCE IS UNKNOWN, WRITE IN '98'.)	MILES..................... ☐☐	
E213	What is the most common type of transport to the pharmacy/patent medicine store/chemist?	MOTORIZED...........................1 CYCLING.............................2 ANIMAL..............................3 WALKING.............................4 BOATING.............................5 OTHER_____6	→ E215
E214	How long does it take to get from here to (PHARMACY/PATENT MEDICINE STORE/CHEMIST) using most common type of transport?	HOURS..................... ☐☐ MINUTES................... ☐☐	
E215	How long in hours and minutes does it take to get from here to (PHARMACY/PATENT MEDICINE STORE/CHEMIST NAME) by walking?	HOURS..................... ☐☐ MINUTES................... ☐☐	
E216	How many pharmacies, patent medicine stores and chemist stores in total are there within 6 hours walk?	NO. PHARMCIES/CHEMISTS..... ☐☐	→ 220
E217	Does (PHARMACY/PATENT MEDICINE STORE/CHEMIST NAME) provide family planning supplies?	YES.................................1 NO..................................2 DON'T KNOW..........................8	→ 220
E218	What is the name of the nearest pharmacy, patent medicine store or chemist store to this community that has family planning supplies?	PHARMACY/PATENT MEDICINE/CHEMIST NAME_____ NONE KNOWN........................98	→ 220
E219	How long in hours and minutes does it take to get from here to (PHARMACY/PATENT MEDICINE STORE/CHEMIST NAME) by walking?	HOURS..................... ☐☐ MINUTES................... ☐☐	

2-9

COMMENTS:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
220	What is the name of the nearest facility to this community where birth control pills can be obtained?	NEAREST PILL PROVIDER NAME NONE KNOWN.....................98	→ 222
221	How long in hours and minutes does it take to get from here to there _by walking_?	HOURS....................... ☐☐ MINUTES.................... ☐☐	
222	What is the name of the nearest facility to this community where condoms can be obtained?	NEAREST CONDOM PROVIDER NAME NONE KNOWN.....................98	→ 224
223	How long in hours and minutes does it take to get from here to there _by walking_?	HOURS....................... ☐☐ MINUTES.................... ☐☐	
224	What is the name of the nearest facility to this community where injectables (Depoprovera, Noristerat) can be obtained?	NEAREST INJECTABLE PROVIDER NAME NONE KNOWN.....................98	→ 226
225	How long in hours and minutes does it take to get from here to there _by walking_?	HOURS....................... ☐☐ MINUTES.................... ☐☐	
226	What is the name of the nearest facility to this community where foaming tablets can be obtained?	NEAREST FOAMING TABLET PROVIDER NAME NONE KNOWN.....................98	→ 228
227	How long in hours and minutes does it take to get from here to there _by walking_?	HOURS....................... ☐☐ MINUTES.................... ☐☐	
228	What is the name of the nearest facility to this community where IUCDs can be obtained?	NEAREST IUCD PROVIDER NAME NONE KNOWN.....................98	→ 230
229	How long in hours and minutes does it take to get from here to there _by walking_?	HOURS....................... ☐☐ MINUTES.................... ☐☐	
230	What is the name of the nearest facility to this community where contraceptive sterilization (tubal ligation, vasectomy) can be obtained?	NEAREST STERILIZATION PROVIDER NAME NONE KNOWN.....................98	→ 232
231	How long in hours and minutes does it take to get from here to there _by walking_?	HOURS....................... ☐☐ MINUTES.................... ☐☐	

2-10

COMMENTS:

221

232.	CLUSTER INFORMANTS	

	NAME	POSITION/TITLE/OCCUPATION
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

233.   TOTAL NUMBER OF INFORMANTS IN THE CLUSTER...... ☐☐

234	RECORD THE TIME.	HOUR.................... ☐☐
		MINUTES................ ☐☐

END OF CLUSTER INTERVIEW.

LOG OF FACILITIES TO BE VISITED

DIRECTIONS: LIST BELOW ALL FACILITIES THAT WERE CITED AS BEING WITHIN
SIX HOURS WALK FROM THE CLUSTER.

FACILITY TYPE:	LOCATION:	DATE VISITED:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2-11

222

IF THE HOSPITAL IS 6 HOURS WALK OR LESS AWAY, IT IS TO BE VISITED. COMPLETE QUESTIONS 301 TO 303 UPON ARRIVAL AT
THE FACILITY BASED ON YOUR OWN OBSERVATIONS. THEN FIND A KNOWLEDGEABLE SOURCE AT THE FACILITY TO ANSWER THE
REMAINING QUESTIONS.

IF THIS FACILITY HAS ALREADY BEEN VISITED FOR A DIFFERENT CLUSTER, RECORD CLUSTER NUMBER HERE: ☐☐☐
IF THE FACILITY HAS ALREADY BEEN VISITED, A SECOND VISIT IS NOT NEEDED.

301	DO YOU THINK THAT THE ESTIMATE OF THE TIME TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
302	DO YOU THINK THAT THE ESTIMATE OF DISTANCE TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
303	WHAT IS THE FLOOR MATERIAL?	PARQUET OR POLISHED WOOD..........1 TERRAZO............................2 CERAMIC TILES.....................3 WOOD PLANKS.......................4 CEMENT............................5 EARTH/SAND........................6 OTHER_____...7	

QUESTIONS TO BE ASKED OF STAFF PERSON AT FACILITY:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
304	In what year did this hospital open?	YEAR OPENED...........19 ☐☐ DON'T KNOW.....................98	
305	Under what authority is this hospital operated?	FEDERAL............................1 STATE..............................2 LGA................................3 CHURCH/MISSION.....................4 PRIVATE............................5 OTHER_____.6 DON'T KNOW.........................8	
306	How many beds does this hospital have?	NUMBER OF BEDS........ ☐☐☐	
307	On average, how many outpatients are seen daily at this facility?	NUMBER OF DAILY OUTPATIENTS....... ☐☐☐☐	
308	Do you keep an outpatient record log?	YES................................1 NO.................................2	
309	Is there a standard outpatient (or registration/general) fee at this facility? IF YES, what is it?	YES................................1 OUTPATIENT FEE.. ☐☐ . ☐☐ NO.................................2 → 312	
310	Is everyone charged the outpatient fee?	YES................................1 → 312 NO.................................2	
311	What proportion of patients are charged the outpatient fee?	PROPORTION CHARGED........ ☐☐	

3-1

COMMENTS:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
312	How many staff of the following types does the hospital have? Number of doctors Number of nurses Number of trained midwives Number of Community Health Extension Workers (CHEWs)	REGULAR STAFF ☐☐ ☐☐ ☐☐ ☐☐	
313	What is the method most frequently used for the sterilization of medical instruments such as needles and syringes?	ELECTRIC STERILIZER...............1 AUTOCLAVE.........................2 STEAM STERILIZER..................3 OTHER_____4 NONE..............................5	→ 317
314	Is the (TYPE OF STERILIZATION EQUIPMENT) working right now?	YES...............................1 NO................................2	→ 317
315	Has the (TYPE OF STERILIZATION EQUIPMENT) been out of working order at any time in the last 6 months?	YES...............................1 NO................................2	
316	Can I see your (TYPE OF STERILIZATION EQUIPMENT)?	SEEN..............................1 NOT SEEN..........................2	
317	Has this facility run out of its supply of reusable or disposable needles at any time in the last 6 months?	YES...............................1 NO................................2	

SERVICES AVAILABLE AT THE FACILITY:
Now I would like to ask you about maternal and child health services available at this hospital. ASK Q.318 FOR THE FIRST SERVICE. IF THIS SERVICE IS AVAILABLE, CONTINUE ACROSS THE TABLE, IF NOT, ASK ABOUT THE NEXT SERVICE.

SERVICE	318 Is (SERVICE) available?	319 How many days per week is (SERVICE) available? [a], [b]	320 What is the average fee for (SERVICE)? IF FREE, SKIP Q.321.	321 On average, what proportion of patients pay for (SERVICE)? [c], [d]
1 Antenatal care	YES.........1 NO..........2	☐	☐☐.☐☐	☐☐ %
2 Delivery care	YES.........1 NO..........2	▓▓▓▓▓→	☐☐.☐☐	☐☐ %
3 Postnatal care	YES.........1 NO..........2	☐	☐☐.☐☐	☐☐ %
4 Immunization (EPI)	YES.........1 NO..........2	☐	☐☐.☐☐	☐☐ %
5 Child growth monitoring sessions (nutrition)	YES.........1 NO..........2	☐	▓▓▓▓	▓▓▓▓
6 Nutrition (food) demonstration	YES.........1 NO..........2	☐	▓▓▓▓	▓▓▓▓
7 Oral rehydration therapy unit	YES.........1 NO..........2 322←	☐	☐☐.☐☐	☐☐ %

CODES: [a] 0 = Whenever someone requests service   [b] 8 = Don't know   [c] 97 = Everyone pays   [d] 98 = Don't know

3-2

EQUIPMENT AVAILABLE AT THE FACILITY:
Now I would like to ask you about if the facility has various types of equipment, if the equipment works right now and after I have asked you about all the equipment, I need to see it. ASK Q.322 FOR THE FIRST PIECE OF EQUIPMENT. IF THE FACILITY HAS IT, ASK Q. 323 AND THEN OR IF THE FACILITY DOES NOT HAVE IT, ASK ABOUT THE NEXT PIECE OF EQUIPMENT. AFTER ASKING Q.322 AND Q.323 FOR ALL PIECES OF EQUIPMENT, ASK TO SEE THOSE PIECES OF EQUIPMENT THAT THE FACILITY HAS AND THAT NEED TO BE SEEN ACCORDING TO Q.324.

	EQUIPMENT	322 Do you have (EQUIPMENT)?	323 Does (EQUIPMENT) work right now?	324 ASK TO SEE EQUIPEMNT AND RECORD OUTCOME
1	Running water	YES.................1 NO..................2	YES.........................1 NO..........................2	
2	Electricity	YES.................1 NO..................2	YES.........................1 NO..........................2	
3	Refrigerator	YES.................1 NO..................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
4	Gas cooker	YES.................1 NO..................2	YES.........................1 NO..........................2	
5	Kerosene stove	YES.................1 NO..................2	YES.........................1 NO..........................2	
6	Telephone/Radio Transmitter	YES.................1 NO..................2	YES.........................1 NO..........................2	
7	Table for gyn exam (OB/GYN couch)	YES.................1 NO..................2	⟶	SEEN.....................1 NOT SEEN.................2
8	Angle poised lamp	YES.................1 NO..................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
9	Weighing scales for children	YES.................1 NO..................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
10	Blood pressure apparatus	YES.................1 NO..................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
11	Gauze/Cotton wool	YES.................1 NO..................2	⟶	SEEN.....................1 NOT SEEN.................2
12	Antiseptics	YES.................1 NO..................2	⟶	SEEN.....................1 NOT SEEN.................2
13	IUCD insertion kit	YES.................1 NO..................2	⟶	SEEN.....................1 NOT SEEN.................2
14	Microscope	YES.................1 NO..................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
15	Operating theatre	YES.................1 NO..................2	YES.........................1 NO..........................2	
16	Blood bank	YES.................1 NO..................2		
17	AIDS test	YES.................1 NO..................2 325		

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
325	Do you have mobile clinic/outreach services in your catchment area?	YES...................................1 NO....................................2	327
326	In how many different sites do you have mobile clinic/outreach services?	NUMBER OF OUTREACH SITES.. ☐☐	

3-3

225

MEDICATION AVAILABILITY AT THE FACILITY:
Now I would like to ask you about medications and vaccines available at this facility. I will need to know for each
medication and vaccine, if they are available and if you have run out of any of them in the last six months. I will
also need to know the cost patients pay for each medicine here if there is a charge. Finally, I will need to see each
medicine and vaccine after we have discussed all of them. ASK Q.327 FOR EACH MEDICATION. IF THE MEDICATION IS AVAILABLE,
ASK Q.328 AND THEN Q.329 WHEN APPROPRIATE. IF THE MEDICATION IS NOT AVAILABLE, CONTINUE WITH THE NEXT MEDICATION.

MEDICATION	327 Is (MEDICATION) available now?	328 At any time in the last 6 months did you run out of (MEDICATION)?	329 What is the cost of (QUANTITY) of (MEDICATION)?
1 Anti-malarial syrup (e.g. chloroquine) QUANTITY: child's treatment	YES.................1 NO.................2	YES............................1 NO............................2	☐☐ . ☐☐
2 Fansidar QUANTITY: 1 tablet	YES.................1 NO.................2	YES............................1 NO............................2	☐☐ . ☐☐
3 Quinine QUANTITY: child's treatment	YES.................1 NO.................2	YES............................1 NO............................2	☐☐ . ☐☐
4 Antibiotic syrup (e.g. penicillin) QUANTITY: child's treatment	YES.................1 NO.................2	YES............................1 NO............................2	☐☐ . ☐☐
5 Iron tablets	YES.................1 NO.................2	YES............................1 NO............................2	
6 ORS packets	YES.................1 NO.................2	YES............................1 NO............................2	
7 DPT vaccine	YES.................1 NO.................2	YES............................1 NO............................2	
8 Polio vaccine	YES.................1 NO.................2	YES............................1 NO............................2	
9 Tetanus vaccine	YES.................1 NO.................2	YES............................1 NO............................2	
10 Measles vaccine	YES.................1 NO.................2	YES............................1 NO............................2	
11 BCG vaccine	YES.................1 NO.................2	YES............................1 NO............................2	
12 Meningitis vaccine	YES.................1 NO.................2 330◄┘	YES............................1 NO............................2	

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
330	May I please see the medicines we just discussed that you say are available here right now?	SEEN...............................1 NOT SEEN...........................2	
331	May I please see the vaccines we just discussed that you say are available here right now?	SEEN...............................1 NOT SEEN...........................2	
332	Does this facility provide family planning services?	YES................................1 NO.................................2	→ 343
333	Are any doctors trained in contraceptive sterilization procedures?	YES................................1 NO.................................2	
334	Are any doctors trained in IUD insertion?	YES................................1 NO.................................2	
335	Are any nurses trained in IUD insertion?	YES................................1 NO.................................2	
336	On average, how many new patients for family planning are seen monthly?	NEW PATIENTS.........☐☐☐	

3-4

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
337	On average, how many patients revisit monthly?	REVISIT PATIENTS...... ☐☐☐	

CONTRACEPTIVE METHOD AVAILABILITY:
Now I would like to ask you about which family planning methods are available at this hospital. ASK ABOUT THE FIRST METHOD.
IF THIS METHOD IS AVAILABLE FROM THE HOSPITAL, MOVE ACROSS THE TABLE. IF THIS METHOD IS NOT AVAILABLE, MOVE DOWN THE TABLE.
WHEN ASKING ABOUT Q.340, ALWAYS ASK ABOUT THE QUANTITY GIVEN WHEN ASKING ABOUT COST IF ONE IS GIVEN. FOR FOAMING TABLETS,
WHEN RECORDING THE PRICE ALSO RECORD THE NUMBER OF TABLETS IN THE PACKAGE.

METHOD	338 Is (METHOD) available?	339 How many days per week is (METHOD) available? [a]	340 How much does (QUANTITY) of (METHOD) cost?	341 Have you run out of (METHOD) in the last 6 months?	342 In what year did you first offer (METHOD)? [b]
01 Pill QUANTITY: 1 cycle	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19 ☐☐
02 IUCD QUANTITY: IUCD & insertion	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19 ☐☐
03 Injection (Depopro-vera, Noristerat) QUANTITY: 1 injection	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19 ☐☐
04 Condom QUANTITY: 3 condoms	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19 ☐☐
05 Foaming tablets NUMBER........... ☐☐ QUANTITY: package	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19 ☐☐
06 Female sterilization	YES....1 NO.....2	☐	☐☐ . ☐☐		19 ☐☐
07 Other methods Specify	YES....1 NO.....2┐ 343◄┘	☐	☐☐ . ☐☐	YES..............1 NO..............2	19 ☐☐

CODES: [a] 8 = Don't know   [b] 98 = Don't know

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
343	What is your position or title here?		

QUESTIONS 344 TO 346 ARE TO BE ANSWERED BY THE INTERVIEWER AFTER THE FACILITY VISIT IS COMPLETE.

344	DID THE INFORMANT SEEM KNOWLEDGEABLE?	YES................................1 NO.................................2	
345	WAS THE RESPONDENT HELPFUL?	YES................................1 NO.................................2	
346	ADDITIONAL COMMENTS:		

3-5

227

IF THE CLINIC/MATERNITY CENTER/MATERNITY HOME IS 6 HOURS WALK OR LESS AWAY, IT IS TO BE VISITED. COMPLETE QUESTIONS 401 TO 403 UPON ARRIVAL AT THE FACILITY BASED ON YOUR OWN OBSERVATIONS. THEN FIND A KNOWLEDGEABLE SOURCE AT THE FACILITY TO ANSWER THE REMAINING QUESTIONS.

IF THIS FACILITY HAS ALREADY BEEN VISITED FOR A DIFFERENT CLUSTER, RECORD CLUSTER NUMBER HERE: ☐☐☐
IF THE FACILITY HAS ALREADY BEEN VISITED, A SECOND VISIT IS NOT NEEDED.

401	DO YOU THINK THAT THE ESTIMATE OF THE TIME TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
402	DO YOU THINK THAT THE ESTIMATE OF DISTANCE TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
403	WHAT IS THE FLOOR MATERIAL?	PARQUET OR POLISHED WOOD..........1 TERRAZO.............................2 CERAMIC TILES.......................3 WOOD PLANKS.........................4 CEMENT..............................5 EARTH/SAND..........................6 OTHER_____...7	

QUESTIONS TO BE ASKED OF STAFF PERSON AT FACILITY:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
404	In what year did this clinic/maternity center/maternity home open?	YEAR OPENED...........19 ☐☐ DON'T KNOW....................98	
405	Under what authority is this clinic/maternity center/maternity home operated?	FEDERAL.............................1 STATE...............................2 LGA.................................3 CHURCH/MISSION......................4 PRIVATE.............................5 OTHER_____.6 DON'T KNOW..........................8	
406	How many beds does this clinic/maternity center/maternity home have?	NUMBER OF BEDS........ ☐☐☐	
407	On average, how many outpatients are seen daily at this facility?	NUMBER OF DAILY OUTPATIENTS....... ☐☐☐☐	
408	Do you keep an outpatient record log?	YES.................................1 NO..................................2	
409	Is there a standard outpatient (or registration/general) fee at this facility? IF YES, what is it?	YES.................................1 OUTPATIENT FEE.. ☐☐☐ . ☐☐ NO..................................2	412
410	Is everyone charged the outpatient fee?	YES.................................1 NO..................................2	412
411	What proportion of patients are charged the outpatient fee?	PROPORTION CHARGED........ ☐☐	

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COMMENTS:

228

No.	QUESTIONS	CODING CATEGORIES	SKIP TO

412	How many staff of the following types does the clinic/maternity center/maternity home have?
	    Number of doctors
	
	    Number of nurses
	
	    Number of trained midwives
	
	    Number of Community Health Extension Workers (CHEWs)
		REGULAR STAFF
		
		☐☐
		
		☐☐
		
		☐☐
		
		☐☐	

413	What is the method most frequently used for the sterilization of medical instruments such as needles and syringes?	ELECTRIC STERILIZER...............1 AUTOCLAVE..........................2 STEAM STERILIZER...................3 OTHER_____4 NONE...............................5 ——→ 417	
414	Is the (TYPE OF STERILIZATION EQUIPMENT) working right now?	YES................................1 NO.................................2 ——→ 417	
415	Has the (TYPE OF STERILIZATION EQUIPMENT) been out of working order at any time in the last 6 months?	YES................................1 NO.................................2	
416	Can I see your (TYPE OF STERILIZATION EQUIPMENT)?	SEEN...............................1 NOT SEEN...........................2	
417	Has this facility run out of its supply of reusable or disposable needles at any time in the last 6 months?	YES................................1 NO.................................2	

SERVICES AVAILABLE AT THE FACILITY:
Now I would like to ask you about maternal and child health services available at this clinic/maternity center/maternity home. ASK Q.418 FOR THE FIRST SERVICE. IF THIS SERVICE IS AVAILABLE, CONTINUE ACROSS THE TABLE, IF NOT, ASK ABOUT THE NEXT SERVICE.

SERVICE	418 Is (SERVICE) available?	419 How many days per week is (SERVICE) available? [a], [b]	420 What is the average fee for (SERVICE)? IF FREE, SKIP Q.421.	421 On average, what proportion of patients pay for (SERVICE)? [c], [d]
1 Antenatal care	YES.........1 NO..........2⌐	☐	☐☐.☐☐	☐☐ %
2 Delivery care	YES.........1 NO..........2⌐	——————→	☐☐.☐☐	☐☐ %
3 Postnatal care	YES.........1 NO..........2⌐	☐	☐☐.☐☐	☐☐ %
4 Immunization (EPI)	YES.........1 NO..........2⌐	☐	☐☐.☐☐	☐☐ %
5 Child growth monitoring sessions (nutrition)	YES.........1 NO..........2⌐	☐		
6 Nutrition (food) demonstration	YES.........1 NO..........2⌐	☐		
7 Oral rehydration therapy unit	YES.........1 NO..........2 422⌐	☐	☐☐.☐☐	☐☐ %

CODES: [a] 0 = Whenever someone requests service   [b] 8 = Don't know   [c] 97 = Everyone pays   [d] 98 = Don't know

4-2

EQUIPMENT AVAILABLE AT THE FACILITY:
Now I would like to ask you about if the facility has various types of equipment, if the equipment works right now and after I have asked you about all the equipment, I need to see it. ASK Q.422 FOR THE FIRST PIECE OF EQUIPMENT. IF THE FACILITY HAS IT, ASK Q.423 AND THEN OR IF THE FACILITY DOES NOT HAVE IT, ASK ABOUT THE NEXT PIECE OF EQUIPMENT. AFTER ASKING Q.422 AND Q.423 FOR ALL PIECES OF EQUIPMENT, ASK TO SEE THOSE PIECES OF EQUIPMENT THAT THE FACILITY HAS AND THAT NEED TO BE SEEN ACCORDING TO Q.424.

EQUIPMENT	422 Do you have (EQUIPMENT)?	423 Does (EQUIPMENT) work right now?	424 ASK TO SEE EQUIPEMNT AND RECORD OUTCOME
1 Running water	YES..............1 NO..............2	YES..........................1 NO..........................2	
2 Electricity	YES..............1 NO..............2	YES..........................1 NO..........................2	
3 Refrigerator	YES..............1 NO..............2	YES..........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
4 Gas cooker	YES..............1 NO..............2	YES..........................1 NO..........................2	
5 Kerosene stove	YES..............1 NO..............2	YES..........................1 NO..........................2	
6 Telephone/Radio Transmitter	YES..............1 NO..............2	YES..........................1 NO..........................2	
7 Table for gyn exam (OB/GYN couch)	YES..............1 NO..............2	⟶	SEEN.....................1 NOT SEEN.................2
8 Angle poised lamp	YES..............1 NO..............2	YES..........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
9 Weighing scales for children	YES..............1 NO..............2	YES..........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
10 Blood pressure apparatus	YES..............1 NO..............2	YES..........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
11 Gauze/Cotton wool	YES..............1 NO..............2	⟶	SEEN.....................1 NOT SEEN.................2
12 Antiseptics	YES..............1 NO..............2	⟶	SEEN.....................1 NOT SEEN.................2
13 IUCD insertion kit	YES..............1 NO..............2	⟶	SEEN.....................1 NOT SEEN.................2
14 Microscope	YES..............1 NO..............2 425	YES..........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
425	Do you have mobile clinic/outreach services in your catchment area?	YES...................................1 NO....................................2	→427
426	In how many different sites do you have mobile clinic/outreach services?	NUMBER OF OUTREACH SITES.. ☐☐	

4-3

COMMENTS:

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MEDICATION AVAILABILITY AT THE FACILITY:
Now I would like to ask you about medications and vaccines available at this facility. I will need to know for each
medication and vaccine, if they are available and if you have run out of any of them in the last six months. I will
also need to know the cost patients pay for each medicine here if there is a charge. Finally, I will need to see each
medicine and vaccine after we have discussed all of them. ASK Q.427 FOR EACH MEDICATION. IF THE MEDICATION IS AVAILABLE,
ASK Q.428 AND THEN Q.429 WHEN APPROPRIATE. IF THE MEDICATION IS NOT AVAILABLE, CONTINUE WITH THE NEXT MEDICATION.

MEDICATION	427 Is (MEDICATION) available now?	428 At any time in the last 6 months did you run out of (MEDICATION)?	429 What is the cost of (QUANTITY) of (MEDICATION)?
1 Anti-malarial syrup (e.g. chloroquine) QUANTITY: child's treatment	YES.................1 NO..................2	YES.............................1 NO..............................2	☐☐ . ☐☐
2 Fansidar QUANTITY: 1 tablet	YES.................1 NO..................2	YES.............................1 NO..............................2	☐☐ . ☐☐
3 Quinine QUANTITY: child's treatment	YES.................1 NO..................2	YES.............................1 NO..............................2	☐☐ . ☐☐
4 Antibiotic syrup (e.g. penicillin) QUANTITY: child's treatment	YES.................1 NO..................2	YES.............................1 NO..............................2	☐☐ . ☐☐
5 Iron tablets	YES.................1 NO..................2	YES.............................1 NO..............................2	
6 ORS packets	YES.................1 NO..................2	YES.............................1 NO..............................2	
7 DPT vaccine	YES.................1 NO..................2	YES.............................1 NO..............................2	
8 Polio vaccine	YES.................1 NO..................2	YES.............................1 NO..............................2	
9 Tetanus vaccine	YES.................1 NO..................2	YES.............................1 NO..............................2	
10 Measles vaccine	YES.................1 NO..................2	YES.............................1 NO..............................2	
11 BCG vaccine	YES.................1 NO..................2	YES.............................1 NO..............................2	
12 Meningitis vaccine	YES.................1 NO..................2 430◄─	YES.............................1 NO..............................2	

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
430	May I please see the medicines we just discussed that you say are available here right now?	SEEN................................1 NOT SEEN............................2	
431	May I please see the vaccines we just discussed that you say are available here right now?	SEEN................................1 NOT SEEN............................2	
432	Does this facility provide family planning services?	YES.................................1 NO..................................2	→ 443
433	Are any doctors trained in contraceptive sterilization procedures?	YES.................................1 NO..................................2	
434	Are any doctors trained in IUD insertion?	YES.................................1 NO..................................2	
435	Are any nurses trained in IUD insertion?	YES.................................1 NO..................................2	
436	On average, how many new patients for family planning are seen monthly?	NEW PATIENTS.........☐☐☐	

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No.	QUESTIONS	CODING CATEGORIES	SKIP TO
437	On average, how many patients revisit monthly?	REVISIT PATIENTS...... ☐☐☐	

CONTRACEPTIVE METHOD AVAILABILITY:
Now I would like to ask you about which family planning methods are available at this clinic/maternity center/maternity home.
ASK ABOUT THE FIRST METHOD. IF THIS METHOD IS AVAILABLE FROM THE CLINIC/MATERNITY CENTER/MATERNITY HOME, MOVE ACROSS THE TABLE.
IF THIS METHOD IS NOT AVAILABLE, MOVE DOWN THE TABLE. WHEN ASKING ABOUT Q.440, ALWAYS ASK ABOUT THE QUANTITY GIVEN WHEN ASKING
ABOUT COST IF ONE IS GIVEN. FOR FOAMING TABLETS, WHEN RECORDING THE PRICE ALSO RECORD THE NUMBER OF
TABLETS IN THE PACKAGE.

METHOD	438 Is (METHOD) available?	439 How many days per week is (METHOD) available? [a]	440 How much does (QUANTITY) of (METHOD) cost?	441 Have you run out of (METHOD) in the last 6 months?	442 In what year did you first offer (METHOD)? [b]
01 Pill QUANTITY: 1 cycle	YES....1 NO.....2	☐	☐☐.☐☐	YES...............1 NO...............2	19 ☐☐
02 IUCD QUANTITY: IUCD & insertion	YES....1 NO.....2	☐	☐☐.☐☐	YES...............1 NO...............2	19 ☐☐
03 Injection (Depopro- vera, Noristerat) QUANTITY: 1 injection	YES....1 NO.....2	☐	☐☐.☐☐	YES...............1 NO...............2	19 ☐☐
04 Condom QUANTITY: 3 condoms	YES....1 NO.....2	☐	☐☐.☐☐	YES...............1 NO...............2	19 ☐☐
05 Foaming tablets NUMBER............☐☐ QUANTITY: package	YES....1 NO.....2	☐	☐☐.☐☐	YES...............1 NO...............2	19 ☐☐
06 Female sterilization	YES....1 NO.....2	☐	☐☐.☐☐		19 ☐☐
07 Other methods Specify	YES....1 NO.....2 443←	☐	☐☐.☐☐	YES...............1 NO...............2	19 ☐☐

CODES: [a] 8 = Don't know   [b] 98 = Don't know

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
443	What is your position or title here?	_____	

QUESTIONS 444 TO 446 ARE TO BE ANSWERED BY THE INTERVIEWER AFTER THE FACILITY VISIT IS COMPLETE.

444	DID THE INFORMANT SEEM KNOWLEDGEABLE?	YES...................................1 NO....,..............................2	
445	WAS THE RESPONDENT HELPFUL?	YES...................................1 NO...................................2	
446	ADDITIONAL COMMENTS:		

4-5

IF THE CENTER IS 6 HOURS WALK OR LESS AWAY, IT IS TO BE VISITED. COMPLETE QUESTIONS 501 TO 503 UPON ARRIVAL AT
THE FACILITY BASED ON YOUR OWN OBSERVATIONS. THEN FIND A KNOWLEDGEABLE SOURCE AT THE FACILITY TO ANSWER THE
REMAINING QUESTIONS.

IF THIS FACILITY HAS ALREADY BEEN VISITED FOR A DIFFERENT CLUSTER, RECORD CLUSTER NUMBER HERE: ☐☐☐
IF THE FACILITY HAS ALREADY BEEN VISITED, A SECOND VISIT IS NOT NEEDED.

501	DO YOU THINK THAT THE ESTIMATE OF THE TIME TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE.........................1 OVERESTIMATED......................2 UNDERESTIMATED.....................3	
502	DO YOU THINK THAT THE ESTIMATE OF DISTANCE TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE.........................1 OVERESTIMATED......................2 UNDERESTIMATED.....................3	
503	WHAT IS THE FLOOR MATERIAL?	PARQUET OR POLISHED WOOD..........1 TERRAZO............................2 CERAMIC TILES......................3 WOOD PLANKS........................4 CEMENT.............................5 EARTH/SAND.........................6 OTHER_____........7	

QUESTIONS TO BE ASKED OF STAFF PERSON AT FACILITY:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
504	In what year did this health center open?	YEAR OPENED...........19☐☐ DON'T KNOW....................98	
505	Under what authority is this health center operated?	FEDERAL............................1 STATE..............................2 LGA................................3 CHURCH/MISSION.....................4 PRIVATE............................5 OTHER_____.6 DON'T KNOW.........................8	
506	How many beds does this health center have?	NUMBER OF BEDS........☐☐☐	
507	On average, how many outpatients are seen daily at this facility?	NUMBER OF DAILY OUTPATIENTS.......☐☐☐☐	
508	Do you keep an outpatient record log?	YES................................1 NO.................................2	
509	Is there a standard outpatient (or registration/general) fee at this facility? IF YES, what is it?	YES................................1 OUTPATIENT FEE..☐☐.☐☐ NO.................................2	512
510	Is everyone charged the outpatient fee?	YES................................1 NO.................................2	512
511	What proportion of patients are charged the outpatient fee?	PROPORTION CHARGED........☐☐	

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COMMENTS:

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No.	QUESTIONS	CODING CATEGORIES	SKIP TO
512	How many staff of the following types does the health center have? Number of doctors Number of nurses Number of trained midwives Number of Community Health Extension Workers (CHEWs)	REGULAR STAFF ☐☐ ☐☐ ☐☐ ☐☐	
513	What is the method most frequently used for the sterilization of medical instruments such as needles and syringes?	ELECTRIC STERILIZER...............1 AUTOCLAVE.........................2 STEAM STERILIZER..................3 OTHER_____4 NONE..............................5	→ 517
514	Is the (TYPE OF STERILIZATION EQUIPMENT) working right now?	YES...............................1 NO................................2	→ 517
515	Has the (TYPE OF STERILIZATION EQUIPMENT) been out of working order at any time in the last 6 months?	YES...............................1 NO................................2	
516	Can I see your (TYPE OF STERILIZATION EQUIPMENT)?	SEEN..............................1 NOT SEEN..........................2	
517	Has this facility run out of its supply of reusable or disposable needles at any time in the last 6 months?	YES...............................1 NO................................2	

SERVICES AVAILABLE AT THE FACILITY:
Now I would like to ask you about maternal and child health services available at this health center. ASK Q.518 FOR THE FIRST SERVICE. IF THIS SERVICE IS AVAILABLE, CONTINUE ACROSS THE TABLE, IF NOT, ASK ABOUT THE NEXT SERVICE.

SERVICE	518 Is (SER-VICE) available?	519 How many days per week is (SERVICE) available? [a], [b]	520 What is the aver-age fee for (SERVICE)? IF FREE, SKIP Q.521.	521 On average, what proportion of patients pay for (SERVICE)? [c], [d]
1 Antenatal care	YES.........1 NO..........2	☐	☐☐.☐☐	☐☐ %
2 Delivery care	YES.........1 NO..........2	→	☐☐.☐☐	☐☐ %
3 Postnatal care	YES.........1 NO..........2	☐	☐☐.☐☐	☐☐ %
4 Immunization (EPI)	YES.........1 NO..........2	☐	☐☐.☐☐	☐☐ %
5 Child growth monitoring sessions (nutrition)	YES.........1 NO..........2	☐		
6 Nutrition (food) demonstration	YES.........1 NO..........2	☐		
7 Oral rehydration therapy unit	YES.........1 NO..........2 522	☐	☐☐.☐☐	☐☐ %

CODES: [a] 0 = Whenever someone requests service [b] 8 = Don't know [c] 97 = Everyone pays [d] 98 = Don't know

5-2

EQUIPMENT AVAILABLE AT THE FACILITY:
Now I would like to ask you about if the facility has various types of equipment, if the equipment works right now
and after I have asked you about all the equipment, I need to see it. ASK Q.522 FOR THE FIRST PIECE OF EQUIPMENT.
IF THE FACILITY HAS IT, ASK Q. 523 AND THEN OR IF THE FACILITY DOES NOT HAVE IT, ASK ABOUT THE NEXT PIECE OF EQUIPMENT.
AFTER ASKING Q.522 AND Q.523 FOR ALL PIECES OF EQUIPMENT, ASK TO SEE THOSE PIECES OF EQUIPMENT THAT THE FACILITY HAS
AND THAT NEED TO BE SEEN ACCORDING TO Q.524.

	EQUIPMENT	522 Do you have (EQUIPMENT)?	523 Does (EQUIPMENT) work right now?	524 ASK TO SEE EQUIPEMNT AND RECORD OUTCOME
1	Running water	YES...............1 NO................2⌐	YES........................1 NO.........................2	
2	Electricity	YES...............1 NO................2⌐	YES........................1 NO.........................2	
3	Refrigerator	YES...............1 NO................2⌐	YES........................1 NO.........................2	SEEN.....................1 NOT SEEN.................2
4	Gas cooker	YES...............1 NO................2⌐	YES........................1 NO.........................2	
5	Kerosene stove	YES...............1 NO................2⌐	YES........................1 NO.........................2	
6	Telephone/Radio Transmitter	YES...............1 NO................2⌐	YES........................1 NO.........................2	
7	Table for gyn exam (OB/GYN couch)	YES...............1 NO................2⌐	─────────────────────→	SEEN.....................1 NOT SEEN.................2
8	Angle poised lamp	YES...............1 NO................2⌐	YES........................1 NO.........................2	SEEN.....................1 NOT SEEN.................2
9	Weighing scales for children	YES...............1 NO................2⌐	YES........................1 NO.........................2	SEEN.....................1 NOT SEEN.................2
10	Blood pressure apparatus	YES...............1 NO................2⌐	YES........................1 NO.........................2	SEEN.....................1 NOT SEEN.................2
11	Gauze/Cotton wool	YES...............1 NO................2⌐	─────────────────────→	SEEN.....................1 NOT SEEN.................2
12	Antiseptics	YES...............1 NO................2⌐	─────────────────────→	SEEN.....................1 NOT SEEN.................2
13	IUCD insertion kit	YES...............1 NO................2 525←┘	─────────────────────→	SEEN.....................1 NOT SEEN.................2

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
525	Do you have mobile clinic/outreach services in your catchment area?	YES.................................1 NO..................................2	→ 527
526	In how many different sites do you have mobile clinic/outreach services?	NUMBER OF OUTREACH SITES..☐☐	

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COMMENTS:

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MEDICATION AVAILABILITY AT THE FACILITY:
Now I would like to ask you about medications and vaccines available at this facility. I will need to know for each medication and vaccine, if they are available and if you have run out of any of them in the last six months. I will also need to know the cost patients pay for each medicine here if there is a charge. Finally, I will need to see each medicine and vaccine after we have discussed all of them. ASK Q.527 FOR EACH MEDICATION. IF THE MEDICATION IS AVAILABLE, ASK Q.528 AND THEN Q.529 WHEN APPROPRIATE. IF THE MEDICATION IS NOT AVAILABLE, CONTINUE WITH THE NEXT MEDICATION.

MEDICATION	527 Is (MEDICATION) available now?	528 At any time in the last 6 months did you run out of (MEDICATION)?	529 What is the cost of (QUANTITY) of (MEDICATION)?
1 Anti-malarial syrup (e.g. chloroquine) QUANTITY: child's treatment	YES...............1 NO................2	YES...........................1 NO............................2	☐☐.☐☐
2 Fansidar QUANTITY: 1 tablet	YES...............1 NO................2	YES...........................1 NO............................2	☐☐.☐☐
3 Quinine QUANTITY: child's treatment	YES...............1 NO................2	YES...........................1 NO............................2	☐☐.☐☐
4 Antibiotic syrup (e.g. penicillin) QUANTITY: child's treatment	YES...............1 NO................2	YES...........................1 NO............................2	☐☐.☐☐
5 Iron tablets	YES...............1 NO................2	YES...........................1 NO............................2	
6 ORS packets	YES...............1 NO................2	YES...........................1 NO............................2	
7 DPT vaccine	YES...............1 NO................2	YES...........................1 NO............................2	
8 Polio vaccine	YES...............1 NO................2	YES...........................1 NO............................2	
9 Tetanus vaccine	YES...............1 NO................2	YES...........................1 NO............................2	
10 Measles vaccine	YES...............1 NO................2	YES...........................1 NO............................2	
11 BCG vaccine	YES...............1 NO................2	YES...........................1 NO............................2	
12 Meningitis vaccine	YES...............1 NO................2 530←	YES...........................1 NO............................2	

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
530	May I please see the medicines we just discussed that you say are available here right now?	SEEN..............................1 NOT SEEN..........................2	
531	May I please see the vaccines we just discussed that you say are available here right now?	SEEN..............................1 NOT SEEN..........................2	
532	Does this facility provide family planning services?	YES...............................1 NO................................2	→ 543
533	Are any doctors trained in contraceptive sterilization procedures?	YES...............................1 NO................................2	
534	Are any doctors trained in IUD insertion?	YES...............................1 NO................................2	
535	Are any nurses trained in IUD insertion?	YES...............................1 NO................................2	
536	On average, how many new patients for family planning are seen monthly?	NEW PATIENTS.......... ☐☐	

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No.	QUESTIONS	CODING CATEGORIES	SKIP TO
537	On average, how many patients revisit monthly?	REVISIT PATIENTS...... ☐☐☐	

CONTRACEPTIVE METHOD AVAILABILITY:
Now I would like to ask you about which family planning methods are available at this health center. ASK ABOUT THE FIRST METHOD. IF THIS METHOD IS AVAILABLE FROM THE HEALTH CENTER, MOVE ACROSS THE TABLE. IF THIS METHOD IS NOT AVAILABLE, MOVE DOWN THE TABLE. WHEN ASKING ABOUT Q.540, ALWAYS ASK ABOUT THE QUANTITY GIVEN WHEN ASKING ABOUT COST IF ONE IS GIVEN. FOR FOAMING TABLETS, WHEN RECORDING THE PRICE ALSO RECORD THE NUMBER OF TABLETS IN THE PACKAGE.

METHOD	538 Is (METHOD) available?	539 How many days per week is (METHOD) available? [a]	540 How much does (QUANTITY) of (METHOD) cost?	541 Have you run out of (METHOD) in the last 6 months?	542 In what year did you first offer (METHOD)? [b]
01 Pill QUANTITY: 1 cycle	YES....1 NO.....2	☐	☐☐.☐☐	YES..............1 NO..............2	19 ☐☐
02 IUCD QUANTITY: IUCD & insertion	YES....1 NO.....2	☐	☐☐.☐☐	YES..............1 NO..............2	19 ☐☐
03 Injection (Depopro- vera, Noristerat) QUANTITY: 1 injection	YES....1 NO.....2	☐	☐☐.☐☐	YES..............1 NO..............2	19 ☐☐
04 Condom QUANTITY: 3 condoms	YES....1 NO.....2	☐	☐☐.☐☐	YES..............1 NO..............2	19 ☐☐
05 Foaming tablets NUMBER........... ☐☐ QUANTITY: package	YES....1 NO.....2	☐	☐☐.☐☐	YES..............1 NO..............2	19 ☐☐
06 Female sterilization	YES....1 NO.....2	☐	☐☐.☐☐	░░░░░░░░	19 ☐☐
07 Other methods Specify	YES....1 NO.....2 543◄	☐	☐☐.☐☐	YES..............1 NO..............2	19 ☐☐

CODES: [a] 8 = Don't know   [b] 98 = Don't know

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
543	What is your position or title here?	_____	

QUESTIONS 544 TO 546 ARE TO BE ANSWERED BY THE INTERVIEWER AFTER THE FACILITY VISIT IS COMPLETE.

544	DID THE INFORMANT SEEM KNOWLEDGEABLE?	YES..................................1 NO...................................2	
545	WAS THE RESPONDENT HELPFUL?	YES..................................1 NO...................................2	
546	ADDITIONAL COMMENTS:		

IF THE CLINIC IS 6 HOURS WALK OR LESS AWAY, IT IS TO BE VISITED. COMPLETE QUESTIONS 601 TO 603 UPON ARRIVAL AT THE FACILITY BASED ON YOUR OWN OBSERVATIONS. THEN FIND A KNOWLEDGEABLE SOURCE AT THE FACILITY TO ANSWER THE REMAINING QUESTIONS.

IF THIS FACILITY HAS ALREADY BEEN VISITED FOR A DIFFERENT CLUSTER, RECORD CLUSTER NUMBER HERE: ☐☐☐
IF THE FACILITY HAS ALREADY BEEN VISITED, A SECOND VISIT IS NOT NEEDED.

601	DO YOU THINK THAT THE ESTIMATE OF THE TIME TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
602	DO YOU THINK THAT THE ESTIMATE OF DISTANCE TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
603	WHAT IS THE FLOOR MATERIAL?	PARQUET OR POLISHED WOOD..........1 TERRAZO.............................2 CERAMIC TILES.......................3 WOOD PLANKS.........................4 CEMENT..............................5 EARTH/SAND..........................6 OTHER_____...7	

QUESTIONS TO BE ASKED OF STAFF PERSON AT FACILITY:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
604	In what year did this clinic open?	YEAR OPENED...........19 ☐☐ DON'T KNOW.....................98	
605	Under what authority is this clinic operated?	FEDERAL.............................1 STATE...............................2 LGA.................................3 CHURCH/MISSION......................4 PRIVATE.............................5 OTHER_____.6 DON'T KNOW..........................8	
608	Do you keep records on family planning clients?	YES.................................1 NO..................................2	
609	Is there a standard outpatient (or registration/general) fee at this facility? IF YES, what is it?	YES.................................1 OUTPATIENT FEE..☐☐ ☐☐ NO..................................2	612
610	Is everyone charged the outpatient fee?	YES.................................1 NO..................................2	612
611	What proportion of patients are charged the outpatient fee?	PROPORTION CHARGED........☐☐	
612	How many staff of the following types does the clinic have? Number of doctors Number of nurses Number of Community Health Extension Workers (CHEWs)	REGULAR STAFF ☐☐ ☐☐ ☐☐	
613	What is the method most frequently used for the sterilization of medical instruments such as needles and syringes?	ELECTRIC STERILIZER................1 AUTOCLAVE...........................2 STEAM STERILIZER....................3 OTHER_____4 NONE................................5	617
614	Is the (TYPE OF STERILIZATION EQUIPMENT) working right now?	YES.................................1 NO..................................2	617

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No.	QUESTIONS	CODING CATEGORIES	SKIP TO
615	Has the (TYPE OF STERILIZATION EQUIPMENT) been out of working order at any time in the last 6 months?	YES...................................1 NO....................................2	
616	Can I see your (TYPE OF STERILIZATION EQUIPMENT)?	SEEN..................................1 NOT SEEN..............................2	
617	Has this facility run out of its supply of reusable or disposable needles at any time in the last 6 months?	YES...................................1 NO....................................2	

EQUIPMENT AVAILABLE AT THE FACILITY:
Now I would like to ask you about if the facility has various types of equipment, if the equipment works right now and after I have asked you about all the equipment, I need to see it. ASK Q.622 FOR THE FIRST PIECE OF EQUIPMENT. IF THE FACILITY HAS IT, ASK Q.623 AND THEN OR IF THE FACILITY DOES NOT HAVE IT, ASK ABOUT THE NEXT PIECE OF EQUIPMENT. AFTER ASKING Q.622 AND Q.623 FOR ALL PIECES OF EQUIPMENT, ASK TO SEE THOSE PIECES OF EQUIPMENT THAT THE FACILITY HAS AND THAT NEED TO BE SEEN ACCORDING TO Q.624.

EQUIPMENT	622 Do you have (EQUIPMENT)?	623 Does (EQUIPMENT) work right now?	624 ASK TO SEE EQUIPEMNT AND RECORD OUTCOME
1 Running water	YES................1 NO................2	YES.........................1 NO..........................2	
2 Electricity	YES................1 NO................2	YES.........................1 NO..........................2	
4 Gas cooker	YES................1 NO................2	YES.........................1 NO..........................2	
5 Kerosene stove	YES................1 NO................2	YES.........................1 NO..........................2	
6 Telephone/Radio Transmitter	YES................1 NO................2	YES.........................1 NO..........................2	
7 Table for gyn exam (OB/GYN couch)	YES................1 NO................2		SEEN.....................1 NOT SEEN.................2
8 Angle poised lamp	YES................1 NO................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
10 Blood pressure apparatus	YES................1 NO................2	YES.........................1 NO..........................2	SEEN.....................1 NOT SEEN.................2
12 Antiseptics	YES................1 NO................2		SEEN.....................1 NOT SEEN.................2
13 IUCD insertion kit	YES................1 NO................2 625		SEEN.....................1 NOT SEEN.................2

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
625	Do you have mobile clinic/outreach services in your catchment area?	YES...................................1 NO....................................2	→ 633
626	In how many different sites do you have mobile clinic/outreach services?	NUMBER OF OUTREACH SITES.. ☐☐	
633	Are any doctors trained in contraceptive sterilization procedures?	YES...................................1 NO....................................2	
634	Are any doctors trained in IUD insertion?	YES...................................1 NO....................................2	
635	Are any nurses trained in IUD insertion?	YES...................................1 NO....................................2	
636	On average, how many new patients for family planning are seen monthly?	NEW PATIENTS.......... ☐☐☐	

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COMMENTS:

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No.	QUESTIONS	CODING CATEGORIES	SKIP TO
637	On average, how many patients revisit monthly?	REVISIT PATIENTS...... ☐☐☐	

CONTRACEPTIVE METHOD AVAILABILITY:
Now I would like to ask you about which family planning methods are available at this clinic. ASK ABOUT THE FIRST METHOD. IF THIS METHOD IS AVAILABLE FROM THE CLINIC, MOVE ACROSS THE TABLE. IF THIS METHOD IS NOT AVAILABLE, MOVE DOWN THE TABLE. WHEN ASKING ABOUT Q.640, ALWAYS ASK ABOUT THE QUANTITY GIVEN WHEN ASKING ABOUT COST IF ONE IS GIVEN. FOR FOAMING TABLETS, WHEN RECORDING THE PRICE ALSO RECORD THE NUMBER OF TABLETS IN THE PACKAGE.

METHOD	638 Is (METHOD) available?	639 How many days per week is (METHOD) available? [a]	640 How much does (QUANTITY) of (METHOD) cost?	641 Have you run out of (METHOD) in the last 6 months?	642 In what year did you first offer (METHOD)? [b]
01 Pill QUANTITY: 1 cycle	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19☐☐
02 IUCD QUANTITY: IUCD & insertion	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19☐☐
03 Injection (Depopro-vera, Noristerat) QUANTITY: 1 injection	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19☐☐
04 Condom QUANTITY: 3 condoms	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19☐☐
05 Foaming tablets NUMBER........... ☐☐ QUANTITY: package	YES....1 NO.....2	☐	☐☐ . ☐☐	YES..............1 NO..............2	19☐☐
06 Female sterilization	YES....1 NO.....2	☐	☐☐ . ☐☐	▓▓▓▓▓▓	19☐☐
07 Other methods Specify	YES....1 NO.....2 643◄	☐	☐☐ . ☐☐	YES..............1 NO..............2	19☐☐

CODES: [a] 8 = Don't know   [b] 98 = Don't know

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
643	What is your position or title here?		

QUESTIONS 644 TO 646 ARE TO BE ANSWERED BY THE INTERVIEWER AFTER THE FACILITY VISIT IS COMPLETE.

644	DID THE INFORMANT SEEM KNOWLEDGEABLE?	YES...................................1 NO....................................2	
645	WAS THE RESPONDENT HELPFUL?	YES...................................1 NO....................................2	
646	ADDITIONAL COMMENTS:		

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Date:_____   PHARMACY/PATENT MEDICINE STORE/CHEMIST   Name:_____

IF THE PHARMACY/PATENT MEDICINE STORE/CHEMIST IS 6 HOURS OR LESS AWAY, IT IS TO BE VISITED. COMPLETE QUESTIONS 701 TO 703 UPON ARRIVAL AT THE FACILITY BASED ON YOUR OWN OBSERVATIONS. THEN FIND A KNOWLEDGEABLE SOURCE AT THE FACILITY TO ANSWER THE REMAINING QUESTIONS.

IF THIS FACILITY HAS ALREADY BEEN VISITED FOR A DIFFERENT CLUSTER, RECORD CLUSTER NUMBER HERE:
IF THE FACILITY HAS ALREADY BEEN VISITED, A SECOND VISIT IS NOT NEEDED.

701	DO YOU THINK THAT THE ESTIMATE OF THE TIME TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
702	DO YOU THINK THAT THE ESTIMATE OF DISTANCE TO THE FACILITY GIVEN IN THE CLUSTER IS REASONABLE?	REASONABLE..........................1 OVERESTIMATED.......................2 UNDERESTIMATED......................3	
703	WHAT IS THE FLOOR MATERIAL?	PARQUET OR POLISHED WOOD..........1 TERRAZO.............................2 CERAMIC TILES.......................3 WOOD PLANKS.........................4 CEMENT..............................5 EARTH/SAND..........................6 OTHER ...7	

QUESTIONS TO BE ASKED OF STAFF PERSON AT FACILITY:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
704	How many hours per week is the pharmacy/patent medicine store/chemist open?	HOURS PER WEEK............	
705	How many days per week is the pharmacy/patent medicine store/chemist opent?	DAYS PER WEEK.................	
706	Is there a trained pharmacist available?	YES.................................1 NO..................................2	
707	Does the facility have the following items in working order? Running water? Electricity? Telephone or radio transmitter? Refrigerator?	YES NO RUNNING WATER.............1 2 ELECTRICITY...............1 2 TELEPHONE.................1 2 REFRIGERATOR..............1 2	
708	In what year did the pharmacy/patent medicine store/chemist open?	YEAR OPENED.............19	

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COMMENTS:

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MEDICATION AVAILABILITY AT THE FACILITY:
Now I would like to ask you about medicines available at this store. I will need to know for each medicine if it is available and if you have run out of it at any time in the last six months. I will also need to find out the cost of each medicine for customers of this store. ASK Q.709 FOR EACH MEDICATION. IF THE MEDICATION IS AVAILABLE, ASK Q.710 AND Q.711. IF THE MEDICATION IS NOT AVAILABLE, CONTINUE WITH THE NEXT MEDICATION.

MEDICATION	709 Is (MEDICATION) available now?	710 At any time in the last 6 months did you run out of (MEDICATION)?	711 On average, how much do customers pay for (QUANTITY) OF (MEDICATION)?
1 Anti-malarial syrup (e.g. chloroquine) QUANTITY: child's treatment	YES...........1 NO............2	YES..........................1 NO..........................2	☐☐.☐☐
2 Fansidar QUANTITY: 1 tablet	YES...........1 NO............2	YES..........................1 NO..........................2	☐☐.☐☐
3 Quinine QUANTITY: child's treatment	YES...........1 NO............2	YES..........................1 NO..........................2	☐☐.☐☐
4 Antibiotic syrup (e.g. penicillin) QUANTITY: child's treatment	YES...........1 NO............2	YES..........................1 NO..........................2	☐☐.☐☐
5 Iron tablets QUANTITY: 1 bottle	YES...........1 NO............2	YES..........................1 NO..........................2	☐☐.☐☐
6 ORS packets QUANTITY: 1 packet	YES...........1 NO............2 712 ◄	YES..........................1 NO..........................2	☐☐.☐☐

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
712	Does this pharmacy/patent medicine store/chemist carry family planning methods?	YES................................1 NO................................2	→ 717

CONTRACEPTIVE METHOD AVAILABILITY
Now I would like to ask you about which family planning methods are available at this pharmacy/patent medicine store/chemist. ASK ABOUT THE FIRST METHOD. IF THIS METHOD IS AVAILABLE FROM THE STORE, MOVE ACROSS THE TABLE. IF THIS METHOD IS NOT AVAILABLE, MOVE DOWN THE TABLE. WHEN ASKING ABOUT Q.714, ALWAYS ASK ABOUT THE QUANTITY GIVEN WHEN ASKING ABOUT COST IF ONE IS GIVEN. FOR FOAMING TABLETS, WHEN RECORDING THE PRICE ALSO RECORD THE NUMBER OF TABLETS IN THE PACKAGE.

METHOD	713 Is (METHOD) available?	714 What is the average cost of (QUANTITY) of (METHOD)?	715 Have you run out of (METHOD) in the last 6 months?
01 Pill QUANTITY: 1 cycle	YES.....................1 NO......................2	☐☐.☐☐	YES..........................1 NO..........................2
03 Injection (Depo-provera, Noristerat) QUANTITY: 1 vial	YES.....................1 NO......................2	☐☐.☐☐	YES..........................1 NO..........................2
04 Condom QUANTITY: Packet of 3	YES.....................1 NO......................2	☐☐.☐☐	YES..........................1 NO..........................2
05 Foaming tablets NUMBER........... ☐☐ QUANTITY: package	YES.....................1 NO......................2	☐☐.☐☐	YES..........................1 NO..........................2
07 Other methods Specify_____	YES.....................1 NO.....................2 716◄	☐☐.☐☐	YES..........................1 NO..........................2

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COMMENTS:

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
716	What is your position or title here?		

QUESTIONS 717 TO 719 ARE TO BE ANSWERED BY THE INTERVIEWER AFTER THE FACILITY VISIT IS COMPLETED.

No.	QUESTIONS	CODING CATEGORIES	SKIP TO
717	DID THE INFORMANT SEEM KNOWLEDGEABLE?	YES...............................1 NO................................2	
718	WAS THE RESPONDENT HELPFUL?	YES...............................1 NO................................2	
719	ADDITIONAL COMMENTS:		

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