

Zambia

Demographic and Health Survey 1992



University of Zambia



Central Statistical Office



Demographic and Health Surveys
Macro International Inc.

Zambia Demographic and Health Survey 1992

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March 1993

This report summarises the findings of the 1992 Zambia Demographic and Health Survey (ZDHS) conducted by the University of Zambia, in collaboration with the Central Statistical Office and the Ministry of Health. Macro International Inc. provided technical assistance. Funding was provided by the U.S. Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the Norwegian Agency for Development (NORAD) and the Government of Zambia.

The ZDHS is part of the worldwide Demographic and Health Surveys (DHS) programme, which is designed to collect data on fertility, family planning and maternal and child health. Additional information about the Zambia survey may be obtained from the Department of Social Development Studies, School of Humanities and Social Sciences, University of Zambia, P.O. Box 32379, Lusaka, Zambia (Telephones 260632, 260637, 260640, 252514, 260644, 260645, 260626, 260627; Fax 260-1-253952; Telex ZA44370). Additional information about the DHS programme may be obtained by writing to: DHS, Macro International Inc., 8850 Stanford Boulevard, Suite 4000, Columbia, MD 21045, USA (Telephone 410-290-2800; Fax 410-290-2999).

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PREFACE

The Zambia Demographic and Health Survey (ZDHS) was a nationwide sample survey of women of reproductive age designed to provide, among other things, information on fertility, family planning, child survival and health of children.

The survey was conducted by the University of Zambia (Department of Social Development Studies) in collaboration with the Central Statistical Office (CSO) and Ministry of Health (MOH) as part of the worldwide Demographic and Health Surveys programme which is being administered by Macro International Inc. of Columbia, Maryland.

The major objectives of the ZDHS were to provide the country with data useful for informed policy choices and for enhancing the design and implementation of programmes aimed at promoting family planning and improving the health status of the population. As noted above, the survey collected data on major health phenomena, family planning, fertility and infant and child mortality. Besides providing a primary source of population and health data, it developed the technical skills and resources necessary to the conduct future demographic and health surveys.

The successful implementation of all aspects of the project including the production of this volume was due to untiring efforts and contributions of many individuals and organizations.

We owe a special debt of gratitude to the Central Statistical Office (CSO) for providing strong logistical support and financial assistance, which facilitated the successful implementation of the project. Our grateful thanks are due to David Diangamo, Director of the Central Statistical Office, for his unparalleled cooperation, encouragement and advice. We wish to thank Emmanuel Silanda, Modesto Banda, Kumbutso Dzekedzeke (Sampler), George Namasiku, Isaac Muzeya and all the CSO staff who participated in the survey in many specific ways. We are deeply grateful to the Ministry of Health which provided the bulk of the field staff. We thank Dr. John A. Mbomena, Assistant Director of Medical Services, for spearheading the contributions of the Ministry.

We wish to record our sincere gratitude to many individuals at the University of Zambia, especially in the Demography Division of the Department of Social Development Studies and the Bursar's office. Our heartfelt thanks are due to Kwesi Gaisie (Project Director), Geoffrey Nsemukila (Deputy Director), Moses Nzima (Head, Demography Division), Record Malungo (Research Assistant), Joyce Simbeya, Lister Madubansi and Felicitas Moyo (Secretaries). We wish to acknowledge the unstinting support and assistance of the Dean of the School of Humanities and Social Sciences, Dr. John Chileshe.

We owe an immense debt to the Field Coordinators, Interviewers, Supervisors, Field Editors, Provincial Statistical Officers and Drivers for their meticulous assistance and hard work; theirs was the most delicate and risky job. We have therefore printed a list of their names in Appendix D as a perpetual token of our deepest gratitude for their help and kindness. We are also grateful to all the respondents for their patience and generosity with their time.

Very special acknowledgment is due to U.S. Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the Norwegian Agency for Development (NORAD), the Government of the Republic of Zambia and the United Nations Department of Economic and Social Development (DESD) for providing funding and technical assistance for the survey. We thank Moses Mukasa, UNFPA Country Director and Charles Ejiogu, Chief, Population Branch, Population Division (DESD) for their unfailing encouragement, advice and assistance.

Finally, we are most grateful to Macro International Inc. for providing technical assistance. We wish to record our deepest gratitude to Anne Cross, Thanh Le, Kaye Mitchell, Guillermo Rojas, Robert Wolf, and George Bicego. Special thanks are due to the reviewers of the ZDHS report. These include Albert Marckwardt, Jeremiah Sullivan, Ties Boerma, Elisabeth Sommerfelt, George Bicego, Shea Rutstein, and Sidney Moore.

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SUMMARY OF FINDINGS

The 1992 Zambia Demographic and Health Survey (ZDHS) was a nationally representative sample survey of women age 15-49. The survey was designed to provide information on levels and trends of fertility, infant and child mortality, family planning knowledge and use, and maternal and child health. The ZDHS was carried out by the University of Zambia in collaboration with Central Statistical Office and the Ministry of Health. Fieldwork was conducted from mid-January to mid-May 1992, during which time, over 6000 households and 7000 women were interviewed.

Results imply that fertility in Zambia has been declining over the past decade or so; at current levels, Zambian women will give birth to an average of 6.5 children during their reproductive years. Fertility rates are highest in Luapula and Northern Provinces and lowest in Lusaka Province. Childbearing begins early in Zambia; over one-quarter of teenagers (age 15-19) have borne a child. By the time they reach age 19, two-thirds of Zambian women are either mothers or pregnant with their first child.

Contraceptive knowledge is nearly universal in Zambia; over 90 percent of married women reported knowing about at least one modern contraceptive method. Fifteen percent of married women are using contraception; 9 percent are using modern methods and 6 percent are using traditional methods. The most popular contraceptive methods are the pill (4 percent), withdrawal (3 percent), female sterilisation (2 percent) and condoms (2 percent). Contraceptive use is twice as high among urban women as among rural women; it is also highest in the more urbanised provinces of Lusaka and Copperbelt. Contraceptive use increases steadily with increasing level of education, from 8 percent of married women with no education to 59 percent of those with more than secondary education. Over half of women using modern methods obtained them from government sources.

Women in Zambia are marrying somewhat later than they did previously. The median age at marriage has increased from 17 years or under among women now in their 30s and 40s to 18 years or older among women in their 20s. Women with secondary education marry three years later (19.9) than women with no education (16.7).

Over one-fifth (22 percent) of currently married women do not want to have any more children. An additional 41 percent of women want to wait at least two years before having another child. When asked how many children they would like to have if they could live their lives over and choose exactly, women reported an average ideal family of 5.8 children. Results from the survey suggest that if all unwanted births were eliminated, the total fertility rate at the national level would be 5.4 children per woman, one child lower than the actual level of 6.5.

One of the most striking findings from the ZDHS is the high level of child mortality and its apparent increase in recent years. Currently, nearly 1 in 5 Zambian children dies before reaching age five. From 1977-81 to 1987-91, under-five mortality rose by 15 percent, from 152 to 191 deaths per 1000 births. The infant mortality rate is currently 107 deaths per 1000 births. Infant and child mortality are higher in Luapula and Northern Provinces and lowest in Southern Province. ZDHS data indicate that spacing births can potentially reduce childhood mortality levels; children born less than two years after a preceding birth were almost three times more likely to die during their first year of life than children born at least four years after a preceding birth.

Information on various aspects of maternal and child health—antenatal care, vaccinations, breastfeeding and food supplementation, and illness—was collected in the ZDHS on births in the five years preceding the survey. The findings show that 90 percent of births were to mothers who had received antenatal

care during pregnancy. Thirty-nine percent of births were to mothers who received two or more injections of tetanus toxoid during pregnancy.

ZDHS data indicate that half of the births in Zambia are delivered at home and half in health facilities. For this reason, only half are assisted by medically trained personnel; one-third of births in Zambia are assisted by relatives and 7 percent are delivered without assistance.

Based on information obtained from health cards and mothers' reports, 95 percent of children age 12-23 months are vaccinated against tuberculosis, 94 percent have received at least one dose of DPT and polio vaccines, and 77 percent have been vaccinated against measles. Sixty-seven percent of children age 12-23 months have been fully immunised and only 4 percent have not received any immunisations.

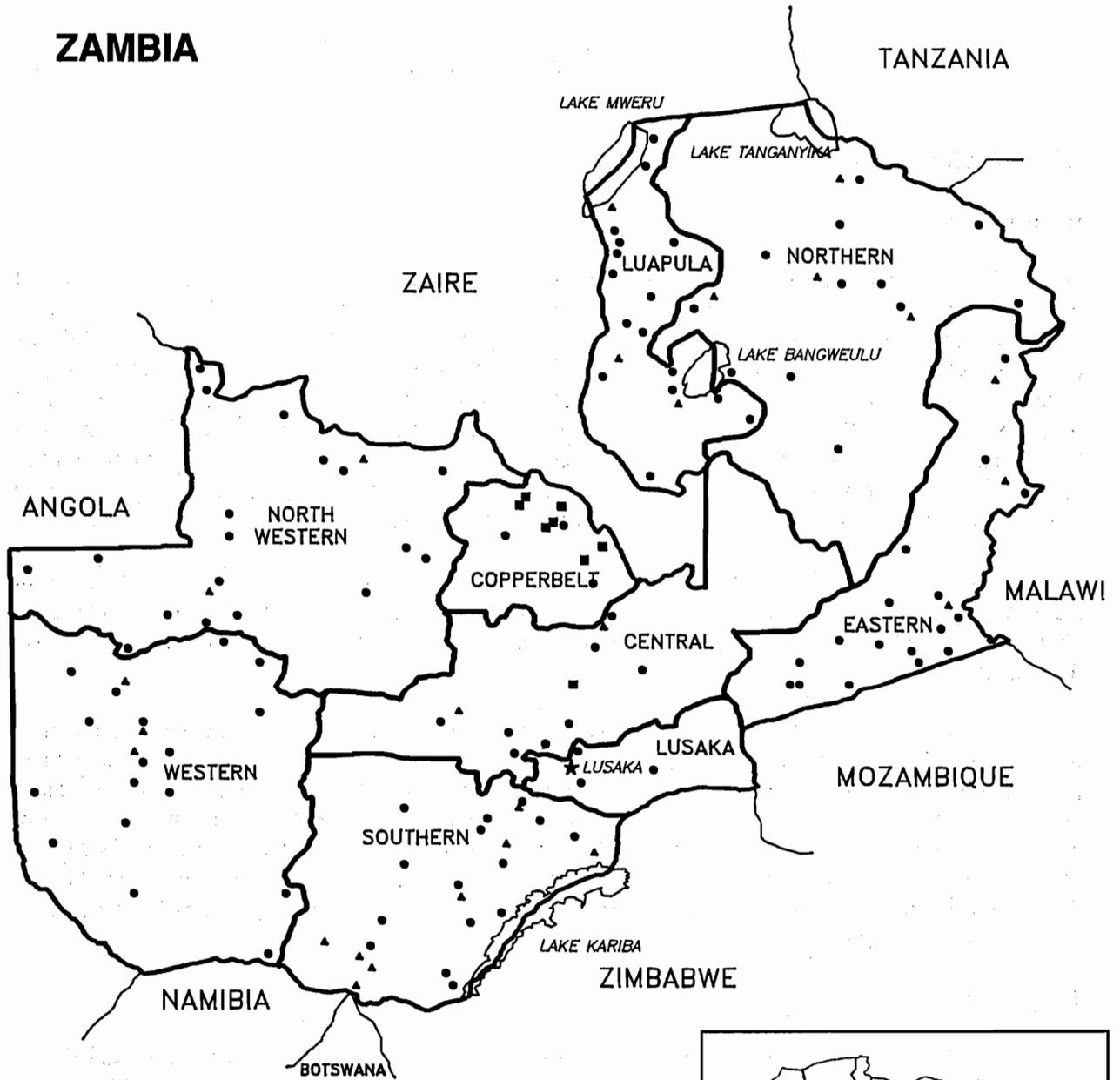
During the two weeks preceding the survey, 13 percent of children under age five had symptoms of acute lower respiratory infection (cough with difficult breathing). Almost two-thirds of these children were taken to a health facility for treatment. Over the same two-week period, 44 percent of children under five suffered from a fever, of whom 61 percent were taken to a health facility. Twenty-three percent of children had diarrhoea during the two weeks before the survey. Over half of these children were given a solution prepared from ORS packets (oral rehydration salts), and 23 percent received a homemade solution of sugar, salt and water. Knowledge and use of ORS packets is widespread in Zambia; 95 percent of women who gave birth in the five years before the survey had heard of ORS and 78 percent had used it.

Almost all children in Zambia (98 percent) are breastfed. The median duration of breastfeeding is relatively long (19 months), but supplemental liquids and foods are introduced at an early age. By age 2-3 months, half of all children are being given supplementary food or liquid.

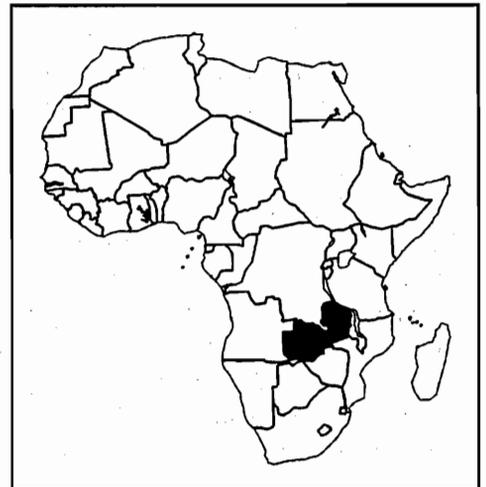
ZDHS data indicate that undernutrition is an obstacle to improving child health; 40 percent of children under age five are *stunted* or short for their age, compared to an international reference population. Five percent of children are *wasted* or thin for their height and 25 percent are underweight for their age.

The ZDHS included several questions about knowledge of AIDS. Almost all respondents (99 percent) had heard of AIDS and the vast majority (90 percent) knew that AIDS is transmitted through sexual intercourse.

ZAMBIA



- MULTIPLE URBAN CSAs
- ▲ URBAN CSA
- RURAL CSA



CHAPTER 1

INTRODUCTION

1.1 History, Geography and Economy

History

Historical and archaeological evidence indicates that by 1500 much of modern Zambia was occupied by farming people who were ancestors of the present inhabitants. In the late nineteenth century various parts of what was to become Northern Rhodesia were administered by the British South Africa Company. In 1924 the British Colonial Office assumed responsibility for administering the territory and in 1953 Northern Rhodesia (Zambia) and Southern Rhodesia (Zimbabwe) joined Nyasaland (Malawi) to form the Central African Federation of Rhodesia and Nyasaland, despite the opposition of Northern Rhodesia's Africans. The Federation was, however, dissolved in 1963. In October 1964, Zambia became an independent nation and adopted a multiparty system with the United National Independence Party (UNIP) as the ruling party and the African National Congress (ANC), led by Harry Nkumbula, in the opposition.

By 1973, Zambia had become a one-party participatory democracy under President Kenneth Kaunda's UNIP. The present government headed by President Frederick Chiluba came to power in November 1991 after winning both presidential and parliamentary elections in the reinstated multi-party democracy.

There are 73 officially recognised ethno-linguistic groups in Zambia. The major groups are Bemba, Kaonde, Lozi, Lunda, Luvale, Mambwe, Ngoni, Nyanja, Tonga, and Tumbuka. However, the ethnic and provincial alignments seldom involve the smaller ethnic groups among the seventy-three official groups. Most ethnic groups are concentrated in different parts of the country. The Bemba live primarily in Northern and Luapula Provinces, the Tonga inhabit Southern Province, the Lozi Western Province, the Nyanja and Nsenga Eastern and Central Provinces and the Luvale, Lunda and Kaonde are found in North-Western Province. Most people in Zambia are Christians; however, indigenous traditional religion is the second most widespread belief system.

Geography

Zambia is a land-locked country covering an area of 752,614 square kilometres and consisting of about 2.5 percent of the area of Africa. It shares borders with Zaire and Tanzania in the north; Malawi and Mozambique in the east; Zimbabwe and Botswana in the south; Namibia in the southwest and Angola in the west. Administratively, the country is divided into nine provinces and fifty-seven districts.

Zambia lies in the southern tropics between 8 and 18 degrees south latitude and between 20 and 35 degrees east longitude, a huge butterfly sprawling over the Central African Plateau, with an average altitude of 1,127 metres above sea level. The mountainous areas are found chiefly along the border with Tanzania (Mbala Highlands in the northeast) and Malawi (Mafinga Mountains, particularly the Muchinga Escarpment) where the land rises to 2,000 metres above sea level. The broad depressions at the edges of the plateau form Lakes Tanganyika, Mweru and Bangweulu in the north, the Luangwa River in the east, and the Kafue basin and the alluvial plains of the Zambezi River in the west. The Zambezi River forms Zambia's southern border with Zimbabwe. Among the other major rivers in the country are the Kafue, Luangwa and Luapula.

Zambia has a tropical climate and vegetation. There are three distinct seasons: the warm-wet season stretching from November through April, a cool dry winter season from May to August with the mean temperature varying between 14 and 30 degrees centigrade and a hot dry season during September and October with mean daytime temperatures rising to between 29 and 32 degrees centigrade in the north and northwest and to 35 degrees centigrade over most of western Zambia. The Copperbelt, North-Western, Northern and Luapula Provinces receive the highest precipitation, with the annual average ranging from 1,100 mm to over 1,400 mm. There is a systematic decrease in rainfall towards the south and east, with an annual average ranging between 600 mm and 1,100 mm. The typical vegetation cover is woodland savanna with a mixture of various types of trees, tall grass, herbs and other woodlands which are mainly of the deciduous type usually found on the main plateau. These are also found in other areas, especially the successful maize-farming areas of Southern and Lusaka Provinces. Forests are found in North-Western and Northern Provinces. Grasslands occur mainly in the seasonal flood plains of Western Province and in the Kafue and Bangweulu swamps.

Economy

Zambia has a mixed economy consisting of a modern and urban-oriented sector confined to the line of rail (the area roughly within forty kilometres of either side of the north-south railroad running from the Copperbelt in the north to Livingstone on the Zambezi River) and a rural agricultural sector. The modern sector is dominated by parastatal organisations, while the private sector has been predominant in construction and agriculture. Most of these parastatals are now being privatised by the Movement for Multiparty Democracy (MMD) Government.

Copper mining is the country's main economic activity, accounting for 95 percent of export earnings and contributing 45 percent of government revenue during the decade following the attainment of political independence (i.e., 1965-1975). This situation was sharply changed by the drastic decline in world copper prices in late 1974 and 1975. Some improvement in prices began in 1978, but in 1981 and 1982 prices dropped sharply again.

The fall in copper prices, rising oil prices and the slow pace of industrialisation with a heavy dependence on imports have driven the economy to a very difficult situation. In 1989 the gross domestic product grew by a meagre 0.1 percent in contrast to 6.3 percent in 1988. Real output declined by an average of about 1.0 percent annually between 1989 and 1991, with the decline in 1991 amounting to 1.8 percent. Real per capita gross domestic product, on the other hand, declined by an average of 1.6 percent per annum between 1984 and 1990.

In spite of attractive copper prices in 1989, acute shortage of foreign exchange remained a major constraint in the development of the economy. This was largely attributed to reduced volume of copper sales associated with difficulties in production and transportation. The development of non-traditional exports remained below expectations.

Essential commodities and services continued to remain in short supply and inflation reached an unprecedented level of well over 100 percent. As a result of an apparent decline in the national economy, the provision of social services such as health and education were drastically affected. For instance, the share of the Government budget for the education sector in 1989 was only 8 percent and in the health sector there was growing evidence of increased malnutrition and higher infant mortality.

In an effort to halt the economic recession, the Movement for Multiparty Democracy (MMD) Government has launched an Economic Recovery Programme (ERP) to turn around the "protracted decline of the economy into sustained positive real growth, coupled with lower inflation and consequent improvement in living standards and the quality of life of the people" (Republic of Zambia, 1992).

In the 1992 budget, the Government adopted certain policy measures which were intended to achieve, among other things, the following objectives:

- i) To halt the decline in real gross domestic product in the economy and achieve a moderate rate of growth in 1992;
- ii) To limit the growth in the money supply to around 25 percent and consequently bring inflation down to around 60 percent;
- iii) To reduce the budget deficit to 1.9 percent of GDP so as to minimise the use of inflationary finance and facilitate the reduction in inflation;
- iv) To restore medical and educational services to decent levels by increasing recurrent and capital funding to these sectors; and
- v) To rehabilitate the road network in both rural and urban areas (Republic of Zambia 1992).

1.2 Population

The 1969, 1980 and 1990 national censuses reported total populations of 4.0 million, 5.7 million and 7.8 million respectively, implying growth rates of 3.1 and 3.2 percent per annum between 1969-80 and 1980-90 respectively (see Table 1.1). The growth rates, however, range from 2.2 and 2.3 percent in Luapula, Western and Copperbelt Provinces to 4.0 percent in Eastern Province and 5.6 percent in Lusaka Province during the 1980-90 intercensal period.

The enumerated population in 1990 is lower by 0.25 million than the projected population based on the 1980 census data (Central Statistical Office, 1985b), by 0.20 million from the World Bank projections and by 0.63 million from the latest medium variant projections of the United Nations for the same year (World Bank, 1992; United Nations, 1991). Thus, there seems to be an undercount in the 1990 population census by between 2 and 7 percent. The growth rates would therefore be underestimates.

The population density increased from 5.3 people per square kilometre in 1969 to 7.5 in 1980 and 10.4 in 1990. The average density in 1990 ranged from 55 people per square kilometre in Lusaka Province and 50 in Copperbelt Province (both heavily urbanised) to 5 and 3 people per square kilometre in Western and North-Western Provinces, respectively.

There has been almost continuous migration of people to mining towns and urban centres and as a result, the proportion of the population living in urban areas has increased steadily from 29 percent in 1969 to 42 percent in 1990. The proportion urban varies among the provinces from 91 percent in Copperbelt Province to 9 percent in Eastern Province. While the population in urban areas has grown by 3.7 percent per annum during the decade 1980-90, the population of rural areas has increased by 2.8 percent. During the previous period 1969-80, the urban population grew at an even higher 5.8 percent per annum, compared with 1.6 in the rural areas. Thus, the speed of migration to the urban areas slowed down considerably during the 1980-90 period compared to the earlier period.

Table 1.1 Demographic indicators, Zambia 1969, 1989 and 1990

Indicator	National censuses		
	1969	1980	1990
Population (millions)	4.0	5.7	7.8
Density (pop./sq.km.)	5.3	7.5	10.4
Percent urban	29.4	39.9	42.0
Crude birth rate (per 1000)	47.7	50.0	49.5 ^a
Crude death rate (per 1000)	19.7	16.7	13.2 ^a
Growth rate (per 1000)	28.0	33.3	36.0 ^a
Total fertility rate	7.1	7.2	7.0 ^a
Completed family size (women age 40-49)	5.1 ^b	6.7 ^b	NA
Infant mortality rate	141	97	89.6 ^a
Life expectancy at birth			
Male	41.8	50.4	52.9 ^a
Female	45.0	52.5	55.0 ^a

NA = Not applicable

^aEstimates based on projections of 1980 census data

^bReported figures

Sources: Central Statistical Office, 1974; Central Statistical Office, 1985a and 1985b; Central Statistical Office, 1990a.

The estimated fertility levels have remained virtually constant during the 1969-80 period. The crude birth rate has ranged between 48 and 50 births per 1000 population per year and the crude death rate is estimated to have declined from 16.7 during the quinquennium 1975-1980 to 13.2 during 1985-1990 (Central Statistical Office, 1985b).

The previously estimated total fertility rates lie in the neighbourhood of 7.0 children per woman. The reported total fertility rate of 4.0 in 1969 and 5.7 in 1980 are indicative of underreporting of live births in the two censuses.

The life expectancy at birth climbed from 43 years in 1969 to 51 years in 1980; it was projected to have risen to 54 years by 1990. Zambian women live, on average, 2 to 3 years longer than men. Mortality levels are highest in Eastern, Luapula and Western Provinces, followed by Northern and Southern Provinces, with Lusaka, Copperbelt and Central Provinces experiencing the lowest mortality rates; life expectancy at birth ranged from 44.9 years in Eastern Province to 56.5 years in Copperbelt (Central Statistical Office, 1985b). The overall child mortality declined from 175 deaths per 1000 births in the mid-1970s to 160 in the late 1970s and early 1980s.

1.3 Population and Family Planning Policies and Programmes

For the first decade and a half after independence, Zambia did not view her high rate of population growth as a developmental problem. The only concern then was with the high rate of migration from rural to urban areas and uneven spatial distribution of the population. The results of the 1980 Population and Housing Census exposed the rapidity with which the population was expanding and the implied adverse effect on development and individual welfare. This led to government reappraisal of the perceptions of the role of population in national development efforts. The government realised that the nation's development planning

and plan implementation processes should not only aim at accommodating the increased demands for goods and services brought about by population growth, but should also aim at influencing those aspects of the country's sociocultural life that underpin high levels of reproduction and thus of population growth.

In 1984, the National Commission for Development Planning (NCDP)—now the Ministry of Planning and Development Cooperation—was given a mandate to initiate a draft population policy which would aim at achieving a population growth rate consistent with the growth rate of the economy. The National Population Policy was formally launched by the President in May 1989. The ultimate objective of the policy is to improve the standard of living and quality of life of all Zambians. The immediate objectives of the policy are to:

- i) Initiate, improve and sustain measures aimed at slowing down the nation's high population growth rate;
- ii) Enhance the people's health and welfare and prevent premature death and illness especially among the high health risk groups of mothers and children;
- iii) Systematically integrate population factors into the nation's development planning and the plan implementation processes;
- iv) Ensure that all couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so;
- v) Achieve a more even distribution of the population between urban and rural areas and to regulate international migration;
- vi) Expand and maintain the nation's population database.

The main targets of the national population policy are to:

- i) Reduce the rate of population growth from 3.7 percent per annum in 1989 to 3.4 percent per annum by the year 2000 and to 2.5 percent per annum by the year 2015;
- ii) Reduce the total fertility rate from 7.2 to 6 by the year 2000 and 4 by the year 2015;
- iii) Reduce the infant mortality rate from 97 per 1000 live births to 65 per 1000 live births by the year 2000 and to 50 by the year 2015;
- iv) Make family planning services available, accessible and affordable by at least 30 percent of all adults in need of such services by the year 2000 (National Commission for Development Planning, n.d.).

The strategies for implementing the policy are predicated on the voluntary acceptance of family planning methods in accordance with fundamental human rights. The main strategies include:

- i) Formulating and implementing fertility regulation and family planning programmes within the context of the nation's health care and related systems;

- ii) Providing necessary information and education on the value of a small family size norm to both the individual family and the nation as a whole in achieving self-reliance;
- iii) Intensifying the primary health care programme especially maternal and child health care, so as to reduce the levels of infant, child and maternal morbidity and mortality;
- iv) Improving the status of women through the removal of various social, legal, administrative and cultural barriers to their effective participation in national affairs in order to enhance their participation in national development efforts and as a way of ensuring demographic transition from high to low population growth rates (National Commission for Development Planning, n.d.).

Non-governmental agencies such as the United Nations Population Fund (UNFPA), International Planned Parenthood Federation (IPPF) through its Zambian affiliate—the Planned Parenthood Association of Zambia (PPAZ)—and the Family Life Movement of Zambia (FLMZ) provide material, financial and technical assistance and operate family planning clinics, supplementing the efforts of the Ministry of Health (MOH).

1.4 Health Priorities and Programmes

The Government's commitment to the objectives of attaining health for all means not only improving the accessibility of health services and reducing mortality and morbidity, but also improving the quality of life of all Zambians.

The strategy for achieving this objective is the Primary Health Care (PHC) programme, which constitutes an important component of the health care delivery system. To ensure that the PHC programme operates efficiently in tackling the main health problems of the individual, the family, and the community, the health service has been decentralised, with the responsibility of planning, implementing, monitoring, and managing PHC programmes falling to the districts. The integrated health plans developed out of the District Health Boards' Basic Health Programme constitute the PHC package.

The reformulated PHC programme aims, among other things, to tackle the main health problems in the community, focusing on the needs of the underserved, high risk, and vulnerable groups. Thus, attention is paid to the rural and peri-urban areas where the health needs of the people are greatest, with particular emphasis placed on maternal and child care, family planning, nutrition, control of communicable diseases (e.g., diarrhoea, cholera, dysentery, sexually transmitted diseases, HIV/AIDS, malaria, etc.), immunisation, and environmental sanitation in order to secure adequate health care for all Zambians.

The 1992 National Health Policies and Strategies (Health Reforms) establishes the Government's commitment to improve the health of the population by progress towards the achievement of the following targets by the year 2000:

- To make family planning (child spacing) available, accessible, and affordable by at least 30 percent of all adults in need.
- To reduce the percentage of underweight children (0-5 years) from 23 to 18 percent.
- To bring under control 80 percent of tuberculosis cases.
- To reduce maternal mortality (through promotion of safe motherhood) by 50 percent.

- To increase from 75 to 85 percent the proportion of infants vaccinated with DPT, polio, measles and BCG and to increase the tetanus immunisation coverage of pregnant women as follows: TT5 from 10 to 50 percent and TT3 from 33 to 70 percent in 5 years' time.
- To increase the percentage of the population having adequate sanitation from 66 to 75 percent in urban areas and from 37 to 57 percent in rural areas in 5 years' time (Ministry of Health, 1992).

The implementation of all these aspects of the PHC programmes requires multi-sectoral action and close collaboration among the various government institutions. The Government has therefore set up multi-sectoral PHC committees as an integral part of the PHC basic supportive manpower and inter-sectoral collaboration with other ministries has been given prominence.

1.5 Objectives and Organisation of the Survey

Objectives

The Zambia Demographic and Health Survey (ZDHS) is a nationwide sample survey of women of reproductive age designed to provide, among other things, information on fertility, family planning, child survival and health of children.

The primary objectives of the ZDHS are:

- i) To collect up-to-date information on fertility, infant and child mortality and family planning;
- ii) To collect information on health-related matters such as breastfeeding, antenatal care, children's immunisations and childhood diseases;
- iii) To assess the nutritional status of mothers and children;
- iv) To support dissemination and utilisation of the results in planning, managing and improving family planning and health services in the country; and
- v) To enhance the survey capabilities of the institutions involved in order to facilitate the implementation of surveys of this type in the future.

Organisation

The Zambia Demographic and Health Survey (ZDHS) was conducted by the University of Zambia (Department of Social Development Studies), with the assistance of the Central Statistical Office (CSO) and the Ministry of Health (MOH). Macro International Inc. of Columbia, Maryland provided technical assistance to the project through its contract with the United States Agency for International Development (USAID). Funding for the survey was supplied by Macro International (from USAID), the United Nations Population Fund (UNFPA), the Norwegian Agency for Development (NORAD), and the Government of Zambia (through the University of Zambia and the Central Statistical Office (CSO)).

Funds from USAID were administered by Macro International and were used for training of interviewers, supervisors and editors, field allowances for interviewers and supervisors, purchase of anthropometric and other survey equipment, data processing, printing of questionnaires and publication of reports. NORAD funds were used for training interviewers, supervisors, editors and purchase of a personal computer and a printer. UNFPA provided funds for fuel and field allowances for the Survey Director and his deputy. In addition to providing vehicles for the survey, the Central Statistical Office (CSO) paid the field allowances for editors, field coordinators and drivers, as well as providing fuel for the household listing exercise. The Ministry of Health contributed most of the field staff.

Sample

In preparation for the 1990 Census of Population, Housing and Agriculture, the entire country was demarcated into Census Supervisory Areas (CSAs). Each CSA was in turn divided into Standard Enumeration Areas (SEAs) of roughly equal size. The frame of 4240 CSAs was stratified into urban and rural areas within each province. The ZDHS sample was selected from this frame in three stages. First, 262 CSAs were selected from this frame with probability proportional to size. One SEA was then selected from within each CSA, again with probability proportion to size. After a household listing operation in all selected SEAs, a systematic sample of households was then selected. As a result of oversampling of households in Luapula, North-Western and Western Provinces in order to produce province-level estimates for some variables, the ZDHS sample is not self-weighting at the national level. A more detailed description of the sample design is presented in Appendix A.

Questionnaires

Two types of questionnaires were used for the ZDHS: the Household Questionnaire and the Individual Questionnaire. The contents of these questionnaires were based on the DHS Model B Questionnaire, which is designed for use in countries with low levels of contraceptive use. Additions and modifications to the model questionnaires were made after consultation with members of the Department of Social Development Studies of the University of Zambia, the Central Statistical Office (CSO), the Ministry of Health, the Planned Parenthood Association of Zambia (PPAZ), and the National Commission for Development Planning (see Appendix E). The questionnaires were developed in English and then translated into and printed in seven of the most widely spoken languages (Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga).

The Household Questionnaire was used to list all the usual members and visitors of a selected household. Some basic information was collected on the characteristics of each person listed, including his/her age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women who were eligible for the individual interview. In addition, information was collected on the household itself, such as the source of water, type of toilet facilities, material used for the floor of the house, and ownership of various consumer goods.

The Individual Questionnaire was used to collect information from women age 15-49 about the following topics:

- Background characteristics (education, religion, etc.);
- Reproductive history;
- Knowledge and use of family planning methods;
- Antenatal and delivery care;
- Breastfeeding and weaning practices;
- Vaccinations and health of children under age five;

Marriage;
 Fertility preferences;
 Husband's background and respondent's work; and
 Awareness of AIDS.

In addition, interviewing teams measured the height and weight of all children under age five and their mothers.

Fieldwork

The fieldwork for the ZDHS was carried out by 10 interviewing teams. Each consisted of one supervisor, one field editor, four interviewers and one driver; however, due to heavier workloads in two provinces, one team had five interviewers and another six. In total, there were 10 supervisors, 10 field editors, 43 interviewers, and 10 drivers. Of the interviewers, 34 were women and 9 were men. In addition, each team was assigned a fieldwork coordinator, generally one of the trainers, who spent approximately half of the fieldwork time in the field with his/her team. Fieldwork commenced on 18th January and was completed on 15th May 1992. The people involved in the survey are listed in Appendix D. A more complete description of the fieldwork is presented in Appendix A.

Table 1.2 is a summary of response rates from the household and the individual interviews. A total of 6,709 households were selected; of these 6,209 were successfully interviewed. The shortfall is due primarily to dwellings being vacant at the time they were visited by the interviewing team. Of the 6,458 households that were occupied, 96 percent were successfully interviewed. In these households, 7,247 women were identified as eligible for the individual interview and 7,060 were successfully interviewed.

Result	Urban	Rural	Total
Households sampled	2577	4132	6709
Households found	2522	3936	6458
Households interviewed	2480	3729	6209
Household response rate	98.3	94.7	96.1
Eligible women	3446	3801	7247
Eligible women interviewed	3358	3702	7060
Eligible women response rate	97.4	97.4	97.4

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

Information on the characteristics of the households and the individual women interviewed in the survey is essential for the interpretation of survey findings and can provide an approximate indication 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 Zambia Demographic and Health Survey collected information on all usual residents and visitors who spent the previous night in the household. The household was defined as a person or group of people living together and sharing a common source of food.

Age and Sex

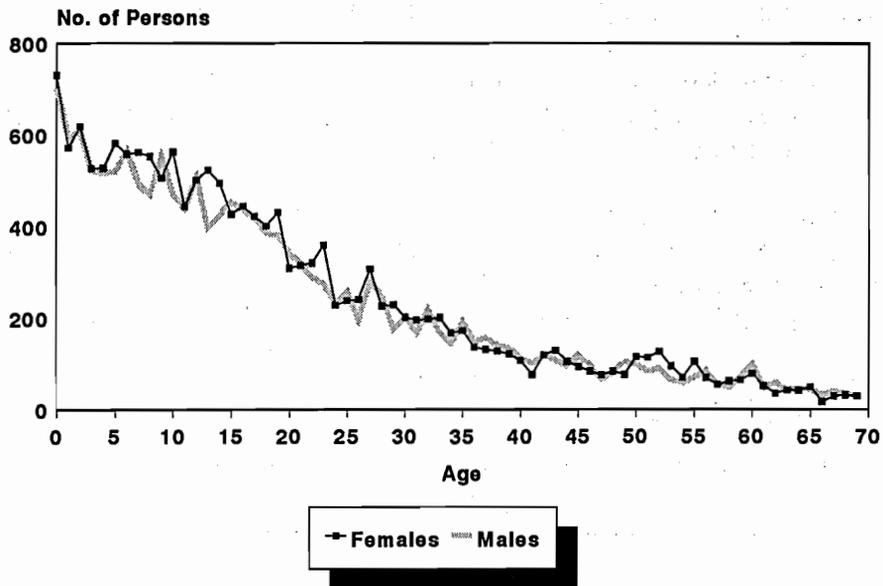
The distribution of the household population in the ZDHS is shown in Table 2.1 by five-year age groups, according to sex and urban-rural residence. The age distribution is typical of high fertility populations, i.e., a much higher proportion of the population in the younger than in the older age groups. Examination of the single-year age distributions (see Appendix C.1 and Figure 2.1) indicates slight distortions

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, Zambia 1992

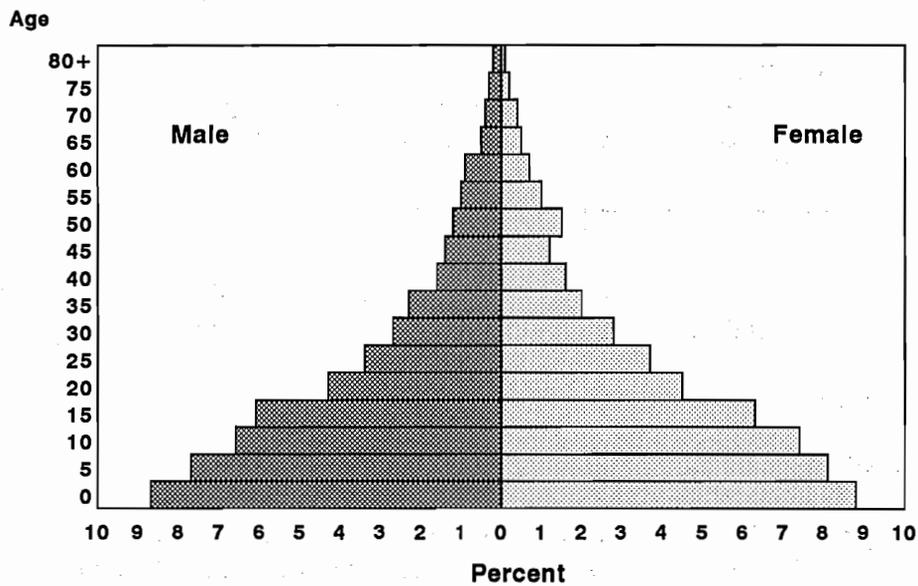
Age group	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	16.5	17.0	16.8	18.8	17.4	18.1	17.7	17.2	17.5
5-9	15.1	15.8	15.4	16.1	16.2	16.2	15.6	16.0	15.8
10-14	12.9	15.5	14.2	14.0	13.9	13.9	13.4	14.6	14.0
15-19	13.0	13.9	13.5	11.9	10.9	11.3	12.4	12.3	12.4
20-24	10.1	9.6	9.9	7.4	8.2	7.8	8.8	8.9	8.8
25-29	7.6	7.9	7.7	6.4	6.5	6.5	7.0	7.2	7.1
30-34	6.1	6.4	6.2	4.7	4.9	4.8	5.4	5.6	5.5
35-39	5.3	4.4	4.8	4.0	3.6	3.8	4.6	4.0	4.3
40-44	3.8	2.8	3.3	2.6	3.3	3.0	3.2	3.1	3.1
45-49	3.2	1.7	2.5	2.4	3.0	2.7	2.8	2.4	2.6
50-54	2.3	2.3	2.3	2.4	3.6	3.1	2.4	3.0	2.7
55-59	1.6	1.2	1.4	2.3	2.8	2.6	2.0	2.0	2.0
60-64	1.0	0.7	0.8	2.5	2.1	2.3	1.7	1.4	1.6
65-69	0.6	0.4	0.5	1.5	1.4	1.5	1.1	0.9	1.0
70-74	0.4	0.3	0.4	1.4	1.2	1.3	0.9	0.8	0.8
75-79	0.2	0.1	0.1	0.9	0.5	0.7	0.5	0.3	0.4
80 +	0.2	0.1	0.1	0.6	0.4	0.5	0.4	0.2	0.3
Missing, don't know	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1
Total	100.0								
Number	8247	8275	16527	8414	8985	17406	16662	17261	33933

Figure 2.1
Number of Persons Reported at Each Age
by Sex, Zambia 1992



ZDHS 1992

Figure 2.2
Distribution of the (de facto) Household
Population by Age, Zambia 1992



ZDHS 1992

of the data due to misreporting of date of birth and/or age and preference for particular digits, though this preference is much less pronounced than in census data and data in many other countries. The distribution by five-year age groups is depicted in Figure 2.2.

There appears to be a slight deficit of males at age 10-14 (especially in urban areas), which causes the excess of females over males to be high at this age group. The irregular bulge of women at age 50-54 is indicative of slight pushing of women from age group 45-49 to 50-54, presumably to reduce the workload of the interviewer. This pattern has been observed to a much greater degree in other DHS surveys (Rutstein and Bicego, 1990). However, the impact of these phenomena on the quality of the data is minimal because the shifting is not as pronounced as noted in other surveys.

Table 2.2 compares the population structures derived from the 1969 and 1980 Population and Housing Censuses and the 1992 ZDHS. Dependency ratios are also shown. The age dependency ratio is the ratio of the number of persons aged 0-14 and 65 and over divided by the number of persons aged 15-64. It is an indication of the dependency responsibility of adults in their productive years.

Age group	Census		ZDHS 1992	
	1969	1980	De jure	De facto
Less than 15	46.4	49.8	46.7	47.3
15-64	51.3	47.4	50.6	50.1
65+	2.3	2.8	2.6	2.6
Missing	0.0	0.0	0.1	0.1
Total	100.0	100.0	100.0	100.0
Median age	-	15.3	16.3	16.0
Dependency ratio	0.95	1.11	0.98	1.00

Sources: Central Statistical Office, 1974; Central Statistical Office, 1985a and 1985b.

The dependency burden in Zambia is similar to that found in other African countries. With close to 50 percent of the population under age 15 and about 3 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

The vast majority of households in Zambia are headed by males (84 percent), with only 16 percent headed by women (see Table 2.3). The ZDHS data show a higher proportion of male-headed households than the 1980 census (72 percent; Central Statistical Office, 1991). Both sources show that female-headed households are more common in the rural than in the urban areas (19 vs. 13 percent in the ZDHS). A sizeable number of households in Western (33 percent), North-Western (22 percent) and Eastern (20 percent) Provinces are headed by women.

Table 2.3 Household composition

Percent distribution of households by sex of head of household, household size, relationship structure, and presence of foster children, according to urban-rural residence and province, Zambia 1992

Characteristic	Residence		Province									Total
	Urban	Rural	Copper-			North-			South-		Western	
			Central	belt	Eastern	Luapula	Lusaka	Northern	Western			
Household headship												
Male	86.9	81.3	86.0	88.3	80.0	80.6	87.2	82.1	78.2	87.8	67.4	83.8
Female	13.1	18.7	14.0	11.7	20.0	19.4	12.8	17.9	21.8	12.2	32.6	16.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of usual members												
1	5.2	7.6	9.6	4.1	5.8	6.2	6.3	6.6	10.6	6.3	9.3	6.5
2	8.0	11.4	11.1	5.9	11.7	14.9	9.0	8.2	17.5	8.9	13.4	9.9
3	9.9	14.2	10.4	8.8	13.1	12.6	12.9	17.4	18.5	10.1	14.7	12.3
4	11.8	14.8	15.3	10.2	14.8	16.5	11.5	16.5	18.0	11.3	16.5	13.5
5	13.1	13.4	11.8	12.7	14.7	15.1	12.7	14.1	13.1	11.8	15.2	13.2
6	11.2	10.1	9.8	10.8	11.7	10.5	11.5	12.5	7.9	8.9	8.5	10.6
7	10.2	8.5	9.5	10.9	9.1	8.7	10.2	8.1	6.1	8.1	8.2	9.2
8	9.5	6.4	8.0	10.5	7.0	6.9	8.3	6.9	4.2	7.0	5.4	7.8
9+	21.1	13.7	14.4	26.1	12.1	8.5	17.4	9.7	4.1	27.6	8.8	17.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean size	6.0	5.3	5.3	6.5	5.2	4.8	5.7	4.9	4.0	6.7	4.7	5.6
Relationship structure												
One adult	7.9	12.2	13.4	6.5	8.6	12.3	8.7	12.4	18.9	8.7	16.3	10.3
Two related adults:												
Of opposite sex	29.8	41.6	34.9	27.5	40.3	45.6	35.2	43.8	54.2	32.0	36.9	36.3
Of same sex	3.4	3.6	4.0	2.6	2.2	5.8	2.6	3.5	5.2	3.6	6.6	3.5
Three or more related adults	54.1	38.3	43.8	60.2	44.8	31.6	49.4	37.1	19.6	47.7	32.7	45.4
Other	4.7	4.3	3.6	3.3	4.0	4.3	4.1	3.3	2.0	7.9	7.5	4.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
With foster children¹	26.0	23.3	22.7	27.8	23.6	22.5	24.5	18.7	22.2	27.9	24.5	24.5

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

¹Foster children are those under age 15 living in households with neither their mother nor their father present.

Single person households are also more common in the rural areas as well as in North-Western, Western, and Central Provinces than in the urban and the other provinces. On the other hand, large households with nine or more persons are common in the urban areas (21 percent) and in Southern (28 percent), Copperbelt (26 percent), and Lusaka (17 percent) Provinces. As a result, average household size is larger in the urban than rural areas (6.0 vs. 5.3 people), and in Southern (6.7), Copperbelt (6.5), and Lusaka (5.7) Provinces than in the other provinces (between 4 and 5). Overall, households in Zambia consist of an average of 5.6 people.

Almost half of the households in Zambia consist of those with three or more related adults, while most of the rest consist of those with two adults of opposite sex. Ten percent of households consist of only one adult, either with or without children.

The patterns of the household structures have been influenced by the high rates of rural-urban migration and urbanisation experienced by the country over the past two decades. One-quarter of the households include one or more children under age 15 years who have neither their natural mother nor natural father living with them. The proportion of households with foster children is higher in the urban areas (26 percent), Copperbelt (28 percent), Southern (28 percent) Lusaka (25 percent) and Western (25 percent) Provinces than in the rural areas and in the other provinces (19 to 23 percent).

Education

On the eve of independence, Zambia had barely 1,000 Africans with secondary school certificates and only 109 university graduates. Development plans were therefore designed to provide educated and skilled manpower for the civil service and industry. The government adopted a policy of achieving universal first level education; one of the major objectives of the Fourth National Development Plan (1989-1993) was to reach this goal of universal primary education by the year 2000.

Zambia's formal education is based on a three-tier system. Under this system, primary education consists of 7 years and secondary education of 5 years (2 years junior secondary and 3 years senior secondary). Graduates of secondary school may then choose to further their education either by attending university for a four-year course leading to a degree or by attending a vocational or technical institute for a two- or three-year certificate/diploma course. 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 modernisation.

The information presented in Tables 2.4.1 and 2.4.2 indicates that one-fifth of the population age 6 and over has received no formal education (15 percent of males and 24 percent of females). About 60 percent of both males and females have attended only primary school and 22 percent of males and 13 percent of females have attended secondary school. Only 2 percent of males and 1 percent of females have obtained higher education.

There is evidence that the sharp differential in educational attainment by sex is narrowing (see Figure 2.3). For example, among people in their early fifties, the proportion of women with no education is thrice the proportion of men with no education (60 vs. 19 percent); among those age 15-19, the difference is considerably smaller (10 vs. 7 percent).

The proportion with no education is much higher in rural than in urban areas for both males and females. Rural residents are more than thrice as likely to have never attended school (30 percent) as urban dwellers (9 percent). Of the provinces, Eastern Province has the highest proportion of both men and women with no education, while Copperbelt Province has the lowest.

Table 2.4.1 Educational level of the male household population

Percent distribution of the de facto male household population age six and over by highest level of education attended, according to selected background characteristics, Zambia 1992

Background characteristic	Level of education				Don't know/missing	Total	Number of men	Median number of years
	None	Primary	Secondary	More than secondary				
Age¹								
6-9	39.4	59.0	0.1	0.0	1.5	100.0	2079	0.8
10-14	10.7	87.5	1.6	0.1	0.1	100.0	2237	3.9
15-19	6.7	65.9	27.3	0.1	0.1	100.0	2074	6.9
20-24	7.3	45.9	45.2	1.2	0.3	100.0	1460	7.7
25-29	5.4	45.8	43.5	5.2	0.2	100.0	1163	7.9
30-34	4.6	45.7	42.9	6.5	0.3	100.0	899	7.9
35-39	5.4	39.1	47.5	7.8	0.2	100.0	768	8.4
40-44	9.2	45.1	37.6	7.7	0.4	100.0	531	7.7
45-49	10.0	58.0	24.7	5.4	1.8	100.0	462	6.5
50-54	18.9	61.8	15.3	2.8	1.1	100.0	396	4.6
55-59	24.3	65.3	6.6	3.1	0.7	100.0	328	3.5
60-64	32.5	59.7	4.1	1.0	2.7	100.0	290	2.4
65+	46.0	48.1	2.8	1.3	1.8	100.0	489	1.2
Residence								
Urban	6.7	54.6	34.2	3.6	0.8	100.0	6638	7.2
Rural	24.0	64.3	10.3	0.9	0.6	100.0	6561	3.7
Province								
Central	15.1	66.2	17.0	1.4	0.3	100.0	1310	4.9
Copperbelt	7.3	55.4	34.4	1.7	1.2	100.0	3317	7.1
Eastern	32.0	56.2	10.6	0.6	0.7	100.0	1422	2.8
Luapula	15.5	63.7	16.6	3.3	0.9	100.0	725	4.3
Lusaka	9.3	53.4	31.1	5.7	0.5	100.0	2276	7.2
Northern	19.7	65.3	13.3	0.9	0.9	100.0	1166	4.4
North-Western	24.6	60.6	11.4	3.0	0.4	100.0	331	3.6
Southern	16.9	63.9	17.5	1.6	0.1	100.0	1942	5.0
Western	23.2	65.2	9.9	1.1	0.6	100.0	710	3.4
Total	15.3	59.4	22.3	2.2	0.7	100.0	13199	5.5

¹Excludes 21 men with age missing.

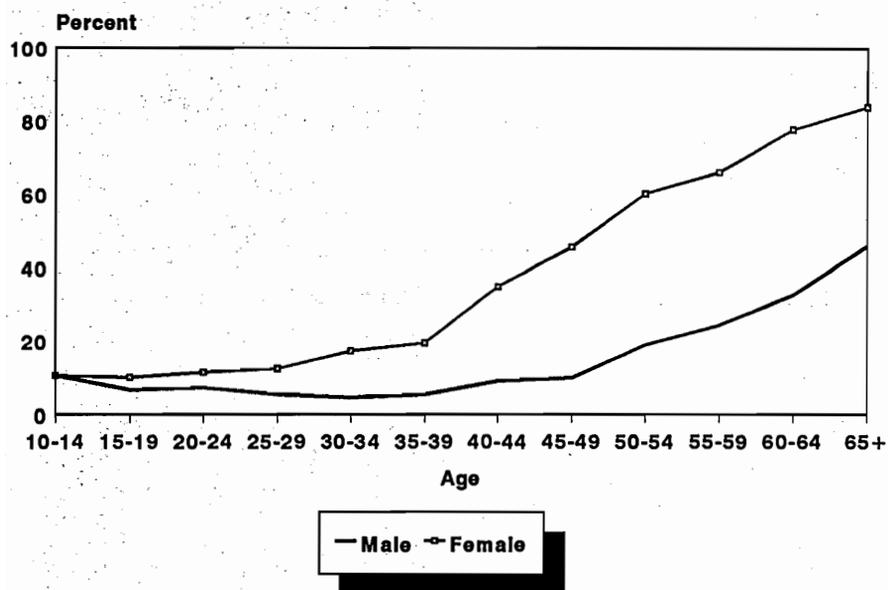
Table 2.4.2 Educational level of the female household population

Percent distribution of the de facto female household population age six and over by highest level of education attended, according to selected background characteristics, Zambia 1992.

Background characteristic	Level of education				Don't know/missing	Total	Number of women	Median number of years
	None	Primary	Secondary	More than secondary				
Age¹								
6-9	36.3	62.5	0.0	0.0	1.2	100.0	2180	0.8
10-14	10.6	86.4	2.8	0.0	0.2	100.0	2526	4.1
15-19	10.1	65.7	24.0	0.1	0.1	100.0	2123	6.9
20-24	11.5	58.4	29.1	0.8	0.2	100.0	1531	7.2
25-29	12.5	59.6	25.0	2.9	0.0	100.0	1241	7.1
30-34	17.3	60.9	18.7	3.1	0.0	100.0	964	7.0
35-39	19.5	55.3	20.8	4.3	0.0	100.0	687	6.5
40-44	34.9	51.1	10.5	3.4	0.1	100.0	534	2.8
45-49	45.7	49.4	4.4	0.5	0.0	100.0	410	1.3
50-54	60.2	35.7	1.9	0.6	1.6	100.0	518	0.0
55-59	66.1	31.5	1.1	0.3	1.0	100.0	354	0.0
60-64	77.7	19.9	0.5	0.0	1.9	100.0	247	0.0
65+	83.9	14.5	0.0	0.0	1.6	100.0	385	0.0
Residence								
Urban	11.5	64.7	21.7	1.7	0.4	100.0	6598	6.0
Rural	36.4	58.4	4.5	0.3	0.5	100.0	7105	2.1
Province								
Central	26.0	62.4	10.6	0.9	0.1	100.0	1246	3.2
Copperbelt	11.5	66.9	20.0	0.9	0.7	100.0	3272	5.9
Eastern	45.6	49.5	4.3	0.5	0.2	100.0	1495	1.0
Luapula	26.5	63.3	8.3	1.0	0.9	100.0	825	2.9
Lusaka	15.7	61.2	20.3	2.7	0.2	100.0	2239	5.8
Northern	35.3	57.0	6.7	0.3	0.7	100.0	1325	2.3
North-Western	36.2	54.8	8.1	0.6	0.3	100.0	370	2.4
Southern	23.2	66.3	9.7	0.5	0.3	100.0	2075	3.9
Western	35.8	57.0	6.1	0.5	0.6	100.0	855	2.3
Total	24.4	61.4	12.7	1.0	0.4	100.0	13703	4.0

¹Excludes 3 women with age missing.

Figure 2.3
Percentage of the Household Population with
No Education, by Sex



ZDHS 1992

Table 2.5 presents enrolment rates by age, sex and residence. Seventy percent of children aged 6-15 years are enrolled in school. Enrolment is higher in urban areas (8 of 10 children are enrolled) than in rural areas (nearly 6 of 10 children are enrolled); and boys and girls have a virtually equal chance of being enrolled (71 percent vs. 69 percent). Enrolment after age 15 drops substantially; only 34 percent of the older teenagers are still in school and only 5 percent of those in their early twenties are still in school; the proportions are higher in urban than rural areas in all groups. By age group 11-15 and above, women are much less likely than men to be enrolled in school; this may in part be due to early childbearing.

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, Zambia 1992

Age group	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-10	75.9	48.9	61.7	81.5	51.3	65.6	78.8	50.2	63.8
11-15	89.7	72.3	80.8	82.2	64.5	73.8	85.7	68.4	77.2
6-15	82.4	59.7	70.6	81.9	57.1	69.4	82.1	58.4	70.0
16-20	51.5	39.7	45.9	32.0	12.7	22.9	41.6	26.1	34.3
21-24	9.6	6.4	8.2	2.6	0.3	1.5	6.1	3.0	4.7

2.2 Housing Characteristics

Socioeconomic conditions were assessed by asking respondents specific questions relating to their household environment. Table 2.6 presents this information for all households in which women were interviewed.

Table 2.6 Housing characteristics

Percent distribution of households by housing characteristics, according to urban-rural residence and province, Zambia 1992

Characteristic	Residence		Province									Total
	Urban	Rural	Copper-			Luapula	Lusaka	North-		South-	Western	
			Central	belt	Eastern			Northern	Western			
Electricity	39.2	3.1	13.8	45.8	2.7	6.3	31.0	2.1	5.2	17.0	0.9	19.2
Source of drinking water												
Piped into residence	55.5	3.3	13.1	66.7	1.4	7.9	50.2	4.9	5.0	15.0	2.0	26.6
Public tap	33.6	7.2	22.2	18.5	10.2	2.7	39.2	4.6	10.2	24.0	17.8	19.0
Well in residence	2.8	2.6	6.9	3.3	1.9	4.1	0.6	2.2	1.2	2.9	0.6	2.7
Public well	6.2	38.0	42.2	7.3	42.0	24.7	4.6	9.3	58.6	21.4	64.8	23.8
Spring	0.9	12.3	9.9	0.3	0.0	36.3	0.1	31.3	0.8	1.6	0.2	7.2
River, stream	0.5	23.5	4.8	3.3	13.3	18.3	4.5	34.8	24.0	24.2	10.0	13.2
Pond, lake	0.3	12.6	0.7	0.1	30.4	5.7	0.3	12.7	0.0	11.0	4.1	7.1
Other	0.0	0.2	0.0	0.0	0.8	0.2	0.2	0.0	0.0	0.0	0.0	0.2
Missing, don't know	0.2	0.3	0.2	0.5	0.0	0.2	0.2	0.0	0.2	0.1	0.5	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sanitation facility												
Own flush toilet	43.3	1.4	12.2	57.4	1.1	8.3	30.8	3.6	4.1	7.0	0.5	20.2
Shared flush toilet	4.6	0.3	0.4	4.1	0.5	1.2	1.4	0.3	0.0	7.2	0.2	2.2
Trad. pit toilet	46.6	42.4	55.9	35.8	30.6	59.5	57.8	60.4	77.0	24.0	22.9	44.3
Vent.imp.pit latrine	1.0	1.8	1.6	0.4	7.3	0.2	1.3	0.2	1.7	0.1	0.5	1.5
No facility, bush	4.3	53.8	29.9	1.8	60.5	30.7	8.5	35.3	17.1	61.5	75.9	31.7
Other	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Missing, don't know	0.1	0.2	0.0	0.4	0.0	0.2	0.1	0.0	0.2	0.1	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Flooring												
Earth, sand	14.1	83.8	65.7	12.5	84.5	79.1	12.7	85.1	82.2	56.7	90.6	52.6
Wood planks/parquet	1.1	0.2	0.4	0.2	0.2	0.2	2.6	0.2	0.0	0.4	0.0	0.6
PVC/terrazo tiles	4.6	0.1	0.6	3.8	0.0	0.8	7.4	0.0	0.0	0.3	0.0	2.1
Cement	78.9	15.2	32.5	81.2	15.1	19.4	76.8	14.6	17.6	42.0	8.4	43.7
Other	1.0	0.2	0.9	1.3	0.0	0.4	0.4	0.0	0.0	0.4	0.7	0.6
Missing, don't know	0.3	0.4	0.0	1.1	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons per sleeping room												
1-2	54.2	55.2	66.9	52.1	66.4	58.3	52.4	37.3	58.1	49.8	61.0	54.8
3-4	37.7	33.7	29.5	41.0	29.4	30.2	36.8	40.6	32.6	37.1	31.3	35.5
5-6	6.0	7.4	2.6	4.8	3.2	5.7	8.7	13.2	6.6	10.1	6.1	6.8
7 +	1.4	3.0	0.6	1.0	0.6	4.0	1.8	8.9	2.0	2.0	1.5	2.3
Missing, don't know	0.7	0.6	0.5	1.1	0.3	1.7	0.4	0.0	0.6	1.0	0.0	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	2.8	2.8	2.4	2.8	2.5	2.8	2.9	3.5	2.6	3.0	2.6	2.8
Number of households	2777	3432	626	1271	717	437	1010	659	247	793	448	6209

Electricity is available to only 19 percent of the households in Zambia. Moreover, most of those with electricity are urban households; 39 percent and 3 percent of the urban and rural households, respectively, have electricity. The proportion of households with electricity ranges from less than 1 percent in Western Province to 31 and 46 percent in Lusaka and Copperbelt Provinces, respectively.

Sources of drinking water differ considerably by area of residence. In urban areas, piped water is the primary source; 56 percent of households have water piped into the residence and another 34 percent obtain water from a public tap. In rural areas, public wells (38 percent) and rivers and streams (24 percent) are the main sources of drinking water. A sizeable proportion of rural households depends on ponds or lakes (13 percent) and springs (12 percent) for drinking water. Seven in ten households in the Copperbelt and half in Lusaka Province have water piped into their residence, compared with only 1 and 2 percent in Eastern and Western Provinces, respectively. Public wells are the major sources of drinking water in Central, Eastern, North-Western and Western Provinces. Households in Northern, North-Western and Southern Provinces also depend to a large extent on rivers and streams.

One in five Zambian households has a flush toilet, while two in five have traditional pit toilets; almost one-third have no sanitation facilities at all, using the bush. Modern sanitation facilities are absent from virtually all rural households as well as more than one-half of urban households. Traditional pit toilets are common in both urban and rural areas (47 percent and 42 percent, respectively); in urban areas, most of the rest of the households have flush toilets (48 percent), while in rural areas, the majority of the households have no toilet facilities (54 percent). Besides Copperbelt, Lusaka and North-Western Provinces, between one-quarter and three-quarters of households in the other provinces have no toilet facilities. In North-Western Province, eight in ten households use traditional pit toilets.

Almost all Zambian households live in residences with either earthen (53 percent) or cement (44 percent) floors. Cement flooring is most common for urban households (79 percent), whilst earthen floors are most common for rural households (84 percent). Cement flooring is most common in the Copperbelt and Lusaka Province and, to some extent, in Southern Province. Earth is the common flooring material in the remainder of the provinces.

Information was collected on the number of rooms households use for sleeping (a measure of crowding). The majority of households have one or two persons per sleeping room, while in one third of the households, three or four persons share a room for sleeping. Although there are more people per household in urban areas, the dwelling units there must consist of more bedrooms, since there is almost no difference between urban and rural households in number of people per sleeping room. Households in Northern and Southern Provinces tend to sleep in relatively more crowded conditions than those in other provinces; the average number of persons per room ranges between 3.0 and 3.5, compared with between 2.4 and 2.9 in the other provinces (See Table 2.6).

Household Durable Goods

Respondents were asked about ownership of particular household goods such as radios and televisions (to assess access to media), refrigerators (to assess food storage) and modes of transportation (bicycle, motorcycle, car). The results presented in Table 2.7 indicate that 39 percent of households own a radio (59 percent in urban areas and 23 percent in rural areas) and 8 percent own a television (18 percent in urban areas, 1 percent in rural areas). Seven percent of households own refrigerators (15 percent in urban and 1 percent in rural areas). Thus, televisions and refrigerators are mostly restricted to urban areas, presumably as a result of lack of electricity and/or financial resources in the rural areas. Due to the greater level of urbanisation, households in the Copperbelt and Lusaka Provinces are more likely to own radios, televisions and refrigerators than households in the other provinces.

Table 2.7 Household durable goods

Percentage of households possessing various durable consumer goods, according to urban-rural residence and province, Zambia 1992

Characteristic	Residence		Province									Total
	Urban	Rural	Copper-			Luapula	Lusaka	North-		South-	Western	
			Central	belt	Eastern			Northern	Western			
Radio	59.4	23.0	39.0	54.5	25.0	23.0	64.3	19.5	24.5	37.7	18.5	39.3
Television	17.5	0.9	5.6	16.5	1.1	2.7	21.6	0.3	3.2	2.7	0.5	8.3
Refrigerator	15.0	0.7	5.9	15.2	0.8	1.8	16.9	0.7	2.3	2.0	0.2	7.1
Bicycle	15.8	21.7	26.4	16.7	27.3	11.9	13.5	23.9	31.4	19.3	8.3	19.1
Motorcycle	1.3	0.5	1.6	0.9	0.3	0.7	1.1	0.9	1.1	0.6	0.5	0.9
Car	8.1	1.0	4.0	6.6	1.7	1.1	11.9	0.7	0.2	1.0	0.2	4.2
Number of households	2777	3432	626	1271	717	437	1010	659	247	793	448	6209

Overall, one in five households owns a bicycle, while only 4 percent own a car and less than one percent own a motorcycle. Bicycles are the only household possession listed that are more common among rural than urban households. The proportion owning a private car ranges from 12 percent of households in Lusaka Province to less than one percent in the Western and North-Western Provinces.

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 to probe 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.

Examination of the single-year age distribution of women (not shown) indicates no systematic preference for reporting ages ending in particular digits (*age heaping*) that is often found in surveys and censuses. The irregularities found in the ZDHS may be attributable to nonsystematic misreporting of date of birth and/or age. The distortions are, however, virtually eliminated by the conventional five-year grouping of the data. Table 2.8 presents the age distribution of women in the ZDHS compared with that of women enumerated in the 1980 census. Although the proportion of women of reproductive age is virtually the same in both cases (44 percent of the female population), the age structure for women 15-49 in the ZDHS is younger than that for women 15-49 in the census. Specifically, the proportion of women age 15-19 is higher in the ZDHS than in the census: 28 percent, compared with 25 percent in 1980. It is not clear whether this difference is real or whether it is the result of some pattern of age misreporting.

Table 2.8 Age distribution of women, 1980 and 1992

Percent distribution of women of reproductive age, Zambia, 1980 and 1992

Age	1980 Census	1992 ZDHS
15-19	24.6	28.1
20-24	20.0	20.4
25-29	16.3	16.7
30-34	13.3	13.0
35-39	10.5	9.3
40-44	8.6	7.2
45-49	6.7	5.4
Total	100.0	100.0

Table 2.9 Background characteristics of respondents

Percent distribution of women by selected background characteristics, Zambia 1992

Background characteristic	Weighted percent	Number of women	
		Weighted	Un-weighted
Age			
15-19	28.1	1984	1964
20-24	20.4	1441	1435
25-29	16.7	1179	1178
30-34	13.0	915	922
35-39	9.3	656	660
40-44	7.2	505	511
45-49	5.4	380	390
Marital status			
Single	25.4	1791	1765
Married	61.1	4316	4334
Living together	2.0	141	133
Widowed	2.3	162	166
Divorced	7.0	493	508
Separated	2.2	156	154
Education			
No education	16.4	1161	1212
Primary	59.7	4213	4246
Secondary	22.1	1561	1486
Higher	1.8	124	115
Residence			
Urban	51.5	3636	3358
Rural	48.5	3424	3702
Province			
Central	8.8	622	565
Copperbelt	24.7	1743	1606
Eastern	10.3	729	658
Luapula	6.1	431	589
Lusaka	17.5	1234	1137
Northern	9.2	652	590
North-Western	2.6	183	387
Southern	14.8	1045	947
Western	6.0	422	581
Religion			
Catholic	27.9	1973	1914
Protestant	69.0	4871	4912
Other	3.0	210	228
Missing, don't know	0.1	7	6
Ethnic group			
Bemba	34.4	2430	2421
Tonga	18.5	1308	1193
Northwestern	9.1	645	864
Baroste	6.9	485	567
Nyanja	17.5	1238	1133
Mambwe	5.6	393	362
Tumbuka	5.4	381	349
Other	2.4	167	155
Missing, don't know	0.2	15	16
All women	100.0	7060	7060

The data in Table 2.9 indicate that 63 percent of the respondents are currently in a union (either married or living together),¹ 25 percent have never been married, 9 percent are either divorced or separated and 2 percent are widowed. The percentage of women who are currently married appears to be declining. The 1980 census reported a higher percentage currently married (67 percent) among women age 15-49. Marriage patterns are discussed in detail in Chapter 5.

A large majority of the ZDHS respondents have had some education. Sixty percent have attended only primary school, 22 percent have attended secondary school and 2 percent have gone beyond the secondary level; 16 percent have never attended school.

The rapid increase in urbanisation in the country over the past two decades is reflected in ZDHS data on the distribution of the women by residence: nearly equal numbers of women live in urban and rural areas. The data indicate that over 40 percent of the women live in the most urbanised provinces: Copperbelt (25 percent) and Lusaka (18 percent); 19 percent reside in Central and Eastern Provinces, 6 percent in Luapula and 15 percent in Southern Province, whilst North-Western and Western Provinces account for a total of 9 percent of the women interviewed.

Nearly all the women interviewed report themselves as Christian (97 percent), either Protestant (69 percent) or Catholic (28 percent). Those who adhere to other belief systems (traditional religion, Islam, and no religion) account for 3 percent (with less than 0.5 percent reporting themselves as Muslim).

The Bemba group is the largest ethnic grouping, accounting for a little over one-third of the respondents; 19 and 18 percent of women belong to the Tonga and Nyanja groups, respectively. The North-Western group (comprised of Luvale, some Lunda groups, Kaonde, and other smaller tribes in North-Western Province) is the fourth largest with 9 percent of the women; the Baroste language group (which includes Lozi) comprises 7 percent of respondents, with Mambwe and Tumbuka accounting for 6 and 5 percent, respectively.

Differentials in Education

Table 2.10 presents the distribution of the respondents by education according to selected characteristics. Education is inversely related to age; that is, older women are generally less educated than younger women. For instance, 46 percent of the women aged 45-49 years have had no formal schooling, compared to only 11 percent of the women age 15-19 years.

Rural women are educationally disadvantaged compared to urban women. More than one-quarter of rural women of childbearing age have never been to school, compared to only 7 percent of urban women. Conversely, four times as many urban women go beyond the primary level as rural women (38 percent vs. 9 percent). Table 2.10 also indicates that women residing in Copperbelt and Lusaka Provinces are more likely to have received secondary education, followed by women in Central and Southern Provinces. And though the differences by province in the percentage of women who have had only primary schooling are minor, the percentage of women with no education is higher in four provinces; Eastern (36 percent), Northern (27 percent), Western (25 percent) and North-Western (23 percent).

¹ Throughout this report, the term "married" includes both those in formal and informal marriages (living together).

Table 2.10 Level of education

Percent distribution of women by the highest level of education attended, according to selected background characteristics, Zambia 1992

Background characteristic	Level of education				Total	Number of women
	None	Primary	Secondary	Higher		
Age						
15-19	10.7	65.2	24.1	0.1	100.0	1984
20-24	11.4	58.9	28.9	0.8	100.0	1441
25-29	11.9	59.8	25.5	2.8	100.0	1179
30-34	17.2	60.6	18.9	3.3	100.0	915
35-39	20.5	55.1	19.8	4.4	100.0	656
40-44	35.1	52.0	9.5	3.4	100.0	505
45-49	46.1	49.6	4.0	0.3	100.0	380
Residence						
Urban	7.0	55.2	34.9	2.9	100.0	3636
Rural	26.5	64.5	8.6	0.5	100.0	3424
Province						
Central	15.7	63.1	19.5	1.8	100.0	622
Copperbelt	6.7	58.5	33.3	1.5	100.0	1743
Eastern	36.4	54.3	8.4	0.9	100.0	729
Luapula	16.6	66.4	15.1	1.8	100.0	431
Lusaka	11.5	52.5	31.6	4.4	100.0	1234
Northern	27.0	60.2	12.3	0.5	100.0	652
North-Western	23.2	61.6	14.0	1.2	100.0	183
Southern	13.7	67.4	18.0	0.9	100.0	1045
Western	25.3	62.1	11.9	0.7	100.0	422
Total	16.4	59.7	22.1	1.8	100.0	7060

Access to Media

Women were asked if they usually read a newspaper, listen to the 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. Table 2.11 shows that whilst nearly 57 percent of the women interviewed listen to radio weekly, 42 percent read a newspaper and only 22 percent watch television at least once a week. Media access is higher among younger women (i.e., age 15-39 years), about 43 percent of whom read a newspaper at least once a week, slightly over 20 percent watch television and between 56 and 60 percent listen to the radio once a week. Much higher proportions of educated women, women in urban areas and women residing in Copperbelt and Lusaka Provinces read newspapers, watch television and listen to the radio.

Table 2.11 Access to mass media

Percentage of women who usually read a newspaper once a week, watch television once a week, or listen to radio once a week, by selected background characteristics, Zambia 1992

Background characteristic	Read newspaper weekly	Watch television weekly	Listen to radio weekly	Number of women
Age				
15-19	43.0	27.4	56.4	1984
20-24	44.3	21.1	60.2	1441
25-29	43.9	22.4	60.9	1179
30-34	45.2	20.7	60.5	915
35-39	42.9	20.7	56.7	656
40-44	32.3	12.9	46.5	505
45-49	21.7	4.8	38.4	380
Education				
No education	1.9	3.6	27.5	1161
Primary	37.5	16.1	55.0	4213
Secondary	79.0	45.6	80.3	1561
Higher	92.2	72.8	96.5	124
Residence				
Urban	59.2	38.5	76.7	3636
Rural	23.3	3.5	35.6	3424
Province				
Central	44.7	15.8	54.2	622
Copperbelt	59.1	39.6	75.1	1743
Eastern	23.8	5.4	36.2	729
Luapula	32.9	5.9	38.2	431
Lusaka	62.9	41.2	81.7	1234
Northern	26.7	3.0	33.4	652
North-Western	30.8	8.2	49.9	183
Southern	23.6	9.6	41.7	1045
Western	17.0	5.9	43.3	422
Total	41.8	21.5	56.8	7060

Compared to DHS surveys in other countries, women in Zambia are relatively more likely to read newspapers and less likely to watch television. For example, the proportion of women who read newspapers once a week is 11 percent in Jordan, 16 percent in the Dominican Republic, 14 percent in Pakistan, 27 percent in Indonesia and about 70 percent in Peru and Paraguay. The proportion of women who watch television at least once a week is lower in Zambia than in all these other countries. This implies that printed media might be a more effective vehicle than television for disseminating messages.

CHAPTER 3

FERTILITY

The fertility measures presented in this chapter are based on the reported reproductive histories of women age 15-49 who were interviewed in the ZDHS. 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 live-born children, including the month and year each was born, the name, the sex, and if dead, the age at death and if alive, the current age and whether he/she was living with the respondent. Based on this information, measures of completed fertility (number of children ever born) and current fertility (age-specific and total fertility rates) are examined. These measures are also analysed in connection with various background characteristics.

3.1 Fertility Levels and Trends

Age-specific fertility rates for the three-year period preceding the survey are shown in Table 3.1, along with data from the 1980 census for comparison. It appears that fertility has declined in Zambia over the past decade (see Figure 3.1); data from the 1990 census should shed more light on trends in fertility. The sum of the age-specific fertility rates (known as the total fertility rate) is a useful means of summarising the 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 the levels measured in the ZDHS, a Zambian woman would bear 6.5 children in her lifetime. This is lower than the rate of 7.2 estimated from the 1980 census data, implying a decline of about 10 percent over the past decade.

Age-specific fertility rates from the ZDHS are shown in Table 3.2 by urban-rural residence and by province.¹ Data for some provinces have been combined to increase sample sizes to acceptable levels; however, despite this precaution, readers are urged to view the data with caution as sampling errors are probably still large.

Table 3.1 Age-specific fertility rates over time

Age-specific fertility rates as reported and adjusted in the 1980 census and as reported in the 1992 ZDHS

Age group	1980 census		ZDHS
	As reported	Adjusted	As reported
15-19	61	153	156
20-24	239	318	294
25-29	253	323	271
30-34	223	289	242
35-39	181	225	194
40-44	108	115	105
45-49	70	17	31
TFR 15-49	5.7	7.2	6.5

Note: The ZDHS rates refer to the three-year period preceding the survey.

Source: Central Statistical Office, 1985b.

¹ Numerators of the age-specific fertility rates in Table 3.2 are calculated by summing the number of live births that occurred in the period 1-36 months preceding the survey (determined by the date of interview and date of birth of the child), and classifying them by the age (in five-year groups) of the mother at the time of birth (determined by the mother's date of birth). 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.

Figure 3.1
Age-Specific Fertility Rates
Zambia, 1980 and 1992

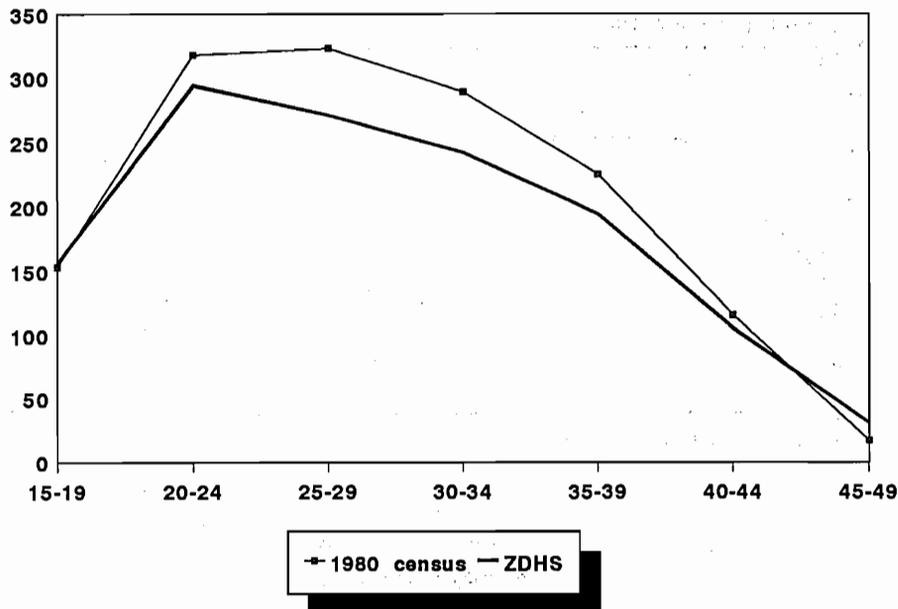


Table 3.2 Current fertility

Age-specific and cumulative fertility rates and crude birth rates for the three years preceding the survey, by urban-rural residence and province, Zambia 1992

Age group	Province								
	Residence		Province						Total
	Urban	Rural	Copper-belt	Eastern, Central	Lusaka	Luapula, Northern	Southern	North-Western, Western	
15-19	133	184	130	204	134	159	168	158	156
20-24	263	328	291	289	263	363	284	268	294
25-29	265	276	274	268	268	274	284	245	271
30-34	222	264	234	269	168	282	296	223	242
35-39	171	221	168	208	170	243	(213)	188	194
40-44	78	121	(104)	94	(76)	126	(120)	(112)	105
45-49	28	32	(43)	(29)	*	(33)	*	(10)	31
TFR 15-49	5.8	7.1	6.2	6.8	5.5	7.4	7.1	6.0	6.5
TFR 15-44	5.7	7.0	6.0	6.7	5.4	7.2	6.8	6.0	6.3
GFR	199	238	208	232	191	241	230	207	218
CBR	44	46	44	46	43	50	46	43	45

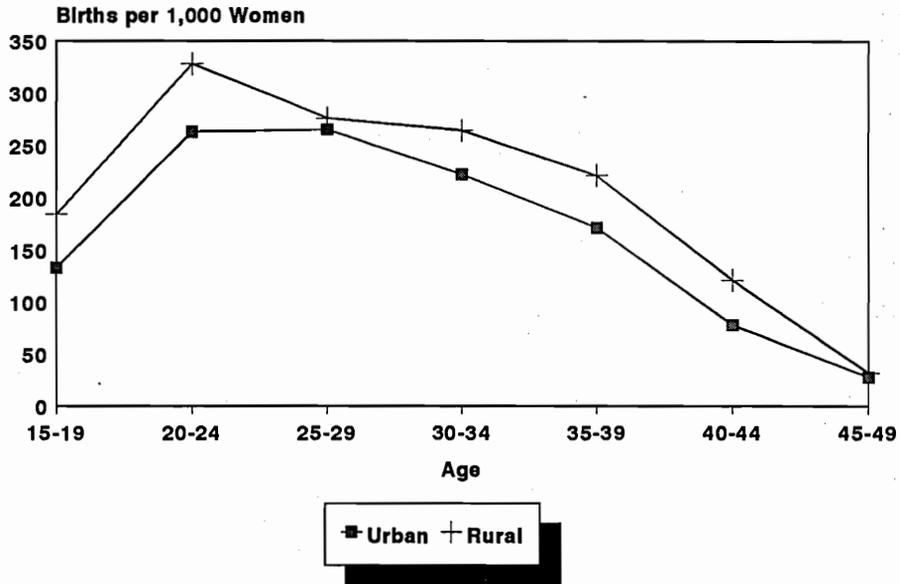
TFR: Total fertility rate expressed per woman

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

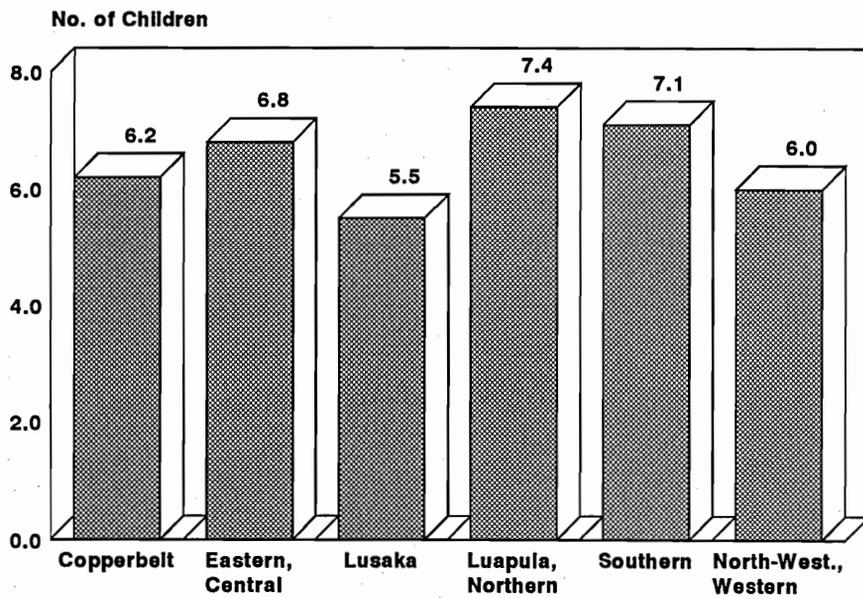
Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation. Rates shown in parentheses are based on 125-249 woman-years of exposure; an asterisk means the rate was based on fewer than 125 woman-years of exposure and has been suppressed. Some provinces have been grouped together to increase sample sizes.

Figure 3.2
Age-Specific Fertility Rates
By Residence



ZDHS 1992

Figure 3.3
Total Fertility Rates by Province



ZDHS 1992

The data show that rural fertility rates are higher than urban rates; a rural woman can expect to have 7.1 children on average, compared to 5.8 for an urban woman. Rural fertility also peaks at an earlier age than urban fertility (see Figure 3.2).

There is considerable variation in fertility levels by province. Fertility is lowest in Lusaka Province with a total fertility rate of 5.5 children born per woman, followed by North-Western and Western Provinces, with a combined total fertility rate of 6.0 children per woman. Fertility is highest in Luapula and Northern Provinces, with a combined total fertility rate of 7.4. Thus, women in the latter two provinces give birth to an average of two more children than women in Lusaka Province by the time they finish childbearing (see Figure 3.3).

Fertility also varies considerably by education level of women (see Table 3.3). Women with no education can expect to give birth to 7.1 children on average, compared to 4.9 for women with secondary or higher education.

In addition to comparing the ZDHS data with previous data such as the 1980 census, another way of examining trends in fertility over time is to compare the total fertility rates for the three years preceding the survey with the average number of children ever born to women at the end of their childbearing period, age 40-49. The former is a measure of current fertility, while the latter is a measure of past or completed fertility. The data in Table 3.3 imply that there has been a decline of about one child over the past 10-20 years in Zambia.

Further evidence of a fertility decline appears in Table 3.4, which shows age-specific fertility rates for five-year periods prior to the survey, using data from respondents' birth histories. Figures in brackets represent partial fertility rates due to truncation; women 50 years of age and older were not included in the survey and the further back into time rates are calculated, the more severe is the truncation. For example, rates cannot be calculated for women age 45-49 for the period 5-9 years before the survey, because those women would have been age 50-54 at the time of the survey and were not interviewed. It should also be noted that misreporting of the date of birth of children can result in the appearance of false trends in fertility. The data, however, show a steady decline in fertility rates at all ages for almost all periods, but this will have to be confirmed by analysis of other sources of fertility information.

Table 3.3 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, Zambia 1992

Background characteristic	Total fertility rate ¹	Mean number of children ever born to women age 40-49
Residence		
Urban	5.8	7.4
Rural	7.1	7.9
Province		
Copperbelt	6.2	7.9
Eastern, Central	6.8	7.8
Lusaka	5.5	7.1
Luapula, Northern	7.4	8.1
Southern	7.1	8.0
North-Western, Western	6.0	7.0
Education		
No education	7.1	7.8
Primary	6.8	7.8
Secondary+	4.9	6.7
Total	6.5	7.7

¹Women age 15-49 years

Table 3.4 Age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age, Zambia 1992

Mother's age	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
15-19	152	173	200	243
20-24	281	295	328	364
25-29	266	309	304	352
30-34	238	281	280	[331]
35-39	189	239	[246]	-
40-44	109	[156]	-	-
45-49	[32]	-	-	-

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

Table 3.5 presents fertility rates for ever-married women by duration since first marriage for five-year periods preceding the survey. It is analogous to Table 3.4, but is confined to ever-married women and replaces age with duration since first marriage. The data confirm that the decline in fertility is apparent for all marriage durations.

3.2 Children Ever Born

The distribution of women by number of children ever born is presented in Table 3.6 for all women and for currently married women. The table also shows the mean number of children ever born (CEB) to women in each five-year age group. On average, women have given birth to three children by their late twenties, six children by their late thirties, and eight children by the end of their childbearing years. The distribution of women by number of births indicates that over one-quarter of teens (age 15-19) have already borne a child, and over one-third of women age 45-49 have borne ten or more children.

Table 3.5 Fertility by marital duration

Fertility rates for ever-married women by duration since first marriage in years, for five-year periods preceding the survey, Zambia 1992

Marriage duration at birth	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
0-4	341	348	367	398
5-9	296	321	324	382
10-14	256	298	316	355
15-19	223	279	266	[300]
20-24	169	216	[211]	-
25-29	76	[155]	-	-

Note: Fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated.

Table 3.6 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, Zambia 1992

Age group	Number of children ever born (CEB)											Total	Number of women	Mean no. of CEB	Mean no. of living children	
	0	1	2	3	4	5	6	7	8	9	10+					
ALL WOMEN																
Age																
15-19	72.8	22.5	4.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1984	0.3	0.3
20-24	20.4	29.6	28.7	15.3	5.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	100.0	1441	1.6	1.3
25-29	8.2	11.3	16.3	23.6	19.9	12.7	5.2	2.4	0.3	0.1	0.0	0.0	100.0	1179	3.1	2.6
30-34	3.9	4.4	7.8	11.6	15.5	17.7	15.3	12.8	7.9	2.5	0.5	0.0	100.0	915	4.8	4.0
35-39	2.0	2.7	3.8	5.4	8.4	11.9	14.7	14.9	16.3	9.7	10.1	0.0	100.0	656	6.4	5.4
40-44	1.4	1.9	3.9	3.3	6.8	9.8	7.8	12.0	13.3	13.9	25.9	0.0	100.0	505	7.4	6.0
45-49	1.4	2.5	2.7	2.8	3.6	5.3	7.5	11.2	12.1	14.9	35.9	0.0	100.0	380	8.1	6.4
Total	26.9	15.4	11.5	9.6	7.8	6.7	5.2	4.9	4.2	3.0	4.8	0.0	100.0	7060	3.1	2.6
CURRENTLY MARRIED WOMEN																
Age																
15-19	36.1	48.8	13.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	526	0.8	0.7
20-24	10.7	28.1	33.7	19.4	6.8	1.0	0.2	0.0	0.0	0.0	0.0	0.0	100.0	989	1.9	1.5
25-29	5.1	8.2	15.4	25.1	21.8	15.1	6.3	2.6	0.3	0.1	0.0	0.0	100.0	943	3.4	2.8
30-34	2.0	3.4	7.6	9.9	14.1	18.8	16.8	14.2	9.4	3.0	0.7	0.0	100.0	755	5.1	4.3
35-39	1.2	1.8	2.5	5.0	7.0	11.2	15.3	15.3	17.6	11.3	12.0	0.0	100.0	537	6.7	5.7
40-44	0.9	1.8	3.8	2.0	5.6	9.1	6.9	12.3	13.0	15.5	29.4	0.0	100.0	412	7.7	6.3
45-49	1.3	1.7	1.9	2.1	3.7	4.7	6.6	11.7	12.1	14.3	39.9	0.0	100.0	295	8.4	6.7
Total	8.4	14.8	14.4	12.4	10.1	9.1	7.1	6.7	5.8	4.3	6.9	0.0	100.0	4457	4.2	3.5

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 (either divorce or widowhood). The parity distribution for older, currently married women provides a measure of *primary infertility*—the proportion of women who are unable to have children at all. Voluntary childlessness is rare in Zambia, and married women with no live births are most likely unable to bear children. The ZDHS results suggest that primary infertility is low, with only about one percent of Zambian women unable to bear children. It should be noted that this estimate of primary infertility does not include women who may have had one or more births but who are unable to have more (*secondary infertility*).

Table 3.7 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, Zambia 1992

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	17.8	22.5	50.2	5.7	3.8	100.0	26.3	103
20-29	7.7	14.5	51.0	14.0	12.8	100.0	29.9	2465
30-39	5.1	9.4	47.5	18.3	19.7	100.0	33.2	1818
40 +	3.3	9.7	41.0	20.5	25.6	100.0	36.2	482
Birth order								
2-3	7.5	14.5	47.6	13.2	17.2	100.0	30.2	1937
4-6	5.8	10.5	50.0	17.7	16.0	100.0	32.0	1721
7 +	6.0	11.2	48.5	18.4	15.9	100.0	32.6	1212
Sex of prior birth								
Male	6.7	11.8	49.3	15.1	17.1	100.0	31.5	2409
Female	6.3	12.8	48.1	17.1	15.8	100.0	31.4	2460
Survival of prior birth								
Living	3.4	11.0	51.9	17.0	16.8	100.0	32.0	3983
Dead	20.7	18.1	34.4	12.0	14.9	100.0	27.3	887
Residence								
Urban	6.3	12.1	47.2	16.4	18.1	100.0	31.4	2230
Rural	6.7	12.4	49.9	15.8	15.1	100.0	31.5	2640
Province								
Central	5.9	11.6	52.4	16.7	13.4	100.0	30.9	467
Copperbelt	6.6	10.6	51.8	14.6	16.4	100.0	31.0	1129
Eastern	10.1	11.2	47.2	16.1	15.4	100.0	31.8	504
Luapula	8.3	14.8	52.7	12.1	12.2	100.0	29.2	332
Lusaka	5.2	13.3	43.4	16.1	22.0	100.0	32.0	707
Northern	7.5	14.9	48.1	17.7	11.9	100.0	30.8	520
North-Western	7.2	11.2	46.7	19.4	15.5	100.0	32.4	143
Southern	4.7	13.1	49.9	16.5	15.8	100.0	31.5	802
Western	4.7	9.9	39.3	20.1	25.9	100.0	35.9	264
Education								
No education	6.1	12.8	46.0	15.5	19.5	100.0	32.9	893
Primary	6.9	11.8	50.7	15.7	14.9	100.0	31.1	3093
Secondary	5.3	13.5	44.9	18.2	18.2	100.0	31.3	805
Higher	8.5	15.6	34.9	15.6	25.5	100.0	31.6	77
Total	6.5	12.3	48.7	16.1	16.5	100.0	31.4	4869

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.

3.3 Birth Intervals

Research has shown that children born too close to a previous birth are at increased risk of dying. The risk is particularly high when the interval between births is less than 24 months. Table 3.7 shows the percent distribution of births in the five years preceding the survey by the number of months since the previous birth. Almost one in five births occurs after an interval of less than 24 months. Half the births take place 24-35 months (two years) after the previous birth and one-third have a previous birth interval of three years or more. The median birth interval length (31 months) is only six months longer than the minimum considered safe.

The median birth interval is relatively short for younger women and for women living in Luapula Province. As expected, children whose preceding sibling died before the survey had the shortest previous birth interval; almost 40 percent of these children were born less than 24 months after the birth of the preceding child. Birth intervals in Western Province are notably longer than in other provinces (36 months).

3.4 Age at First Birth

The age at which childbearing begins has important demographic consequences for society as well as health consequences for the mother and child. On the demographic side, early initiation into childbearing is generally a major determinant of large family size and rapid population growth, particularly in countries where family planning is not widely used. On the health side, bearing children at a young age involves substantial risks to the health of both the mother and child. Early childbearing also tends to restrict educational and economic opportunities for women.

Table 3.8 presents the distribution of Zambian women by age at first birth, according to their current age. Childbearing begins early in Zambia, with the majority of women becoming mothers before they reach the age of 20. Childbearing before age 15 was not uncommon among older women; however, it has become less common over time. More than 40 percent of women age 25-49 had their first birth before age 18 and about 70 percent had their first birth by age 20. It seems that younger cohorts are tending to delay somewhat their first births. The median age at first birth is slightly higher among women age 20-24 than among women in their late 20s or 30s. Also, the proportion of women who begin childbearing in their teenage years shows a decline, from 76 percent of women age 35-39 to 61 percent of women age 20-24.

Table 3.8 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Zambia 1992

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	72.8	1.8	17.4	8.0	NA	NA	NA	100.0	1984	a
20-24	20.4	3.7	30.5	27.1	14.5	3.7	NA	100.0	1441	19.1
25-29	8.2	5.7	33.3	25.5	14.9	9.4	3.0	100.0	1179	18.8
30-34	4.0	8.2	38.4	25.2	13.7	7.2	3.4	100.0	915	18.2
35-39	2.0	9.0	37.9	28.9	11.6	7.3	3.4	100.0	656	18.2
40-44	1.4	9.7	32.9	25.2	15.6	9.1	6.2	100.0	505	18.6
45-49	1.4	14.0	31.7	24.0	12.5	9.6	6.8	100.0	380	18.3

NA = Not applicable

^aLess than 50 percent of the women in the age group x to $x+4$ have had a birth by age x

Differentials in the age at first birth are shown in Table 3.9. The median age at first birth for all women age 20-49 is 18.6. Overall, there is little variation in the median age at first birth by background characteristics of women, except that women with secondary education or higher tend to delay their first birth later than those with less education. Women in Lusaka, Eastern and Northern Provinces have the highest median age at first birth, while women in North-Western Province have the lowest.

Table 3.9 Median age at first birth

Median age at first birth among women age 20-49 years, by current age and selected background characteristics, Zambia 1992

Background characteristic	Current age						Ages 20-49	Ages 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	19.5	19.0	18.2	18.1	18.6	18.3	18.8	18.5
Rural	18.8	18.6	18.3	18.3	18.7	18.3	18.6	18.4
Province								
Central	18.7	18.8	18.1	(18.2)	(18.2)	(17.7)	18.5	18.4
Copperbelt	19.5	19.1	18.3	17.9	18.0	18.1	18.7	18.4
Eastern	18.7	18.9	18.8	19.2	18.4	(18.3)	18.8	18.8
Luapula	18.8	18.7	18.4	18.6	18.0	(17.5)	18.5	18.4
Lusaka	19.7	19.0	18.2	18.1	19.2	(19.2)	18.9	18.6
Northern	19.1	18.8	17.9	(18.4)	(19.9)	(18.9)	18.8	18.6
North-Western	18.0	18.5	18.1	(17.2)	(17.4)	*	18.1	18.1
Southern	19.1	18.5	17.6	18.0	18.5	(18.7)	18.4	18.2
Western	19.1	18.4	19.0	18.2	(18.9)	17.7	18.7	18.5
Education								
No education	19.0	18.8	18.1	18.3	18.3	18.5	18.5	18.4
Primary	18.5	18.2	17.8	17.8	18.3	18.2	18.2	18.0
Secondary+	a	20.5	20.0	19.2	20.4	*	a	20.0
Total								
	19.1	18.8	18.2	18.2	18.6	18.3	18.6	18.5

Note: Rates shown in parentheses are based on 25-49 women, while an asterisk means the rate is based on fewer than 25 women and has been suppressed. The medians for cohort 15-19 could not be determined because half the women have not yet had a birth.

^aMedians 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 Fertility

Fertility among teenagers (those under age 20) is receiving increasing attention from policymakers. Table 3.10 shows the percentage of women age 15-19 who are mothers or pregnant with their first child. The sum of these two percentages represents the proportion of young women who have begun childbearing.

More than one-quarter of teenage women have already had a child and another 7 percent were pregnant with their first child at the time of the survey. As stated before, childbearing begins early in Zambia,

Background characteristic	Percentage who are:		Percentage who have begun child-bearing	Number of teenagers
	Mothers	Pregnant with first child		
Age				
15	1.9	3.4	5.3	384
16	8.7	6.1	14.7	427
17	22.1	7.8	29.9	392
18	44.2	10.2	54.3	380
19	59.9	5.7	65.6	401
Residence				
Urban	22.6	5.8	28.5	1076
Rural	32.5	7.5	40.0	907
Province				
Central	31.9	7.8	39.8	155
Copperbelt	23.8	4.3	28.0	535
Eastern	35.7	8.1	43.7	193
Luapula	29.5	6.6	36.1	127
Lusaka	22.0	8.5	30.5	320
Northern	26.8	9.8	36.7	202
North-Western	28.7	3.2	31.9	50
Southern	29.5	5.0	34.4	311
Western	27.6	8.7	36.4	91
Education				
No education	37.3	8.2	45.4	211
Primary	29.0	7.6	36.5	1293
Secondary	17.9	3.3	21.2	479
Total	27.2	6.6	33.8	1984

with the proportion of women having begun childbearing increasing rapidly in the late teen years. By age 17, one-third of women have begun childbearing; by age 18, one-half of women and by age 19, two-thirds have (see Figure 3.4). Early childbearing is particularly characteristic of rural women, those in Eastern Province, and those who have not attended school.

Whereas most teenage women who have begun childbearing have given birth only once, a small proportion have had two births. Table 3.11 shows the distribution of women age 15-19 by number of children ever born. Overall, five percent of women age 15-19 have delivered more than one child. Fifteen percent of women age 19 have had two or more births.

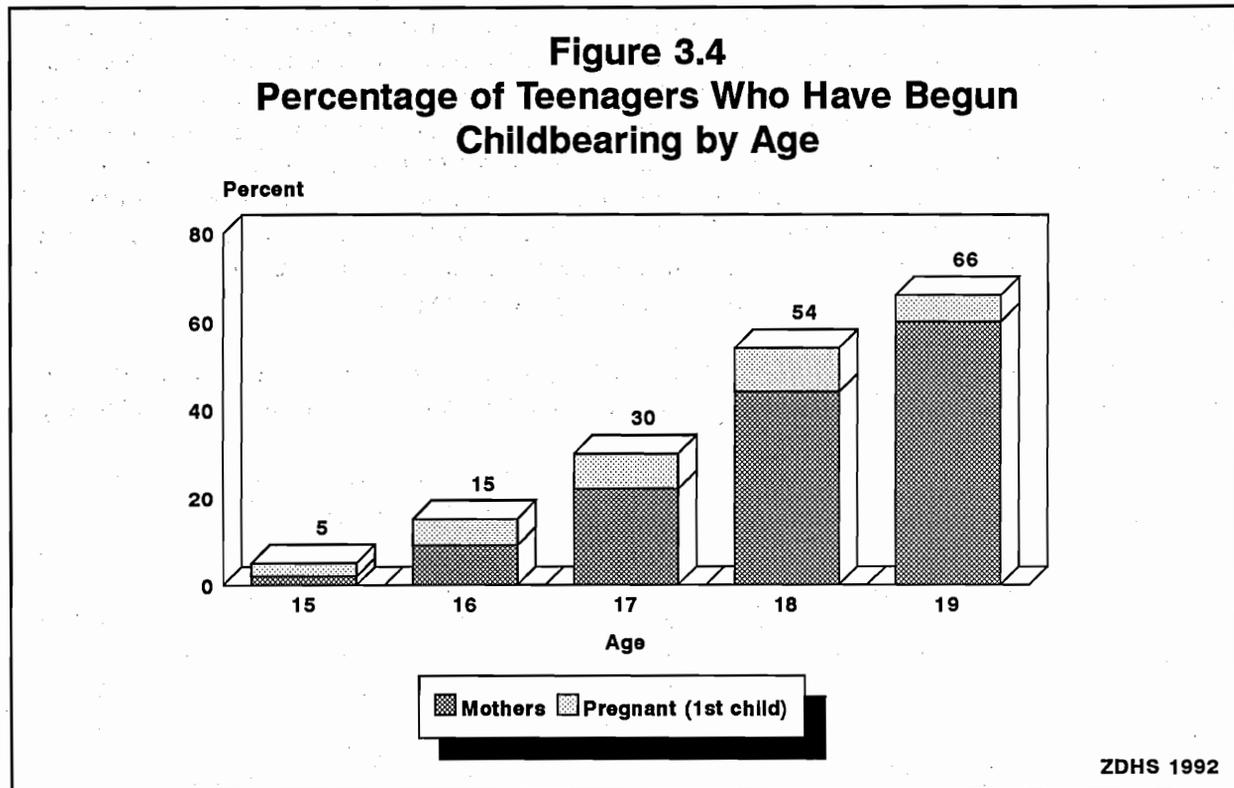


Table 3.11 Children born to teenagers

Percent distribution of teenagers 15-19 by number of children ever born (CEB), Zambia 1992

Age	Number of children ever born			Total	Mean number of CEB	Number of teenagers
	0	1	2+			
15	98.1	1.7	0.2	100.0	0.02	384
16	91.3	8.7	0.0	100.0	0.09	427
17	77.9	21.1	1.0	100.0	0.23	392
18	55.8	37.5	6.7	100.0	0.52	380
19	40.1	44.5	15.4	100.0	0.77	401
Total	72.8	22.5	4.6	100.0	0.32	1984

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 Zambia Demographic and Health Survey, since knowledge of specific methods and of the places where they can be obtained is a precondition for their 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, vaginal methods (foaming tablets, jelly, sponge and diaphragm), condoms, female sterilisation and male sterilisation—were described, as well as two traditional methods—natural family planning (periodic abstinence or the rhythm method) and withdrawal. Any other methods mentioned by the respondent, such as herbs, strings or breastfeeding, were also recorded. For each method recognised, the respondent was asked if she knew where a person could go to get the method. If she reported knowing about natural family planning, she was asked if she knew where a person could obtain the advice on how to use the method.

Table 4.1 indicates that nine of ten Zambian women aged 15-49 know at least one method of family planning. In other words, only 11 percent reported that they did not know any method of family planning.

Table 4.1 Knowledge of contraceptive methods and source for methods

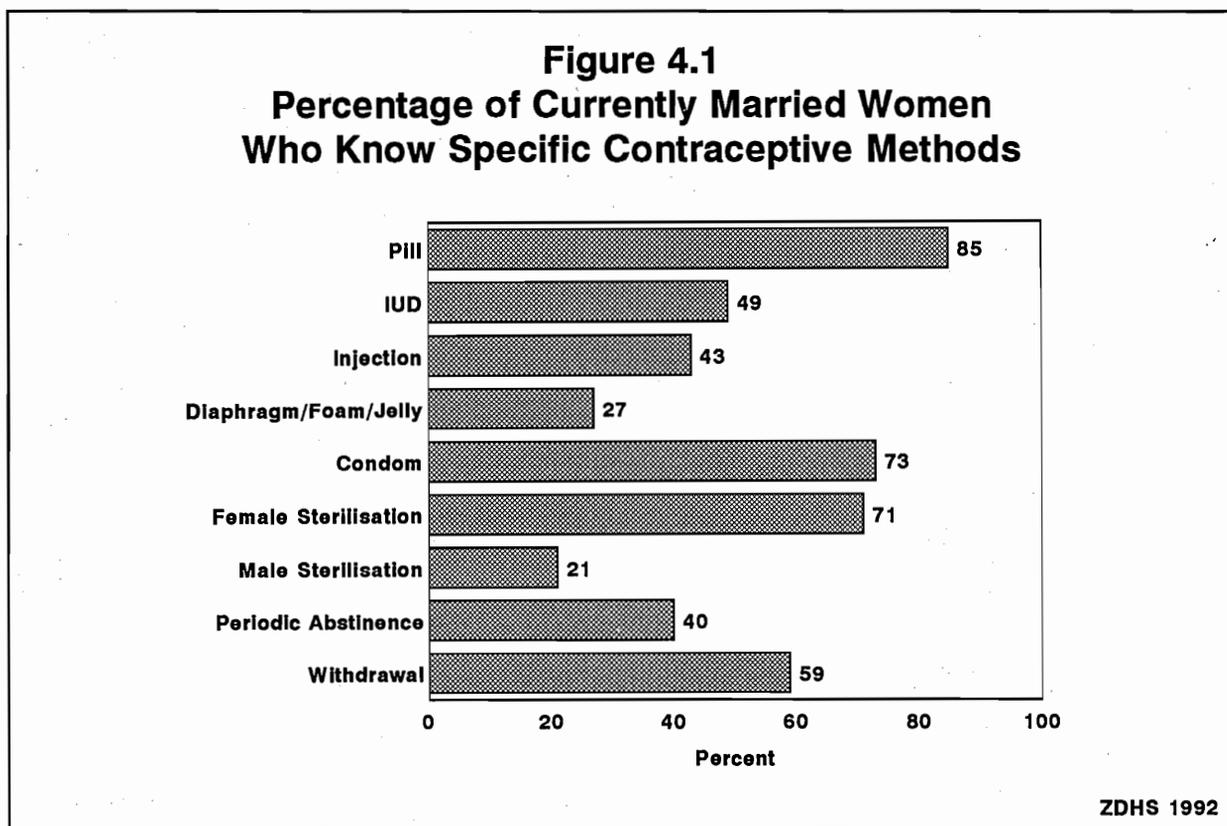
Percentage of all women and of currently married women who know specific contraceptive methods and who know a source (for information or services), by specific methods, Zambia 1992

Contraceptive method	Know method		Know a source	
	All women	Currently married women	All women	Currently married women
Any method	89.4	93.7	81.4	87.5
Any modern method	87.1	90.7	81.1	87.2
Pill	78.1	84.7	71.1	79.0
IUD	43.0	49.2	38.1	44.0
Injection	38.1	42.9	34.3	39.0
Diaphragm/foam/jelly	23.8	26.7	21.5	24.6
Condom	72.0	73.3	60.7	64.4
Female sterilisation	63.6	71.0	58.4	66.0
Male sterilisation	17.9	20.8	16.8	19.7
Any traditional method	66.4	77.6	NA	NA
Periodic abstinence	36.1	40.3	29.0	33.0
Withdrawal	47.8	58.5	NA	NA
Other	34.7	42.7	NA	NA
Number of women	7060	4457	7060	4457

NA = Not applicable

Knowledge of methods is slightly higher among currently married women than among all women. Since it is currently married women who are at greatest risk of pregnancy, this chapter focuses primarily on them.

A high proportion of married women reported knowing a modern method (91 percent) and 78 percent of them have some knowledge about a traditional method. The most widely known methods are the pill, condom, and female sterilisation, known by 85, 73 and 71 percent of married women, respectively (see Figure 4.1). Following these, IUD and injection are the most commonly known methods (reported by 49 and 43 percent of married women, respectively). Twenty-seven percent of married women know about foaming tablets, jelly or diaphragm and just over one-fifth know about male sterilisation. As regards the traditional methods, 59 and 40 percent of married women know of withdrawal and periodic abstinence (natural family planning), respectively, while 43 percent reported other methods (mostly strings and herbs).



Knowledge of sources for obtaining family planning methods is widespread in Zambia. Overall, nearly nine of ten married women know a place where they can obtain some method of family planning and 90 percent or more of the women who know specific modern family planning methods also know where they can obtain them. Knowledge of places to get information about periodic abstinence is somewhat lower, with about 80 percent of the women who know the method knowing a source of information. As with knowledge of the methods themselves, knowledge of places where specific methods can be obtained is slightly higher among currently married women than among all women.

The proportion of women who know of at least one contraceptive method is higher among women in their 20s and 30s than among younger and older women (see Table 4.2). This is also true for knowledge of at least one modern method and knowledge of a place to obtain a modern method.

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, Zambia 1992

Background characteristic	Know any method	Know a modern method ¹	Know a source for modern method	Number of women
Age				
15-19	86.7	83.6	77.3	526
20-24	94.6	92.7	89.1	989
25-29	95.9	94.3	92.3	943
30-34	96.3	92.7	90.8	755
35-39	95.4	94.4	91.0	537
40-44	91.4	86.2	80.2	412
45-49	89.6	80.1	76.1	295
Residence				
Urban	97.2	96.5	94.1	2091
Rural	90.6	85.7	81.2	2366
Province				
Central	74.3	70.6	66.4	418
Copperbelt	99.2	98.8	97.0	1023
Eastern	92.5	89.8	84.7	536
Luapula	94.9	90.0	87.7	281
Lusaka	95.4	94.5	91.0	738
Northern	91.9	82.1	80.6	423
North-Western	91.6	90.9	87.4	124
Southern	96.7	94.7	90.3	673
Western	95.7	86.2	78.3	241
Education				
No education	84.5	76.9	70.5	864
Primary	95.0	92.7	89.2	2754
Secondary	98.5	98.4	97.6	745
Higher	100.0	100.0	100.0	93
Total	93.7	90.7	87.2	4457

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

Knowledge of contraceptive methods and their sources is somewhat more widespread in urban than in rural areas. The proportion of urban married women who know at least one family planning method is 97 percent, compared with 91 percent of rural women. The differential, however, widens with respect to knowledge of a modern method and a source for a modern method, with 94 percent of urban women knowing a source, compared to 81 percent of rural women.

Differences in contraceptive knowledge by province are not large except for Central Province where the proportion of married women who have heard of at least one family planning method is relatively low:

74 percent as compared to between 92 and 99 percent in the other provinces. The level of knowledge of at least one modern method is higher in Copperbelt (99 percent), Southern (95 percent) and Lusaka (95 percent) Provinces than in the other provinces. The same pattern holds for knowledge of where these methods can be obtained.

The level of knowledge of family planning methods and places where they can be obtained increases with the level of education, with knowledge of modern family planning methods increasing from 77 percent among uneducated women to an estimated 100 percent among women with higher education (more than secondary). Married women with no education or only primary education are also less likely than women with secondary or higher education to know of a source of these methods; the proportions increase from 71 percent among married women with no education to an estimated 100 percent among women with higher education (see Table 4.2).

4.2 Ever Use of Contraception

All women interviewed in the ZDHS who said that they had heard of a method of family planning were asked if they had ever used it. Forty percent of Zambian women of reproductive age have used a method of family planning sometime and nearly one-quarter have used a modern method (see Table 4.3).

Table 4.3 Ever use of contraception

Among all women and among currently married women, the percentage who have ever used a contraceptive method, by specific method and age, Zambia 1992

Age	Modern methods ¹							Traditional methods				Number of women		
	Any modern method	Pill	IUD	Injection	Diaphragm/ Foam/ Jelly	Condom	Female sterilisation	Male sterilisation	Any trad. method	Periodic abstinence	Withdrawal		Other	
ALL WOMEN														
Age														
15-19	12.9	7.3	1.9	0.0	0.1	0.4	5.6	0.0	0.1	8.4	2.6	5.2	1.8	1984
20-24	41.6	24.1	12.8	0.6	0.5	1.6	15.1	0.1	0.0	28.7	8.7	19.8	5.8	1441
25-29	53.5	32.3	24.2	2.3	1.0	2.8	13.7	0.4	0.2	35.8	10.9	25.1	8.5	1179
30-34	55.2	31.7	25.3	3.9	1.6	1.3	9.8	1.4	0.0	38.4	10.0	25.9	12.7	915
35-39	58.9	36.0	29.7	7.8	4.5	3.5	6.1	5.0	0.5	39.8	8.8	25.1	16.8	656
40-44	52.1	27.3	21.4	4.2	4.7	1.5	2.9	6.2	0.2	36.7	5.7	21.6	20.3	505
45-49	47.1	20.9	14.3	3.3	5.5	0.5	1.6	5.7	0.3	36.9	4.2	20.4	20.4	380
Total	39.9	22.9	15.5	2.2	1.5	1.5	9.1	1.5	0.1	27.5	7.1	18.0	8.9	7060
CURRENTLY MARRIED WOMEN														
Age														
15-19	27.0	14.7	4.1	0.0	0.2	0.4	11.6	0.0	0.0	19.3	4.6	13.9	3.6	526
20-24	45.4	24.7	13.2	0.7	0.5	1.6	15.6	0.1	0.0	32.5	8.0	23.6	7.5	989
25-29	54.2	31.2	23.9	2.1	0.7	2.9	14.2	0.2	0.2	37.5	10.9	27.0	9.1	943
30-34	56.3	31.4	25.1	3.9	1.7	1.4	9.5	1.3	0.1	39.9	8.7	27.9	13.2	755
35-39	56.9	34.6	27.9	7.2	4.5	3.2	5.6	6.1	0.4	38.5	8.4	24.8	16.3	537
40-44	52.3	26.7	19.8	4.3	5.0	1.1	2.8	7.3	0.3	37.2	5.9	20.8	21.6	412
45-49	49.1	19.5	13.3	2.1	5.3	0.2	1.3	5.3	0.4	40.1	4.7	22.6	22.0	295
Total	49.2	27.1	18.8	2.6	1.9	1.8	10.5	2.1	0.2	34.9	7.9	23.7	11.7	4457

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

The corresponding proportions among currently married women are 49 and 27 percent, respectively. Ever-use is lowest among the youngest age group (15-19 years), rises to a peak among the 35-39 year olds and then drops slightly among older women. More married women have used traditional methods than modern methods, with the most widely used methods being withdrawal (24 percent) and the pill (19 percent). Condom and natural family planning (periodic abstinence) have also been commonly used methods, with 11 and 8 percent of married women having used them. Three percent of married women have used the IUD, while 2 percent have used female sterilisation, injection, and vaginal methods (foaming tablets, jelly, sponge, diaphragm).

4.3 Current Use of Contraception

Though over 90 percent of married women in Zambia have heard of and nearly half have used a family planning method, only 15 percent reported that they were currently using a method at the time of the survey (see Table 4.4). Nine percent of women are using modern methods, while 6 percent are using traditional methods. The most popular contraceptive method is the pill (4 percent), followed by withdrawal (3 percent), female sterilisation (2 percent) and condom (2 percent). Other traditional methods—mostly abstinence, strings and herbs—are used by 2 percent of 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, Zambia 1992

Age	Modern methods ¹							Traditional methods							Miss- ing	Not cur- rently using	Total Number
	Any method	Any modern meth- od	Pill	IUD	Injec- tion	Dia- phragm, foam, jelly	Con- dom	Female steri- lisa- tion	Male steri- lisa- tion	Any trad. method	Peri- odic absti- nence	With- draw- al	Other				
ALL WOMEN																	
15-19	3.5	1.5	0.7	0.0	0.0	0.1	0.7	0.0	0.0	2.0	0.3	1.0	0.7	0.0	96.5	100.0	1984
20-24	11.2	7.1	4.2	0.2	0.1	0.1	2.4	0.1	0.0	4.1	0.8	2.4	0.8	0.2	88.8	100.0	1441
25-29	15.0	9.0	6.2	0.6	0.1	0.0	1.7	0.4	0.0	6.0	1.3	2.7	2.0	0.0	85.0	100.0	1179
30-34	17.5	10.7	5.4	1.3	0.1	0.4	2.1	1.4	0.0	6.8	1.0	2.6	3.1	0.1	82.5	100.0	915
35-39	20.6	12.7	5.5	0.3	0.2	0.3	1.2	5.0	0.2	7.9	1.3	3.3	2.8	0.5	79.4	100.0	656
40-44	15.7	10.1	1.7	0.9	0.2	0.2	0.9	6.2	0.0	5.6	0.9	1.0	3.5	0.2	84.3	100.0	505
45-49	9.4	6.4	0.5	0.0	0.3	0.0	0.0	5.7	0.0	3.0	0.0	0.3	2.5	0.2	90.6	100.0	380
Total	11.6	7.0	3.5	0.4	0.1	0.1	1.4	1.5	0.0	4.6	0.8	1.9	1.7	0.1	88.4	100.0	7060
CURRENTLY MARRIED WOMEN																	
15-19	8.7	3.4	1.8	0.0	0.0	0.0	1.7	0.0	0.0	5.2	0.4	3.4	1.4	0.0	91.3	100.0	526
20-24	13.1	7.7	4.3	0.1	0.1	0.0	3.0	0.1	0.0	5.5	0.7	3.4	1.1	0.2	86.9	100.0	989
25-29	15.3	8.6	6.0	0.5	0.1	0.0	1.8	0.2	0.0	6.6	1.3	3.2	2.0	0.0	84.7	100.0	943
30-34	18.3	10.7	5.5	1.3	0.1	0.4	2.0	1.3	0.0	7.6	1.0	3.0	3.5	0.1	81.7	100.0	755
35-39	22.5	14.1	6.0	0.2	0.2	0.4	1.0	6.1	0.2	8.4	1.4	4.0	2.6	0.4	77.5	100.0	537
40-44	17.4	11.0	1.3	1.1	0.3	0.3	0.8	7.3	0.0	6.4	1.1	1.2	3.8	0.3	82.6	100.0	412
45-49	9.0	6.3	0.6	0.0	0.4	0.0	0.0	5.3	0.0	2.7	0.0	0.4	2.1	0.2	91.0	100.0	295
Total	15.2	8.9	4.3	0.5	0.1	0.1	1.8	2.1	0.0	6.3	0.9	3.0	2.2	0.2	84.8	100.0	4457

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

Contraceptive use is highest among women in their late 30s, and lowest among women aged 15-19 and 45-49 years. This pattern is most likely due to the fact that younger women are just starting their families, whilst older women are more likely to have reached their desired family size and want to stop childbearing altogether. For the same reasons, younger women are more likely to use less effective methods such as withdrawal or temporary methods such as condom, while older women are more likely to use more effective, long-term methods such as female sterilisation. About six percent of married women in their 40s have been sterilised. Use among the oldest women (i.e., 45-49) might be lower because they are more likely to have reached menopause and thus are not in need of family planning.

While overall use of family planning is quite low, the ZDHS data show that some married women are more likely to be using contraception than others (see Table 4.5 and Figure 4.2). Women most likely to be using contraception are those resident in urban areas as well as those in Lusaka, Copperbelt, Western and Northern Provinces, those with higher education and those with four or more children. Not only are urban women twice as likely as rural women to be using a method (21 percent vs. 10 percent), but urban users are also more likely to be using a modern method. Urban women depend on methods such as the pill, female sterilisation and condom, whilst rural women rely primarily on traditional methods such as withdrawal, wearing beads or herbs around the waist, drinking African medicine made with roots and leaves, etc.

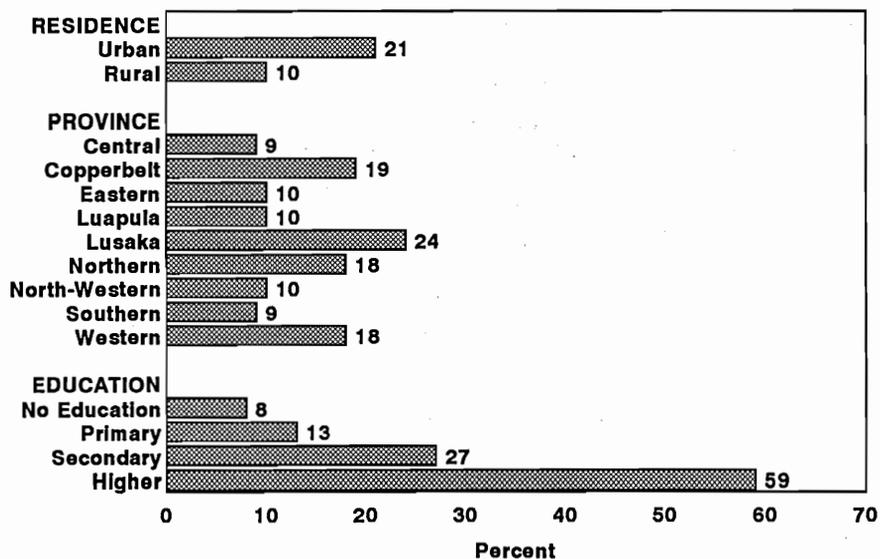
Table 4.5 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, Zambia 1992

Age	Modern methods ¹									Traditional methods				Miss- ing	Not cur- rently using	Total	Number
	Any modern method	Pill	IUD	Injec- tion	Dia- phragm, foam, jelly	Con- dom	Female steri- lisa- tion	Male steri- lisa- tion	Any trad. method	Peri- odic absti- nence	With- draw- al	Other					
Residence																	
Urban	20.8	15.3	7.9	1.0	0.3	0.3	2.6	3.3	0.0	5.5	1.4	2.3	1.6	0.3	79.2	100.0	2091
Rural	10.3	3.2	1.1	0.0	0.0	0.0	1.1	1.0	0.0	7.0	0.5	3.6	2.8	0.1	89.7	100.0	2366
Province																	
Central	9.2	6.8	4.2	0.0	0.0	0.0	1.6	0.8	0.3	2.4	0.8	0.5	1.1	0.0	90.8	100.0	418
Copperbelt	19.0	13.6	7.1	0.7	0.4	0.1	1.7	3.5	0.0	5.4	1.2	1.8	2.2	0.2	81.0	100.0	1023
Eastern	9.7	4.7	1.2	0.2	0.0	0.2	1.7	1.5	0.0	5.0	0.2	1.5	3.3	0.0	90.3	100.0	536
Luapula	9.5	6.0	2.8	0.0	0.0	1.2	1.2	0.9	0.0	3.5	0.5	0.5	2.5	0.0	90.5	100.0	281
Lusaka	24.2	17.6	8.1	1.3	0.1	0.1	4.3	3.7	0.0	6.6	1.5	3.5	1.3	0.3	75.8	100.0	738
Northern	17.5	3.1	1.8	0.0	0.0	0.0	0.3	1.0	0.0	14.4	1.0	12.1	1.0	0.3	82.5	100.0	423
North-Western	10.4	5.9	1.8	0.0	0.0	0.0	1.3	2.8	0.0	4.4	0.9	1.9	1.3	0.3	89.6	100.0	124
Southern	8.5	4.2	2.3	0.2	0.0	0.0	1.2	0.7	0.0	4.3	1.0	2.3	0.8	0.2	91.5	100.0	673
Western	17.8	2.9	0.3	0.5	0.5	0.0	0.6	1.1	0.0	14.9	0.3	3.4	10.9	0.3	82.2	100.0	241
Education																	
No education	8.0	2.7	0.9	0.0	0.1	0.0	0.4	1.2	0.0	5.3	0.1	2.3	2.9	0.0	92.0	100.0	864
Primary	12.8	6.3	3.1	0.1	0.2	0.0	1.4	1.4	0.0	6.5	0.4	3.5	2.4	0.2	87.2	100.0	2754
Secondary	27.1	20.7	10.6	1.5	0.1	0.4	4.1	3.8	0.1	6.4	3.0	2.1	1.1	0.1	72.9	100.0	745
Higher	58.5	49.6	19.3	7.0	0.0	2.3	7.0	14.0	0.0	8.9	6.5	1.2	1.2	0.0	41.5	100.0	93
Number of living children																	
0	0.9	0.4	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.2	0.0	0.2	0.0	99.1	100.0	488
1	12.2	7.2	3.4	0.1	0.0	0.0	3.1	0.5	0.0	5.0	1.0	2.6	1.1	0.3	87.8	100.0	802
2	16.3	9.6	4.4	0.9	0.0	0.2	2.6	1.6	0.0	6.7	0.8	4.3	1.5	0.0	83.7	100.0	695
3	15.4	9.9	6.3	0.7	0.0	0.2	2.1	0.6	0.0	5.5	0.5	3.5	1.5	0.1	84.6	100.0	590
4+	19.7	11.2	5.0	0.5	0.3	0.2	1.2	3.9	0.1	8.5	1.3	3.2	3.7	0.3	80.3	100.0	1882
Total	15.2	8.9	4.3	0.5	0.1	0.1	1.8	2.1	0.0	6.3	0.9	3.0	2.2	0.2	84.8	100.0	4457

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

Figure 4.2
Percentage of Currently Married Women
Using a Contraceptive Method



ZDHS 1992

The proportion of married women using any method of contraception also varies widely by province, from 9 percent in Southern and Central Provinces to 24 percent in Lusaka Province. In Western and Northern Provinces, traditional methods (withdrawal and African medicine, beads, etc.) are by far the most frequently used methods, accounting for over 80 percent of all contraceptive use. In Southern, Eastern, North-Western and Luapula Provinces, modern and traditional methods are almost equally used, with the pill, condom, withdrawal and other traditional African methods being the most common. In Central Province, the pill and condom are the most widely used methods. In Copperbelt Province, the most commonly used methods are the pill and female sterilisation, followed by withdrawal and condom. In addition to the pill, condom, female sterilisation and withdrawal, which are the most frequently used methods in Lusaka Province, the IUD and periodic abstinence have a relatively high level of use.

The largest differentials in current use of contraception are found for educational groups. Contraceptive use increases steadily with increasing level of education, from 8 percent of married women with no education to 59 percent of those with higher than secondary education. (The latter figure should be viewed with caution, since the number of women in that category is small.) Moreover, the proportion of users who are using modern methods increases dramatically with education level. For example, twice as many women with no education use traditional as modern methods, mostly withdrawal and other methods like beads and herbs. Among women with primary education, modern methods account for half of all use, with withdrawal being the most common method, followed by the pill. Among those with secondary or higher education, modern methods account for 75 percent or more of total use, with the pill, condom and female sterilisation prominent. Periodic abstinence is also commonly used among highly educated married women. The use of foaming tablets and other vaginal methods appears to be limited to women with more than secondary education.

Contraceptive use also increases with the number of children a woman has. As the number of children increases, use of modern methods becomes more important in the overall method mix.

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. However, as the concept of family planning gains acceptance, 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 ever-married respondents had when they first used contraception. For the older cohorts (35-49 years), women generally started using family planning only after they had four or more children, although almost as many started using after their first child. For the younger cohorts (15-29 years), women are more likely to have started using family planning after their first child. For instance, roughly the same proportion of women age 25-29 and 40-44 have used a contraceptive method (54 and 52 percent, respectively). However, while half of the ever-users age 40-44 years waited until they had had at least three children, half of the ever-users age 25-29 started to use after their first child. Seven percent of ever-married women under age 25 started to use family planning before they had any children, compared to only one percent of women 40-44. 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, Zambia 1992

Current age	Never used contraception	Number of living children at time of first use of contraception					Missing	Total	Number of women
		0	1	2	3	4+			
15-19	73.6	6.9	17.8	0.9	0.0	0.0	0.8	100.0	588
20-24	55.8	6.6	27.6	6.6	2.4	0.3	0.7	100.0	1136
25-29	46.3	4.1	24.8	14.3	6.1	3.4	1.1	100.0	1112
30-34	44.6	1.5	21.0	12.9	8.3	10.9	0.7	100.0	897
35-39	41.3	2.6	17.6	9.8	9.5	18.2	1.0	100.0	652
40-44	48.0	1.0	14.4	6.2	7.6	22.4	0.3	100.0	504
45-49	52.9	0.3	18.0	6.4	5.8	16.5	0.0	100.0	380
Total	51.1	3.7	21.6	9.0	5.5	8.2	0.8	100.0	5269

4.5 Knowledge of Fertile Period

A basic knowledge of reproductive physiology is useful for the successful practice of coitus-dependent methods such as withdrawal, the condom, or barrier methods, but it is especially important for users of periodic abstinence or natural family planning. 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, Zambia 1992

Perceived fertile period	All women	Ever users of periodic abstinence
During menstrual period	0.7	0.4
Right after period has ended	27.5	42.4
In the middle of the cycle	13.7	30.2
Just before period begins	8.1	10.7
Other	0.4	0.7
No particular time	16.0	9.2
Don't know	33.7	6.4
Missing	0.1	0.0
Total	100.0	100.0
Number	7060	499

Thirty-four percent of the women interviewed said they did not know when a woman is most likely to conceive and 28 percent said that a woman is most likely to conceive right after her period has ended. Only 14 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. Thirty percent identified the fertile period as occurring in the middle of the cycle, and only 6 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, especially those who answered "right after her period has ended." However, it appears that half of all women and one-sixth of those who have used periodic abstinence clearly *do not* understand the ovulatory process, since they either said that there is no particular time when a woman has a greater chance of becoming pregnant or they said there was a particular time but they did not know when it was or they thought it occurred "during her period."

4.6 Sources of 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. Since women often do not know exactly which category the source they use falls into (e.g., government hospital, mission 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 sources 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 and Figure 4.3 indicate that most users of modern methods (56 percent) obtain their methods from public (government) sources, while 36 percent rely on private medical sources and 7 percent use other sources such as shops or friends. Government health centres are the single most frequently cited source, serving 32 percent of users, followed by government hospitals (24 percent) and private hospitals and clinics (20 percent).¹ In fact, eight in ten users obtain their methods from hospitals, health centres or clinics, 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, according to specific methods, Zambia 1992

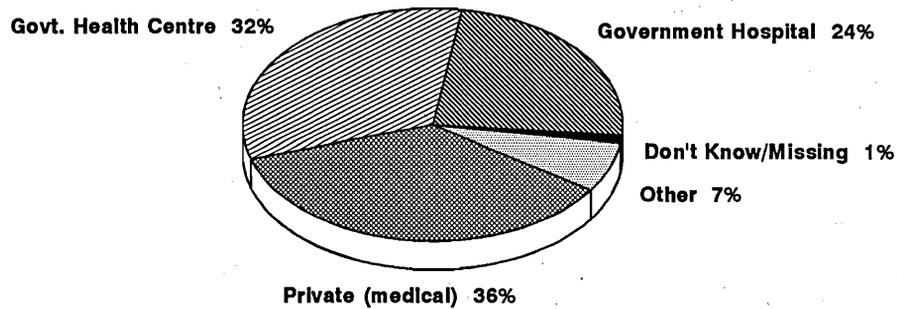
Source of supply	Pill	IUD	Condom	Female sterilisation	Total ¹
Public	67.2	(64.0)	41.9	45.1	56.1
Government hospital	17.6	(48.0)	10.9	45.1	24.1
Government health centre	49.5	(16.0)	30.9	0.0	32.0
Private (medical)	26.7	(36.0)	36.8	53.5	36.0
Private hospital, clinic	17.7	(28.0)	5.5	36.3	20.0
Mission hospital, clinic	2.6	(0.0)	3.3	17.2	5.6
Pharmacy	4.4	(0.0)	24.4	0.0	7.6
Private doctor	1.3	(8.0)	0.0	0.0	1.8
Mobile clinic	0.2	(0.0)	3.7	0.0	0.8
Field worker	0.4	(0.0)	0.0	0.0	0.2
Other private	6.2	(0.0)	19.1	0.0	7.2
Shop	4.4	(0.0)	16.3	0.0	5.5
Friends/relatives	1.8	(0.0)	2.8	0.0	1.7
Don't know	0.0	(0.0)	2.2	0.0	0.4
Missing	0.0	(0.0)	0.0	1.4	0.3
Total	100.0	100.0	100.0	100.0	100.0
Number	245	27	100	104	493

¹Includes 6 users of injection, 9 of vaginal methods and 1 of male sterilisation.

The source a woman uses to obtain contraceptive methods depends on many things, one of which is the type of method she may have chosen. Most pill users obtain their method from public sources, one-half from government health centres and about one-sixth from government hospitals. Condom users are likely to use a wide range of sources—government facilities (42 percent), pharmacies (24 percent), shops (16 percent), as well as a few from private or mission clinics and friends or relatives. Female sterilisations are somewhat more likely to be performed in private institutions (54 percent), with almost as many of the operations undertaken in government hospitals (45 percent).

¹ Interviewers were instructed to consider health facilities run by mining companies as private facilities.

Figure 4.3
Distribution of Current Users of
Contraception by Source of Supply



ZDHS 1992

Women who were 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 presented in Table 4.9.

Among the women currently using a modern method, 44 percent are within 30 minutes (one-way travel time) of the place to which they go to get their method, while 27 percent are 30 minutes to one hour from their source. One-quarter 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; half of urban users are within 30 minutes of their supply sources as compared to less than one-fifth of the rural users. Half of the latter have to travel for one hour or more to get their supplies.

Among women who are not using a modern method, almost one-quarter do not know a source for a modern contraceptive method. It should be noted that this question was asked of all nonusers and thus includes the 11 percent of women who do not know any method. Since these women presumably do not know of a source for family planning, they would account for almost half of those nonusers who do not know of a source.

The last panel of Table 4.9 is based on all women who know a contraceptive method. Among women who know at least one family planning method, 28 percent are within 30 minutes of a source for a modern method and 15 percent say they do not know of a place to get a modern method.

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, Zambia 1992

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	26.2	16.1	24.2	19.3	10.0	14.6	21.3	11.3	16.7
15-29	24.2	2.9	19.9	16.0	2.7	9.3	17.9	3.2	11.1
30-59	28.7	18.6	26.6	24.8	7.7	16.1	26.5	9.2	18.5
60 or more	18.2	50.8	24.8	20.2	48.1	34.3	21.1	53.7	36.2
Does not know time	2.2	10.0	3.8	1.5	2.8	2.1	1.7	3.5	2.5
Does not know source	0.0	0.0	0.0	17.9	28.5	23.2	11.2	18.8	14.7
Not stated	0.6	1.5	0.7	0.3	0.2	0.2	0.4	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median time to source	25.9	60.8	30.3	30.4	-	50.1	30.3	-	45.4
Number of women	393	100	493	3243	3324	6567	3387	2926	6313

- Median cannot be calculated

4.7 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. Currently married nonusers are about evenly split between those who intend to use family planning in the future (48 percent) and those who say they do not intend to use (45 percent) (see Table 4.10). Almost three-quarters of those who intend to use say they intend 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. Thus, while only 22 percent of childless nonusers would use family planning in the future, 50 percent of nonusers with four or more children expressed the intention to use a method in the future. About half of the women who say they intend to use contraception in the future have used it in the past, while the other half have never used a method. If all the married women who say they intend to use family planning were to actually adopt it and use continuously, the contraceptive prevalence rate would rise substantially, from 15 percent of married women to about 56 percent.

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, Zambia 1992

Past experience with contraception and future intentions	Number of living children ¹					Total
	0	1	2	3	4+	
Never used contraception						
Intend to use in next 12 months	4.5	18.8	18.9	13.2	15.0	15.2
Intend to use later	10.9	11.0	6.3	7.4	3.8	6.7
Unsure as to timing	0.7	1.5	0.4	1.0	1.1	1.0
Unsure as to intention	11.5	7.4	5.5	3.5	3.6	5.3
Do not intend to use	57.7	32.7	28.2	28.0	28.5	31.7
Missing	0.0	0.0	0.4	0.0	0.1	0.1
Previously used contraception						
Intend to use in next 12 months	0.7	11.9	21.2	22.0	24.7	19.3
Intend to use later	4.7	5.2	6.3	7.7	4.8	5.5
Unsure as to timing	0.0	0.4	0.4	0.4	0.5	0.4
Unsure as to intention	0.8	1.4	2.4	1.9	1.6	1.7
Do not intend to use	8.5	9.7	10.2	14.8	16.2	13.1
Missing	0.0	0.0	0.0	0.2	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intend to use in next 12 months	5.2	30.7	40.0	35.2	39.7	34.5
Intend to use later	15.6	16.2	12.6	15.0	8.6	12.2
Unsure as to timing	0.7	1.9	0.8	1.4	1.6	1.4
Unsure as to intention	12.3	8.8	7.9	5.4	5.1	6.9
Do not intend to use	66.2	42.4	38.4	42.8	44.7	44.8
Missing	0.0	0.0	0.4	0.2	0.3	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	317	725	599	523	1616	3780

¹Includes current pregnancy

Table 4.11 presents the main reasons for not using contraception given by married women who are not using any contraceptive method and do not intend to use it in the future. Over one-third (37 percent) of these women say they do not intend to use because they want children, while another one-third cite infecundity (either "difficult to get pregnant" or "menopausal") as the reason. Other reasons given are lack of knowledge (11 percent) and opposition to family planning, either by the respondent, her husband or someone else (7 percent). The younger cohort (under age 30) are more likely to say they do not to intend to use contraception in the future because they want more children or because they lack knowledge, while those age 30 and over are more likely to cite reasons such as being menopausal or infecund.

Table 4.11 Reasons for not using contraception

Percent distribution of currently married women who are not using a contraceptive method and who do not intend to use in the future by main reason for not using, according to age, Zambia 1992

Reason for not using contraception	Age		Total
	15-29	30-49	
Want children	50.7	25.2	36.7
Lack of knowledge	15.2	6.9	10.6
Partner opposed	3.5	3.8	3.7
Cost too much	0.1	0.3	0.2
Side effects	6.0	3.3	4.5
Health concerns	1.2	1.7	1.5
Hard to get methods	1.2	0.4	0.8
Religion	0.7	1.9	1.3
Opposed to family planning	2.4	3.1	2.8
Fatalistic	0.3	0.9	0.6
Other people opposed	0.4	0.1	0.3
Infrequent sex	0.3	1.0	0.7
Difficult to get pregnant	11.5	27.3	20.2
Menopausal, had hysterectomy	0.1	19.4	10.7
Inconvenient	0.9	1.1	1.0
Other	2.3	2.6	2.4
Don't know	3.1	1.0	1.9
Missing	0.1	0.0	0.1
Total	100.0	100.0	100.0
Number of women	763	930	1693

Nonusers who said that they *did* intend to use family planning in the future were asked which method they preferred to use. The data are presented in Table 4.12. Most of these women said they preferred to use the pill (59 percent), with female sterilisation the next most preferred method (8 percent). The same pattern of method preference is noted among women regardless of whether they intend to use in the next 12 months or later. There is a tendency for women who are unsure about the timing of future use to also be 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, Zambia 1992

Preferred method of contraception	Intend to use			Total
	In next 12 months	After 12 months	Unsure as to timing	
Pill	58.2	64.0	50.0	59.4
IUD	2.8	1.8	2.0	2.5
Injection	5.6	3.6	4.1	5.0
Diaphragm/Foam/Jelly	1.8	0.8	0.0	1.5
Condom	2.6	3.1	0.0	2.6
Female sterilisation	8.5	6.3	5.5	7.9
Periodic abstinence	2.4	3.3	0.0	2.7
Withdrawal	3.3	2.9	4.0	3.2
Other	7.2	5.1	6.1	6.6
Unsure	7.4	9.1	28.2	8.5
Total	100.0	100.0	100.0	100.0
Number of women	1304	459	54	1819

4.8 Exposure to Family Planning Messages on Radio and Television

All respondents in the ZDHS were asked if they had heard a message about family planning on radio or television in the month preceding the interview. Eight in ten women said they had not heard a message on either radio or television (see Table 4.13). Most of those who heard a message heard it on radio (18 percent), while 7 percent saw a message on television; only 5 percent had heard a message on both radio and television. The proportion of women who had heard family planning messages in the month prior to the survey varied widely by background characteristics. One-third of women resident in urban areas and in Copperbelt and Lusaka Provinces had heard messages, compared to only 7 percent of women living in rural areas or in Eastern and Western Provinces. Women with higher education are much more likely to have heard a family planning message on radio or television than those with primary or no education.

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, Zambia 1992

Background characteristic	Heard family planning message on radio or on television					Total	Number of women
	Neither	Radio only	Television only	Both	Missing		
Residence							
Urban	67.8	20.0	2.9	9.0	0.3	100.0	3636
Rural	92.8	5.8	0.4	0.9	0.1	100.0	3424
Province							
Central	85.4	10.1	1.6	3.0	0.0	100.0	622
Copperbelt	65.7	21.3	2.2	10.5	0.3	100.0	1743
Eastern	93.2	4.8	0.3	1.5	0.2	100.0	729
Luapula	86.0	10.1	0.4	3.5	0.0	100.0	431
Lusaka	68.1	18.6	4.4	8.5	0.4	100.0	1234
Northern	89.7	9.3	0.5	0.3	0.2	100.0	652
North-Western	86.1	10.3	1.8	1.4	0.4	100.0	183
Southern	90.4	7.5	0.5	1.6	0.0	100.0	1045
Western	92.6	5.8	0.6	1.0	0.0	100.0	422
Education							
No education	93.8	4.9	0.3	1.0	0.0	100.0	1161
Primary	82.0	13.2	1.0	3.6	0.3	100.0	4213
Secondary	65.7	18.8	4.1	11.2	0.1	100.0	1561
Higher	57.0	16.7	9.6	16.7	0.0	100.0	124
Total	79.9	13.1	1.7	5.1	0.2	100.0	7060

Table 4.14 presents results from a question on whether women believe it is acceptable or not acceptable to air family planning messages over radio or television. Nearly three-quarters of the women interviewed said that such messages are acceptable to them. The proportion of women who think family planning messages are acceptable is highest among women in their 20s and 30s and falls off among older women. Women living in urban areas or in Western, Central, Luapula, and Copperbelt Provinces, as well as more educated women are much more likely to accept family planning messages on radio or television than other women. Women in Eastern and Southern Provinces are particularly likely to oppose family planning messages on the media.

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

Percent distribution of women by acceptability of having messages about family planning on radio or television, according to age and selected background characteristics, Zambia 1992

Background characteristic	Acceptable	Not acceptable	Unsure/ Missing	Total	Number of women
Age					
15-19	68.3	31.1	0.6	100.0	1984
20-24	78.1	21.5	0.4	100.0	1441
25-29	80.0	19.5	0.4	100.0	1179
30-34	76.9	22.5	0.6	100.0	915
35-39	73.7	26.2	0.2	100.0	656
40-44	66.4	33.5	0.1	100.0	505
45-49	57.9	41.8	0.3	100.0	380
Residence					
Urban	78.9	20.7	0.4	100.0	3636
Rural	67.1	32.5	0.5	100.0	3424
Province					
Central	87.7	12.3	0.0	100.0	622
Copperbelt	80.9	18.8	0.3	100.0	1743
Eastern	44.7	54.9	0.5	100.0	729
Luapula	81.0	19.0	0.0	100.0	431
Lusaka	78.4	21.3	0.3	100.0	1234
Northern	64.5	35.5	0.0	100.0	652
North-Western	75.6	14.6	9.8	100.0	183
Southern	57.3	42.7	0.0	100.0	1045
Western	97.8	2.2	0.0	100.0	422
Education					
No education	59.8	40.0	0.2	100.0	1161
Primary	71.2	28.3	0.5	100.0	4213
Secondary+	87.4	12.3	0.4	100.0	1685
Total	73.2	26.4	0.4	100.0	7060

4.9 Approval of Family Planning

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 58 percent of married women who know a contraceptive method had discussed family planning with their husbands in the year prior to the survey. Most of these women had discussed the topic only once or twice with their husbands, but almost as many had discussed family planning more often. The tendency to discuss family planning with spouses is greater among women in their 20s and 30s than among older or younger women.

Table 4.15 Discussion of family planning by couples

Percent distribution of currently married non-sterilised 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, Zambia 1992

Age	Number of times family planning discussed				Total	Number of women
	Never	Once or twice	Three or more	Not ascertained		
15-19	51.6	30.8	17.1	0.5	100.0	456
20-24	38.9	35.3	25.7	0.1	100.0	935
25-29	37.9	31.7	30.1	0.2	100.0	902
30-34	38.4	32.9	28.2	0.4	100.0	717
35-39	38.4	27.0	34.4	0.1	100.0	479
40-44	45.2	28.9	25.6	0.3	100.0	346
45-49	60.2	22.9	16.9	0.0	100.0	249
Total	41.8	31.3	26.6	0.2	100.0	4083

In order 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 in Table 4.16 are confined to currently married, non-sterilised women and exclude those women who had never heard of a contraceptive method. Currently married, non-sterilised 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.

Overall, 81 percent of married women who know a contraceptive method approve of family planning. Just over half of the women say that their husbands also approve of family planning; 17 percent say that they approve of family planning and their husbands do not. Approval of family planning by married women does not vary much by age of the woman except that women age 45-49 are less likely to approve than younger cohorts. Married women who live in urban areas or in Western, Central or Northern Provinces, and those who are better educated are more likely than other women to approve of the use of family planning. Among

husbands, the proportion who reportedly disapprove of family planning decreases with increasing level of education of their wives. A sizeable proportion of married women living in rural areas do not know their husbands' attitudes towards family planning, an indication of the extent to which family planning is discussed by rural couples. The proportion of wives who say they do not know their husbands' attitude toward family planning use is also high among women in Eastern and Western Provinces and among uneducated women.

Table 4.16 Attitudes of couples toward family planning

Among currently married non-sterilised 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, Zambia 1992

Characteristic	Respondent approves			Respondent disapproves			Respondent unsure	Percent	Total
	Both approve	Husband disapproves	Unsure of husband	Husband approves	Husband disapproves	Unsure of husband			
Age									
15-19	41.0	12.7	22.5	3.8	12.0	6.5	1.3	100.0	456
20-24	53.2	14.5	15.9	2.6	9.8	3.7	0.4	100.0	935
25-29	54.2	17.8	12.4	2.4	8.9	3.4	0.9	100.0	902
30-34	51.5	17.9	12.8	2.5	10.2	4.0	1.1	100.0	717
35-39	52.0	18.0	11.5	2.8	9.4	5.7	0.5	100.0	479
40-44	44.1	20.5	14.9	1.3	13.6	5.4	0.1	100.0	346
45-49	36.7	14.4	13.8	4.6	17.8	12.2	0.4	100.0	249
Residence									
Urban	57.7	17.9	8.5	2.6	10.0	2.1	1.1	100.0	1963
Rural	42.5	15.3	20.2	2.8	11.3	7.5	0.3	100.0	2120
Province									
Central	51.4	20.8	13.7	1.8	9.0	1.4	1.8	100.0	306
Copperbelt	55.2	21.1	7.3	4.0	9.4	1.7	1.3	100.0	979
Eastern	33.3	10.2	27.3	3.4	9.5	16.1	0.2	100.0	488
Luapula	43.8	18.2	19.5	1.3	10.3	6.4	0.5	100.0	264
Lusaka	59.9	13.5	10.0	1.6	12.0	2.2	0.8	100.0	678
Northern	60.2	14.5	11.3	1.7	9.2	3.2	0.0	100.0	384
North-Western	47.6	22.3	5.1	4.4	14.5	5.7	0.4	100.0	110
Southern	40.5	15.6	19.0	3.4	14.9	6.5	0.2	100.0	646
Western	47.6	15.9	25.9	0.6	5.9	3.6	0.5	100.0	228
Education									
No education	37.0	15.8	20.3	2.7	14.1	10.0	0.2	100.0	719
Primary	46.8	17.7	15.1	3.0	12.0	4.7	0.7	100.0	2577
Secondary	69.9	14.0	8.3	1.8	3.5	1.1	1.4	100.0	705
Higher	87.0	8.9	2.8	0.0	1.4	0.0	0.0	100.0	80
Total	49.8	16.5	14.6	2.7	10.7	4.9	0.7	100.0	4083

CHAPTER 5

OTHER 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

Data on the marital status of respondents at the time of the survey are 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 no longer living together (separated) make up the remainder of the "ever-married or "ever in union" category.

Age	Marital status						Total	Number of women
	Never married	Married	Living together	Widowed	Divorced	No longer living together		
15-19	70.4	26.0	0.5	0.2	1.8	1.1	100.0	1984
20-24	21.2	66.5	2.1	1.1	6.2	2.9	100.0	1441
25-29	5.7	76.7	3.2	2.1	8.7	3.6	100.0	1179
30-34	2.0	79.5	3.0	3.8	10.3	1.5	100.0	915
35-39	0.7	79.7	2.2	3.5	11.8	2.2	100.0	656
40-44	0.1	79.3	2.3	5.7	9.8	2.8	100.0	505
45-49	0.0	75.2	2.5	8.5	11.6	2.2	100.0	380
Total	25.4	61.1	2.0	2.3	7.0	2.2	100.0	7060

Most Zambian women of reproductive age are currently in a marital union (63 percent). The 1980 census which also defined marriage to include unions "where no ceremony has been performed but the man and woman are living as husband and wife," reported a slightly higher figure (67 percent of women). Some of the decrease in the proportion married is probably due to a rising age at first marriage (see section 5.3), though some is no doubt due to the relatively larger proportion of teenagers surveyed in the ZDHS, most of whom have not yet married. Consequently, the proportion never married appears to have increased slightly from 24 percent in 1980 to 25 percent in 1992. The proportion who have never married drops precipitously among women in their late 20s. The proportion divorced or separated (no longer living together) rises steeply after age group 15-19 until age 25-29, after which it stays relatively constant at about 12-14 percent of women. The proportion widowed rises more gradually, reaching about 9 percent of women age 45-49.

5.2 Polygyny

Since polygyny is practiced in Zambia, married women were asked in the ZDHS whether their husbands had other wives, and if so, how many. Overall, 18 percent of currently married women are in a polygynous union. The figures presented in Table 5.2 indicate that polygyny exists in all provinces and among all socioeconomic groups, although prevalence varies. Rural women are about three times more likely than urban women to be in such unions. One-third of married women in Southern Province and one-quarter

Table 5.2 Polygyny

Percentage of currently married women in a polygynous union, by age and selected background characteristics, Zambia 1992

Background characteristic	Age of woman							All ages
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	1.7	4.8	9.1	12.2	11.5	13.6	19.6	9.3
Rural	13.4	15.6	25.8	34.9	33.5	29.4	35.6	25.1
Province								
Central	(4.5)	14.6	11.8	17.0	(20.6)	(22.8)	(44.4)	16.6
Copperbelt	3.4	3.3	8.5	11.3	10.4	11.1	13.8	8.2
Eastern	13.4	14.4	19.6	30.4	(27.6)	(31.1)	(36.8)	22.3
Luapula	9.5	10.8	24.0	24.1	(16.2)	(22.5)	*	17.3
Lusaka	3.5	6.6	6.6	12.5	6.6	12.4	(21.3)	8.7
Northern	10.0	15.7	26.8	(36.2)	(37.6)	(34.3)	(39.0)	25.7
North-Western	(0.0)	6.7	12.1	(24.1)	(36.9)	*	*	15.6
Southern	19.0	18.4	35.2	44.7	45.9	35.3	(36.8)	32.8
Western	*	10.6	16.5	32.1	(26.3)	(24.4)	(36.2)	22.1
Education								
No education	12.4	17.9	21.8	33.9	30.3	22.3	32.2	24.8
Primary	8.9	10.9	18.8	22.7	22.5	24.9	29.0	17.7
Secondary	(4.3)	5.2	12.2	14.2	17.5	(19.9)	*	11.3
Total	9.1	10.6	17.2	22.6	22.3	22.6	30.2	17.7

Note: Rates shown in parentheses are based on 25 to 49 women, while an asterisk means the rate is based on fewer than 25 women and has been suppressed.

in the Northern Province are in polygynous unions, compared to 22 percent of women in Eastern and Western Provinces, between 16 and 18 percent in Luapula, North-Western and Central Provinces and between 8 and 9 percent in Copperbelt and Lusaka Provinces. Nearly one-quarter of the women with no formal schooling are in a polygynous union, compared to 11 percent of those with secondary education.

Most women in polygynous unions have only one co-wife, however, one-third of the women (6 percent of all married women) have two or more co-wives (see Table 5.3). In fact, in Southern and North-Western Provinces, though a majority of women are in monogamous unions (67 and 84 percent, respectively), more women have two or more co-wives (20 percent and 11 percent) than have one co-wife (13 percent and 4 percent, respectively).

Table 5.3 Number of co-wives

Percent distribution of currently married women by number of co-wives, according to selected background characteristics, Zambia 1992

Background characteristic	Number of co-wives			Missing	Total	Number of women
	0	1	2+			
Age						
15-19	90.9	6.9	2.2	0.0	100.0	526
20-24	89.4	7.1	3.3	0.1	100.0	989
25-29	82.8	10.8	6.4	0.0	100.0	943
30-34	77.4	13.8	8.7	0.1	100.0	755
35-39	77.7	13.5	8.8	0.1	100.0	537
40-44	77.4	13.7	9.0	0.0	100.0	412
45-49	69.8	19.4	10.8	0.0	100.0	295
Residence						
Urban	90.7	6.6	2.6	0.1	100.0	2091
Rural	74.9	15.3	9.8	0.0	100.0	2366
Province						
Central	83.4	10.3	6.1	0.3	100.0	418
Copperbelt	91.8	6.5	1.6	0.1	100.0	1023
Eastern	77.7	16.5	5.8	0.0	100.0	536
Luapula	82.7	14.8	2.5	0.0	100.0	281
Lusaka	91.3	5.2	3.6	0.0	100.0	738
Northern	74.3	20.5	5.2	0.0	100.0	423
North-Western	84.4	3.9	11.4	0.3	100.0	124
Southern	67.2	12.7	20.1	0.0	100.0	673
Western	77.9	18.5	3.6	0.0	100.0	241
Education						
No education	75.2	17.2	7.6	0.0	100.0	864
Primary	82.3	10.8	6.9	0.1	100.0	2754
Secondary	88.7	7.2	4.1	0.1	100.0	745
Higher	97.7	1.2	1.2	0.0	100.0	93
Total	82.3	11.2	6.4	0.1	100.0	4457

The tendency to have another wife (either one or two or more co-wives) increases with age, a reflection of changes in the marital status as widowed and divorced women are remarried. Whilst a rural woman is twice as likely as an urban woman to have one co-wife, she is four times more likely than her urban counterpart to have two or more co-wives. More educated women are less likely to have a co-wife: 17 percent of women with no education have one co-wife, compared to 11 percent and 7 percent of those who have primary and secondary education, respectively. Women with no education are also nearly twice as likely as those with secondary education to have two or more co-wives.

5.3 Age at First Marriage

ZDHS data show that half the women in Zambia marry before they reach age 18. The reported mean age at first union is 18.5 years; the 1980 census reported a mean age at first marriage of 18.3 years (Central Statistical Office, 1985a). The data presented in Table 5.4 indicate a median age at first marriage of 17.4 for women age 25-49 and 17.7 among the 20-49 year olds; the pattern shows a trend toward later age at marriage for younger women.

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, Zambia 1992

Current age	Percentage of women who were first married by exact age:					Percentage who had never married	Median age at first marriage	Number of women
	15	18	20	22	25			
15-19	4.2	NA	NA	NA	NA	70.4	a	1984
20-24	9.0	43.3	63.6	NA	NA	21.2	18.6	1441
25-29	12.0	50.4	69.5	81.9	91.6	5.7	18.0	1179
30-34	17.7	60.6	78.4	87.8	94.6	2.0	17.2	915
35-39	19.3	63.8	82.7	90.8	96.2	0.7	17.2	656
40-44	22.6	62.9	81.2	91.6	95.8	0.1	17.0	505
45-49	31.1	64.8	79.3	90.0	96.1	0.0	16.6	380
20-49	15.6	54.3	73.0	83.7	89.9	7.8	17.7	5076
25-49	18.2	58.6	76.8	87.2	94.2	2.5	17.4	3635

NA = Not applicable

^aOmitted 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 5.4.¹ The age at marriage appears to have increased over time. The proportion of women married by age 15 has decreased systematically from 31 percent among those age

¹ 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.

45-49 to 4 percent among the 15-19 year-olds. The median age at marriage has increased from 17 years or less among women now in their 30s and 40s to 18 and over among women in their 20s. Thus, the median age at marriage has increased by between one to one and a half years.

The national picture masks large differentials in marriage behaviour patterns; Table 5.5 presents a more detailed picture of the trends in the median age at marriage. It can be seen that the changes observed at the national level have been achieved primarily through changes in the behaviour of women in urban areas, where the median age at marriage has increased by more than 3 years between cohorts of women age 20-24 and 45-49. Increases of 2 years or more have taken place among women in Copperbelt, Central and Luapula Provinces, whilst the median age at marriage among women in North-Western, Eastern and Southern Provinces has risen by over one year. Level of education attended is closely related to age at first marriage. The median age at first marriage for women 25-49 increases steadily with education, from 16.7 among women with no education to 19.9 for women with secondary or higher 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, Zambia 1992

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	19.7	18.4	17.2	17.2	17.1	16.4	18.0	17.5
Rural	17.9	17.6	17.2	17.1	17.0	16.7	17.4	17.2
Province								
Central	18.0	18.0	17.5	(16.6)	(16.4)	(15.8)	17.5	17.2
Copperbelt	18.9	18.3	16.9	16.8	16.8	16.5	17.6	17.2
Eastern	17.6	17.7	17.4	18.0	17.0	(16.3)	17.5	17.4
Luapula	17.6	17.3	16.7	17.0	16.4	(15.6)	17.0	16.8
Lusaka	a	18.5	17.5	17.1	17.5	(18.0)	18.4	17.8
Northern	17.8	17.5	16.6	(17.3)	(18.1)	(17.2)	17.4	17.3
North-Western	17.6	17.8	17.8	(15.7)	(15.6)	*	17.1	17.0
Southern	18.8	18.0	17.0	17.5	16.8	(17.6)	17.8	17.5
Western	a	18.1	18.4	17.4	(17.8)	16.8	18.2	17.8
Education								
No education	17.7	17.4	16.4	16.3	16.6	16.5	16.9	16.7
Primary	17.8	17.3	16.7	16.8	16.8	16.7	17.1	16.9
Secondary+	a	20.8	20.0	18.7	19.6	*	a	19.9
Total	18.6	18.0	17.2	17.2	17.0	16.6	17.7	17.4

Note: Rates shown in parentheses are based on 25 to 49 women, while an asterisk means the rate is based on fewer than 25 women and has been suppressed. Medians are not shown for women 15-19 because less than 50 percent of these women had married by age 15.

^aOmitted 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 often used as a proxy for exposure to intercourse, the two events do not necessarily occur at the same time. Women may engage in sexual relations prior to marriage, especially if they are postponing the age at which they marry. The ZDHS asked women 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 instance, by age 18, 72 percent of the women age 20-49 had had sexual intercourse, whereas only 54 percent had married; similarly, by age 20, 88 percent had had intercourse, while 73 percent had married. Overall, the median age at first sexual intercourse is 16.3 years, which is about 1.4 years earlier than the median age at first marriage of 17.7. Analysis of cohorts indicates that there has been little change in the median age at first sexual intercourse 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, Zambia 1992

Current age	Percentage of women who had first intercourse by exact age:					Percentage who never had intercourse	Median age at first intercourse	Number of women
	15	18	20	22	25			
15-19	19.2	NA	NA	NA	NA	39.5	a	1984
20-24	20.2	68.9	86.9	NA	NA	4.3	16.6	1441
25-29	23.3	70.9	87.2	93.8	98.1	0.6	16.4	1179
30-34	28.1	77.1	90.7	96.1	98.4	0.2	16.0	915
35-39	27.5	75.8	90.8	95.7	98.4	0.0	16.2	656
40-44	28.9	72.5	88.8	95.6	97.4	0.0	16.3	505
45-49	36.8	71.4	86.6	92.7	98.1	0.0	16.0	380
20-49	25.4	72.3	88.3	94.6	97.3	1.4	16.3	5076
25-49	27.5	73.6	88.9	94.8	98.1	0.3	16.2	3635

NA = Not applicable

^aOmitted 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 among women in urban areas and in Central, Copperbelt and Luapula Provinces had any effect on delaying exposure to intercourse? Table 5.7 indicates some trend toward later initiation of sexual intercourse among younger urban women; however, it is nowhere near as strong as the trend toward later age at marriage. While age at marriage has been increasing, the age of initiating sexual activity has remained unchanged in Lusaka and Northern Provinces where it has been relatively high.

More educated women tend to delay initiating sexual relations longer than uneducated women (median age at first intercourse for those with secondary or higher education is 2 years more than for those with no education), but they postpone marriage even longer (the median age at first marriage for the most educated women is three years greater than that of women with no education). On the other hand, the differentials between the urban and the rural women in respect of age at marriage and age at first sexual intercourse are virtually the same: urban women have a median age at marriage of 0.6 years later than rural women (20-49 age group); their median age at first intercourse is also 0.6 years later. Even among the younger women (20-24 years), while the median age at marriage in urban areas is about 2 years later than in the rural areas, the median age at first intercourse is less than one year later in urban than in rural areas.

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, Zambia 1992

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	17.0	16.8	16.2	16.4	16.4	16.1	16.6	16.5
Rural	16.2	16.0	15.8	15.9	16.1	16.0	16.0	16.0
Province								
Central	16.4	16.3	16.0	(15.5)	(15.8)	(15.0)	16.0	15.9
Copperbelt	16.8	16.8	16.1	16.1	15.9	16.3	16.5	16.3
Eastern	16.2	16.6	15.7	17.4	16.6	(15.4)	16.3	16.3
Luapula	16.1	15.8	16.0	16.5	15.6	(15.1)	15.9	15.8
Lusaka	17.2	16.9	16.3	16.6	17.0	(16.8)	16.8	16.7
Northern	16.7	16.6	16.3	(17.0)	(17.3)	(17.2)	16.7	16.7
North-Western	15.5	15.7	15.4	(15.3)	(14.9)	*	15.5	15.5
Southern	16.3	16.0	15.9	15.7	16.0	(16.3)	16.0	15.9
Western	16.4	16.3	16.3	15.8	(16.4)	16.3	16.2	16.2
Education								
No education	16.5	16.1	15.4	15.7	15.9	16.2	15.9	15.8
Primary	16.1	15.9	15.8	15.9	16.1	15.8	16.0	15.9
Secondary+	18.1	18.0	17.6	17.6	17.8	*	17.9	17.8
Total	16.6	16.4	16.0	16.2	16.3	16.0	16.3	16.2

Note: Rates shown in parentheses are based on 25 to 49 women, while an asterisk means the rate is based on fewer than 25 women and has been suppressed. Medians are not shown for women 15-19 because less than 50 percent of these women had had intercourse by age 15.

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 12 percent of women interviewed in the ZDHS had never had sexual intercourse. But not all women who have ever had intercourse are currently sexually active. Table 5.8 presents data on levels of sexual activity by background characteristics; the distributions are shown for women who have ever had intercourse.

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, Zambia 1992

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		
Age							
15-19	55.7	16.3	1.0	25.0	2.0	100.0	1200
20-24	60.9	16.6	2.2	19.5	0.8	100.0	1378
25-29	65.3	12.3	1.8	18.5	1.8	100.0	1172
30-34	65.5	13.4	1.9	17.3	2.0	100.0	913
35-39	64.8	10.9	2.3	18.6	3.4	100.0	656
40-44	70.2	5.4	1.8	18.3	4.3	100.0	505
45-49	59.4	1.6	1.3	22.5	15.1	100.0	380
Duration of union							
0-4	69.3	15.4	0.7	14.5	0.1	100.0	1308
5-9	66.5	15.1	1.4	15.8	1.3	100.0	1095
10-14	68.4	12.2	2.2	15.4	1.6	100.0	857
15-19	67.5	12.7	1.2	16.6	2.0	100.0	769
20-24	64.7	9.6	2.1	19.9	3.6	100.0	574
25+	64.3	2.6	1.7	21.4	10.1	100.0	664
Never in union	36.2	16.5	3.6	38.9	4.6	100.0	936
Residence							
Urban	62.1	11.7	1.5	21.7	2.9	100.0	3109
Rural	62.9	13.9	2.0	18.3	2.8	100.0	3096
Province							
Central	66.4	11.2	0.4	19.1	2.7	100.0	559
Copperbelt	62.0	10.7	1.8	22.3	3.2	100.0	1471
Eastern	60.1	12.7	2.5	19.8	4.9	100.0	672
Luapula	65.4	11.4	1.8	19.0	2.4	100.0	372
Lusaka	63.0	11.7	1.1	21.8	2.3	100.0	1078
Northern	53.3	19.9	3.2	19.6	4.0	100.0	546
North-Western	59.6	18.3	1.5	18.0	2.6	100.0	165
Southern	70.6	11.5	1.2	15.7	0.9	100.0	945
Western	53.4	18.9	3.8	21.4	2.5	100.0	395
Education							
No education	63.1	13.0	1.9	17.4	4.7	100.0	1083
Primary	64.1	13.6	1.6	18.7	2.0	100.0	3716
Secondary	57.0	11.0	2.3	26.2	3.5	100.0	1281
Higher	65.3	6.2	0.9	21.3	6.2	100.0	123
Current contraceptive method							
No method	60.5	13.8	1.9	20.7	3.0	100.0	5388
Pill	83.8	2.6	0.3	13.3	0.0	100.0	245
IUD	(72.0)	(4.0)	(0.0)	(12.0)	(12.0)	100.0	27
Sterilisation	69.6	5.2	0.4	20.3	4.5	100.0	106
Periodic abstinence	78.8	6.1	0.0	15.1	0.0	100.0	55
Other	72.6	9.2	1.0	16.2	1.0	100.0	375
Total	62.5	12.8	1.8	20.0	2.8	100.0	6205

Note: Figures in parentheses are based on 25 to 49 women

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, 63 percent were sexually active in the month prior to the interview, while 15 percent were abstaining postpartum and 23 percent were abstaining for other reasons. Women who have never been in a union are less likely to be sexually active than those who are in a union. As expected, women who are using a method of family planning are more likely to be sexually active than those who are not.

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 classified as still postpartum insusceptible to pregnancy for either reason; data are presented by months since the 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, Zambia 1992

Months since birth	Amenorrhoeic	Abstaining	Insusceptible	Number of births
< 2	97.5	95.3	99.1	192
2-3	87.1	68.2	91.3	257
4-5	80.0	47.9	86.3	254
6-7	72.4	30.6	77.4	265
8-9	65.2	27.4	73.2	227
10-11	55.5	21.4	62.5	221
12-13	47.0	17.4	54.0	225
14-15	36.6	16.2	45.5	237
16-17	24.8	13.9	32.4	200
18-19	17.5	12.3	24.3	217
20-21	15.1	10.7	22.7	219
22-23	8.0	8.9	13.7	209
24-25	4.9	5.9	9.6	201
26-27	4.3	3.8	7.2	223
28-29	1.7	3.6	5.0	237
30-31	0.3	5.8	5.8	198
32-33	1.1	5.2	6.3	210
34-35	0.9	6.4	7.3	196
Total	36.0	22.8	41.8	3987
Median	11.7	4.4	13.3	-
Mean	12.7	8.3	14.7	-
Prevalence/Incidence mean	12.8	8.1	14.8	-

Nearly three-quarters of Zambian women remain amenorrhoeic for at least six months following a birth; only one-third abstain from sexual intercourse during this period. The proportion remaining amenorrhoeic 18 months after birth drops significantly to 18 percent and those still abstaining to 12 percent. Overall, three-quarters of women become susceptible to pregnancy within 18-19 months of giving birth. The average duration of the postpartum insusceptible period is 15 months.

The median durations of postpartum amenorrhoea, abstinence and insusceptibility are presented in Table 5.10 by background characteristics of the mothers. Postpartum amenorrhoea generally lasts slightly longer among older (age 30 and above) than younger mothers. The duration is also longer among rural (14 months) than urban mothers (9 months), a possible indication of shorter duration of breastfeeding among urban women. Mothers in Northern Province show a particularly long median duration of amenorrhoea, while those in Western and North-Western Province tend to abstain for considerably longer periods (10-12 months) after birth than the 3-5 months that mothers in other provinces report. The long abstinence in the latter two provinces may account in part for their relatively low fertility (see Chapter 3). With regard to educational level, the higher the level of education of the mother, the shorter the median duration of amenorrhoea. The median duration of amenorrhoea decreases from 14 months for women with no education to 12 months for those with primary schooling and to only 8 months for women with secondary education.

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, Zambia 1992

Background characteristic	Postpartum amenorrhoea	Postpartum abstinence	Postpartum insusceptibility	Number of births
Age				
<30	11.0	4.3	12.9	2687
30+	(13.9)	4.5	14.9	1301
Residence				
Urban	9.4	4.6	11.3	1878
Rural	13.5	4.2	14.6	2109
Education				
No education	*	(4.4)	(15.3)	654
Primary	11.7	4.5	13.1	2544
Secondary	(8.3)	*	(11.9)	725
Total	11.7	4.4	13.3	3987

Note: Medians are based on current status. Rates shown in parentheses are based on 25 to 49 women, while an asterisk means the rate is based on fewer than 25 women and has been suppressed.

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, an indicator of 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-two percent of the oldest women interviewed are menopausal according to this indicator. The other 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 very low even among the oldest women.

Table 5.11 Termination of exposure to the risk of pregnancy

Indicators of menopause and long-term abstinence among currently married women age 30-49, by age, Zambia 1992

Age	Menopause ¹		Long-term abstinence ²	
	Percent	N	Percent	N
30-34	3.8	388	0.1	755
35-39	2.6	334	0.7	537
40-41	6.6	87	0.8	134
42-43	11.7	161	1.1	193
44-45	25.6	138	2.8	157
46-47	28.1	104	1.8	109
48-49	41.7	109	1.9	114
Total	12.0	1321	0.8	1999

¹Percentage 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.

²Percentage of currently married women who did not have intercourse in the three years preceding the survey.

CHAPTER 6

FERTILITY PREFERENCES

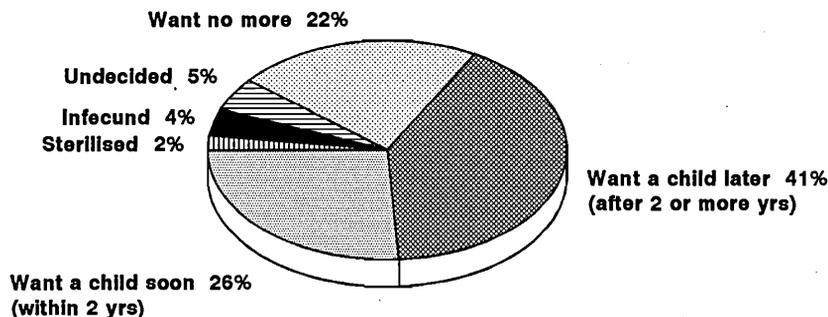
Several questions were asked in the ZDHS concerning women's fertility preferences. These questions dealt with: 1) whether the respondent wanted another child, 2) if so, how long she would like to wait to have the next child, and 3) how many children she would want in total if she could start afresh. The answers to these questions allow the estimation of levels of unmet need for family planning services either to limit or space births and of levels of unwanted fertility.

The value of the data on fertility preferences as a vehicle for predicting future fertility is questionable. Women's attitudes towards childbearing may not be fully formed and may change over time. Moreover, the data do not reflect the effects of social pressures or the attitudes of other family members, particularly the husband, who may have a major influence on reproductive decisions. Also, women need the means to fulfill their desires. However, on a macro level, data on fertility preferences can be useful as an indicator of the direction that future fertility may take.

6.1 Desire for More Children

In the ZDHS, currently married women were asked "Would you like to have (a/another) child or would you prefer not to have any (more) children?" Interviewers were instructed to alter the wording depending on whether the respondent already had children or not. If the woman was pregnant, she was asked

Figure 6.1
Fertility Preferences among
Currently Married Women 15-49



ZDHS 1992

if she wanted another child after the one she was expecting. Women who said they did want to have another child were then asked how long they would like to wait before the birth of the next child.

As Figure 6.1 shows, two-thirds of married women in Zambia want to have another child; however, most of these women (41 percent of all married women) want to wait two or more years before having their next birth. Over one-fifth (22 percent) of women do not want to have any more children. Thus, a majority of married women want to either space their next birth (want a child later) or limit childbearing altogether (want no more). These women can be considered to be *potentially* in need of family planning services.

Not surprisingly, the desire for more children declines noticeably as the number of living children increases (Table 6.1 and Figure 6.2). Thus, 77 percent of married women with no children want to have a child soon (within two years), whereas only 7 percent of women with six or more children want to have another soon.

Table 6.1 Fertility preferences by number of living children

Percent distribution of currently married women by desire for more children, according to number of living children, Zambia 1992

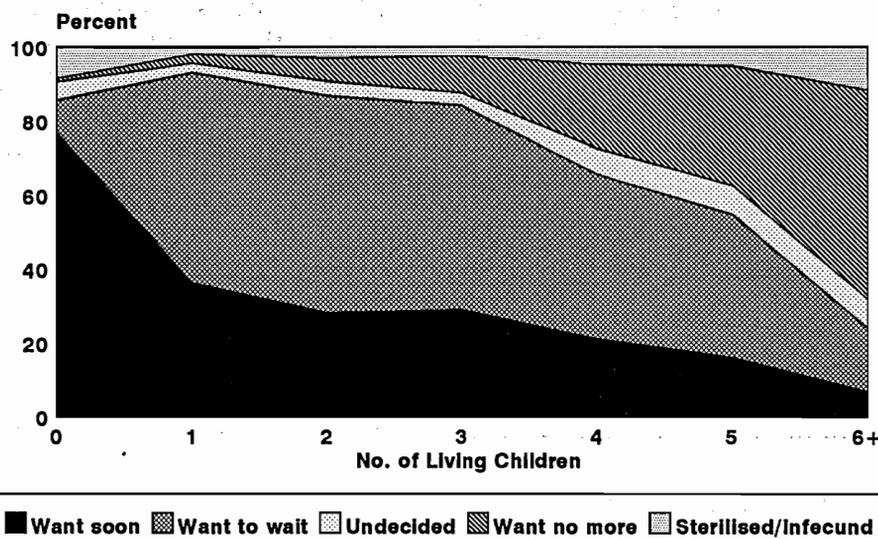
Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Have another soon ²	76.9	36.4	28.3	29.1	21.1	16.1	6.9	26.3
Have another later ³	8.8	56.3	58.1	55.0	44.5	38.5	17.3	40.6
Have another, undecided when	3.0	1.1	0.8	0.6	0.5	0.8	0.7	0.9
Undecided	2.0	1.4	3.2	2.8	6.6	7.1	7.1	4.4
Wants no more	1.0	2.4	6.2	10.0	22.7	32.0	56.3	22.0
Sterilised	0.0	0.5	1.5	0.5	1.7	1.6	5.5	2.1
Declared infecund	8.2	1.3	1.6	2.0	3.0	3.4	6.0	3.5
Missing	0.0	0.4	0.3	0.0	0.0	0.4	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	321	822	712	614	481	428	1078	4457

¹Includes current pregnancy

²Wants next birth within 2 years

³Wants to delay next birth for 2 or more years

Figure 6.2
Fertility Preferences among Currently Married Women by Number of Living Children



ZDHS 1992

Table 6.2 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Zambia 1992

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	32.2	31.6	29.1	27.4	21.4	16.9	8.3	26.3
Have another later ²	59.8	60.3	50.7	36.6	18.6	8.5	2.6	40.6
Have another, undecided when	1.9	1.2	0.5	0.4	0.6	1.5	1.0	0.9
Undecided	2.5	2.0	6.1	6.7	6.1	2.8	4.2	4.4
Wants no more	2.0	4.2	12.3	24.7	42.8	52.3	61.4	22.0
Sterilised	0.0	0.1	0.2	1.3	6.3	7.3	5.3	2.1
Declared infecund	1.1	0.4	0.9	2.8	4.2	10.4	16.9	3.5
Missing	0.4	0.1	0.2	0.1	0.1	0.3	0.4	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	526	989	943	755	537	412	295	4457

¹Wants next birth within 2 years

²Wants to delay next birth for 2 or more years

Table 6.2 shows similar data according to the age of the woman instead of the number of children. The desire to limit births rises rapidly with age, from two percent of married women age 15-19 to 61 percent of those age 45-49. Conversely, the desire to space births declines with age. In other words, the potential need for family planning services is greatest among older women for limiting childbearing and among

younger women for spacing births. The net effect of these two opposing patterns is that the proportion of women falling into one of these two groups is almost constant at about 60-64 percent of women.

The desire to stop childbearing shows little variation according to background characteristics of the respondents (see Table 6.3). Urban women are more likely than rural women to want to stop childbearing, especially those women with four or more children. Women in Copperbelt, North-Western and Lusaka Provinces are slightly more likely than women in other provinces to want to stop childbearing, while women in Western and Luapula Provinces appear to be somewhat more pronatalist. Women with either no education or secondary education are more likely than women with only primary education to want no more children; in other words, the data exhibit a U-shaped pattern of relationship. The positive effect of some primary education on fertility has been widely noted and may be due to enhanced means of support for more children. In any case, the differences in Zambia are small.

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, Zambia 1992

Background characteristic	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	1.6	2.9	11.8	10.2	28.8	39.7	66.3	27.2
Rural	0.6	3.1	4.0	10.7	19.8	28.0	57.7	21.3
Province								
Central	(0.0)	2.9	4.6	10.9	(28.1)	(31.1)	66.0	24.3
Copperbelt	1.8	1.9	5.9	9.2	26.4	38.4	67.7	28.0
Eastern	2.0	4.6	9.8	21.2	(30.5)	(40.4)	62.8	24.4
Luapula	(0.0)	1.2	2.4	4.4	(10.7)	(27.9)	48.2	16.2
Lusaka	(2.6)	2.3	17.0	11.3	32.3	41.0	61.0	26.6
Northern	*	1.2	3.0	5.7	(20.6)	(29.0)	61.1	21.7
North-Western	*	(12.2)	(3.7)	(23.7)	(27.4)	(56.0)	61.4	26.9
Southern	0.0	4.6	7.2	7.7	16.8	21.2	59.7	23.0
Western	(0.0)	3.0	(2.0)	3.5	(15.6)	(11.7)	46.5	14.0
Education								
No education	2.0	6.0	7.1	13.0	24.3	31.6	58.9	29.3
Primary	0.5	2.1	4.0	8.0	18.0	28.2	61.0	21.5
Secondary+	1.8	3.1	16.2	16.7	43.0	56.7	72.6	27.1
Total	1.0	3.0	7.7	10.5	24.3	33.6	61.8	24.1

Note: Figures in parentheses are based on 25 to 49 women, while an asterisk means the figure is based on fewer than 25 women and has been suppressed. Women who have been sterilised are considered to want no more children.

¹Includes current pregnancy

6.2 Demand for Family Planning Services

Women who are currently married and who say either that they do not want any more children or that they want to wait two or more years before having another child, but are not using contraception, are considered to have an *unmet need* for family planning.¹ Women who are using family planning methods are

¹ For an exact description of the calculation, see footnote 1, Table 6.4.

said to have a *met need* for family planning. Women with unmet and met need constitute the *total demand* for family planning. Table 6.4 presents data on unmet need, met need and total demand for family planning, according to whether the need is for spacing or limiting births.

One-third of married Zambian women have an unmet need for family planning services, 21 percent for spacing purposes and 12 percent for limiting births. Combined with the 15 percent of married women who are currently using a contraceptive method, the total demand for family planning comprises almost half of the married women in Zambia. Thus, if all women who say they want to space or limit their children were to use methods, the contraceptive prevalence rate could be increased from 15 percent to 49 percent of married women. Presently, only one-third of the potential demand for family planning is being met (last column in Table 6.4).

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, Zambia 1992

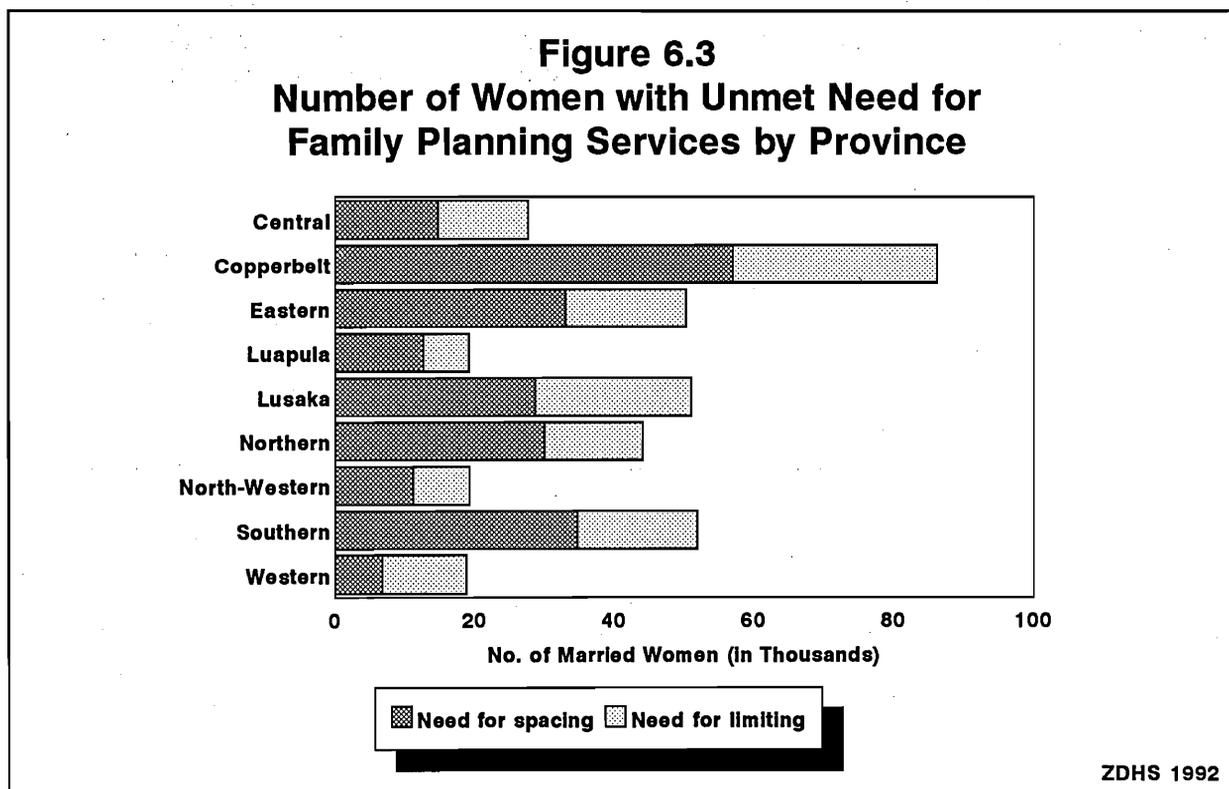
Background characteristic	Unmet need for family planning ¹			Met need for family planning (currently using) ²			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	23.9	3.9	27.8	8.5	0.2	8.7	32.3	4.2	36.5	23.8	526
20-24	25.9	3.0	28.9	12.2	0.9	13.1	38.1	3.9	42.0	31.2	989
25-29	26.1	5.4	31.5	12.5	2.8	15.3	38.6	8.2	46.8	32.6	943
30-34	23.0	10.2	33.2	10.9	7.5	18.3	33.9	17.7	51.5	35.6	755
35-39	16.9	22.6	39.5	4.8	17.7	22.5	21.7	40.3	62.0	36.3	537
40-44	9.9	32.4	42.4	1.8	15.6	17.4	11.8	48.0	59.8	29.1	412
45-49	6.6	35.5	42.1	0.4	8.6	9.0	6.9	44.1	51.1	17.6	295
Residence											
Urban	22.3	12.1	34.4	11.5	9.2	20.8	33.9	21.3	55.2	37.7	2091
Rural	20.5	12.1	32.6	6.7	3.6	10.3	27.2	15.7	42.9	23.9	2366
Province											
Central	14.4	12.1	26.6	5.5	3.7	9.2	20.0	15.8	35.8	25.7	418
Copperbelt	26.2	13.1	39.3	11.2	7.7	19.0	37.4	20.9	58.3	32.5	1023
Eastern	23.6	11.6	35.1	6.0	3.7	9.7	29.5	15.3	44.8	21.6	536
Luapula	17.1	8.4	25.6	5.3	4.2	9.5	22.4	12.6	35.1	27.1	281
Lusaka	18.3	12.2	30.5	11.9	12.3	24.2	30.1	24.5	54.7	44.3	738
Northern	24.1	11.0	35.1	12.8	4.7	17.5	36.9	15.7	52.6	33.3	423
North-Western	20.3	14.1	34.5	5.7	4.7	10.4	26.1	18.8	44.9	23.1	124
Southern	25.0	12.2	37.1	4.7	3.8	8.5	29.7	15.9	45.6	18.6	673
Western	8.2	13.0	21.2	14.1	3.7	17.8	22.3	16.7	39.0	45.7	241
Education											
No education	17.3	17.3	34.6	3.8	4.2	8.0	21.1	21.4	42.6	18.7	864
Primary	22.9	11.9	34.7	8.5	4.2	12.8	31.4	16.1	47.5	26.9	2754
Secondary	22.4	7.8	30.2	15.1	11.9	27.1	37.5	19.8	57.2	47.3	745
Higher	6.5	4.7	11.2	20.5	37.9	58.5	27.0	42.6	69.6	83.9	93
Total	21.4	12.1	33.4	9.0	6.2	15.2	30.3	18.3	48.6	31.2	4457

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

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

The overall unmet need for family planning increases with age. As expected, unmet need for spacing purposes is higher among younger women, while unmet need for limiting childbearing is higher among older women. There is almost no difference in the level of unmet need among urban and rural women, although it is highest among women in Copperbelt and Southern Provinces. Unmet need is higher among women with no education or only primary schooling than among better educated women. This is primarily due to the fact that much larger proportions of educated women are currently using family planning, leading to a larger percent of their demand being satisfied.

An estimate of the actual number of married women with unmet need for family planning services can be calculated by applying the proportions presented in Table 6.4 to the estimated number of women in Zambia. The results of this exercise indicate that approximately 350,000 married women in Zambia are in need of family planning services.² The number of women in need and the proportion in need for spacing and limiting purposes differ greatly by province (see Figure 6.3). Copperbelt Province has more women in need than any other province, both because it is the largest province and because it has the highest proportion of women with unmet need.



² This number was calculated as follows: the number of women in each province from the preliminary report for the 1990 census (Central Statistical Office, 1990a) was projected from 1990 to 1992 using the growth rates by province (also from the 1990 census report). The proportion of all women who are age 15-49 was calculated using similar data from the ZDHS and the proportion of women age 15-49 who are married was also calculated from ZDHS data. Then the proportions in need for spacing and limiting were applied to these numbers.

6.3 Ideal Family Size

In the ZDHS, information on what women feel is the ideal family size was elicited through two questions. Women who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For women who had children, the question was rephrased as follows: "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?" Some women, especially those for whom fertility control is an unfamiliar concept, may have had difficulty in answering this hypothetical question.

The data in Table 6.5 indicate that the vast majority of women were able to give a numeric answer to this question; only 6 percent of women gave a non-numeric answer such as "it is up to God," "any number" or "does not know." Those who gave numeric responses generally want to have large families. Almost half (46 percent) of all respondents said they would choose to have six or more children, with an average of 5.8 children. There is a possibility that some women may report their actual number of children as their ideal number, since they may find it difficult to admit that they would not choose to have so many children if they could start afresh. Indeed, women who have fewer children do report smaller ideal family sizes than women with more children. For example, the average ideal family size is 5.2 among women with one child, compared to 7.2 among women with six or more children. Many of the women with fewer children are young and, to the extent that their fertility preferences do not increase over time and that they can realize their ideal number of children, fertility in Zambia may decline.

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, Zambia 1992

Ideal number of children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
0	0.2	0.1	0.2	0.0	0.2	0.4	0.1	0.2
1	0.8	0.8	0.9	0.4	0.5	0.0	0.3	0.6
2	6.8	5.5	4.6	1.7	3.2	2.1	2.5	4.4
3	7.8	8.4	5.4	4.6	1.4	2.7	2.2	5.4
4	26.2	23.5	24.8	17.7	16.5	11.5	12.0	20.4
5	21.4	23.0	19.9	17.7	11.1	10.3	7.2	17.1
6+	31.6	33.9	41.3	51.9	61.0	65.6	64.6	45.8
Non-numeric response	5.3	4.8	2.9	6.0	6.1	7.4	11.2	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1862	1280	900	741	574	497	1205	7060
Mean ideal number	5.1	5.2	5.4	6.1	6.2	6.6	7.2	5.8
Number of women	1764	1219	874	697	539	461	1070	6624
Mean for women in union	5.9	5.4	5.5	6.1	6.3	6.5	7.2	6.2
Number of women in union	297	778	694	576	455	396	963	4159

Note: The means exclude women who gave non-numeric responses.

¹Includes current pregnancy

Despite the fact that family size norms are large in Zambia, the data in Table 6.5 show evidence of unwanted fertility. For example, one-quarter of the women with six or more children said that they would ideally like to have fewer than 6 children.

Table 6.6 shows the mean ideal number of children for all women by age according to selected background characteristics. The mean ideal family size increases with age, from 5.1 among women age 15-19 to 8.0 among women age 45-49. At every age group, rural women have higher family size norms than urban women. This is reflected in the fact that women in Lusaka have the smallest ideal family sizes on average; women in Western and Northern Provinces have the highest. Ideal family size is negatively related to education level attained; women with no education have the highest family size desires, while women with secondary education have the smallest.

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, Zambia 1992

Background characteristic	Age of woman						Total	
	15-19	20-24	25-29	30-34	35-39	40-44		45-49
Residence								
Urban	4.7	4.8	5.2	5.6	6.1	6.4	7.0	5.2
Rural	5.7	5.9	6.1	6.8	7.4	7.6	8.6	6.4
Province								
Central	5.4	5.6	5.7	6.2	(7.2)	(7.6)	*	6.0
Copperbelt	5.0	5.1	5.4	5.8	6.3	6.8	7.5	5.5
Eastern	4.5	4.8	5.2	5.8	(6.3)	(6.3)	(7.9)	5.3
Luapula	5.9	6.0	6.1	6.9	7.0	(8.2)	(8.4)	6.5
Lusaka	4.1	4.5	4.7	5.0	5.8	5.7	(5.3)	4.7
Northern	6.2	6.6	6.5	(7.1)	(7.3)	(7.9)	(7.9)	6.8
North-Western	5.3	5.5	5.7	6.1	(7.7)	*	*	6.0
Southern	5.2	5.5	5.9	6.7	7.1	7.4	(8.5)	6.0
Western	5.9	6.5	6.9	7.6	8.4	(9.3)	10.7	7.4
Education								
No education	5.6	5.9	6.6	7.0	7.2	7.6	8.6	6.8
Primary	5.3	5.6	5.9	6.4	7.3	7.3	7.9	6.0
Secondary+	4.4	4.5	4.7	4.8	5.2	5.1	*	4.6
Total	5.1	5.3	5.6	6.1	6.7	7.1	8.0	5.8

Note: Figures in parentheses are based on 25 to 49 women, while an asterisk means the figure is based on fewer than 25 women and has been suppressed.

6.4 Fertility Planning

There are two ways of estimating levels of unwanted fertility from ZDHS data. One is based on responses to a question on whether each birth in the five years before the survey was planned (wanted then), mistimed (wanted, but at a later time), or unwanted (wanted no more children). These data are likely to result in underestimates of unplanned childbearing, since women may rationalize unplanned births and declare them as planned once they are born. The other method of measuring unwanted fertility utilizes the data on ideal

family size to calculate "wanted" fertility rates. These too, may suffer from underestimation to the extent that women are unwilling to report an ideal family size lower than their actual family size.

Table 6.7 shows the percent distribution of births in the five years before the survey by whether the birth was wanted then, wanted later, or not wanted. Only 7 percent of recent births were reported to be unwanted, while 26 percent were reported as mistimed (wanted later). Fourth and higher births are more likely than first, second or third births to be unwanted. Similarly, a much larger proportion of births to older women are unwanted—almost 30 percent among women in their 40s.

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, Zambia 1992

Birth order and mother's age	Planning status of birth				Total	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
Birth order						
1	70.8	22.6	5.8	0.8	100.0	1597
2	72.4	23.9	2.9	0.8	100.0	1253
3	70.4	26.8	2.4	0.4	100.0	988
4+	59.5	28.2	11.3	1.0	100.0	3322
Age at birth						
<20	66.9	26.7	5.8	0.6	100.0	1516
20-24	70.0	26.1	3.0	0.9	100.0	2072
25-29	68.8	26.1	4.1	1.0	100.0	1590
30-34	60.6	28.7	9.8	0.9	100.0	1085
35-39	54.4	25.0	19.9	0.7	100.0	593
40-44	55.6	14.2	29.4	0.8	100.0	269
45-49	(61.3)	(10.3)	(28.4)	(0.0)	100.0	36
Total	65.8	26.0	7.4	0.8	100.0	7160

Note: Table includes current pregnancies.

Table 6.8 presents *wanted fertility rates*. 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 purpose, unwanted births are defined as those which exceed the number considered ideal by the respondent. (Women who did not report a numeric 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.

The wanted total fertility rate was 5.4 for Zambia as a whole, one child lower than the actual total fertility rate. Moreover, this difference of approximately one child between the wanted and actual total fertility rates is apparent for all categories of background characteristics. The only exception is among women in Western Province, where there appears to be less unwanted fertility than in other provinces.

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, Zambia 1992

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	4.7	5.8
Rural	6.2	7.1
Region		
Copperbelt	5.0	6.2
Eastern, Central	5.7	6.8
Lusaka	4.5	5.5
Luapula, Northern	6.4	7.4
Southern	6.0	7.1
North-Western, Western	5.5	6.0
Education		
No education	6.3	7.1
Primary	5.7	6.8
Secondary+	3.9	4.9
Total	5.4	6.5

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 3.3. Some provinces have been grouped together to increase sample sizes.

CHAPTER 7

INFANT AND CHILD MORTALITY

According to the 1980 Census of Population and Housing, over 20 percent of Zambia's population consists of children below the age of five. This proportion is large enough to draw attention to any analysis on the situation of children's health. Furthermore, infant and particularly childhood mortality rates are basic indicators of a country's socioeconomic situation in terms of the quality of life. This is because children are the most vulnerable members of any society.

This chapter presents information on childhood mortality in Zambia, especially on levels, trends and differentials in neonatal, postneonatal, infant and child mortality. Disaggregation of this information by sex, socioeconomic characteristics, province and other factors helps in identifying segments of the population requiring special attention. This makes health programme monitoring and evaluation easier. Mortality estimates can also prove useful in making population projections and in identifying those sectors of the child population that are at high risk.

7.1 Assessment of Data Quality

The estimates of infant and child mortality are based on information from the birth histories of interviewed individual women. For each reported live birth, information was collected on the month and year of birth, sex, survivorship status and among dead children, age at death.

This information has been used to calculate the following period probabilities of dying for three five-year periods—1977-81, 1982-86, and 1987-91:

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 between birth and the fifth birthday.

The reliability of mortality estimates calculated from retrospective birth histories depends upon the completeness with which deaths of children are reported and the extent to which birth dates and ages at deaths are accurately reported and recorded. Since the ZDHS data imply that childhood mortality has increased in the 15 years prior to the survey, it is important to look at some basic quality checks of the data. Although ZDHS data relating to infant and child mortality are in general of good quality, they may still suffer from several deficiencies which could lead to biased interpretation of the results.

Underreporting of infant deaths in particular is usually most severe for deaths which occur very early in infancy. If early neonatal deaths are selectively underreported, the result would be an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality. Changes in these ratios over time can be examined to detect the hypothesis that underreporting of early infant deaths is more common for births that occurred longer before the survey.

Results from Table 7.1 suggest that early infant deaths have *not* been severely underreported in the ZDHS, since the ratios of deaths in the first 6 days to all neonatal deaths (top row) are quite high (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). However, the ratios increase substantially over time, from 49 to 67 percent, implying that some early infant

deaths were not reported by older women. The percentages of infant deaths that occurred during the neonatal period (lower row in Table 7.1) are reasonable and show no evidence of selective underreporting over time.

Misreporting of age at death will bias estimates of the age pattern of mortality if the net result of the misreporting is the transference of deaths between age segments for which rates are calculated; for example, an overestimate of child mortality relative to infant mortality may result if children dying during the first year of life are reported as having died at age one or older. There was some misreporting of age at death due to preference for reporting ages at death of 7, 14, and 21 days, corresponding to one, two, and three weeks respectively (see Appendix Table C.5). In fact, the preference for reporting deaths at age 7 days is stronger for the period 10-14 years before the survey and accounts for some of

the apparent increase over time in the percentage of neonatal deaths occurring at ages 0-6 days. There was surprisingly little "heaping" on particular *months* of death, and due to strong emphasis during training, there were very few deaths reported to have occurred at age one year (see Appendix Table C.6),¹ making any adjustment in infant and child mortality rates unnecessary.

This brief check on internal consistency of the ZDHS childhood mortality data indicates that there is no serious underreporting of deaths during the time periods for which the mortality rates are estimated and that though there is some evidence of heaping in age at death at certain ages, the bias in infant and child mortality rates arising from this heaping is negligible.

It is seldom possible to establish, with confidence, mortality levels for a period more than 15 years before a survey. Even within the recent 15-year period considered here, apparent trends in mortality rates should be interpreted with caution, for several reasons. First, there may exist differences in the completeness of death reporting related to the length of time before the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate systematically with time. The third reason relates to truncation of mortality rates further back in time, because women age 50 and over who were bearing children during these periods were not included in the survey. This truncation particularly affects mortality trends. For example, for the period 1977-1981 (10-14 years before the survey), the rates do not include any births for women 40-49 since these women were over 50 at the time of the survey and not eligible for interview. Since these excluded births to older women were likely to be at a somewhat greater risk of dying than births to younger women, the mortality levels for the period may be slightly underestimated. However, the ratio for later periods are less affected by the truncation bias since fewer older women are excluded. Thus, without a detailed evaluation of birth history data quality (which is not attempted in this report), conclusions regarding changes in mortality should be considered preliminary. However, attempts should be made later to compare estimates from the 1990 census with those from the ZDHS.

Table 7.1 Indices for detecting underreporting of infant deaths

Percentage of neonatal deaths reported to occur at age 0-6 days and percentage of infant deaths reported to occur at age under one month for five-year periods preceding the survey, Zambia 1992

Percentage of deaths	Time period of death (years preceding survey)		
	0-4	5-9	10-14
Percentage of neonatal deaths occurring at 0-6 days of age	67.4	57.5	48.7
Percentage of infant deaths occurring under one month of age	42.4	42.1	40.2

¹ Interviewers in the ZDHS were instructed to record the age at death in months for all children who died under age two years and in days for all children who died under one month of age.

Finally, it is important to note that the use of birth histories to estimate childhood mortality rates probably results in underreporting of deaths due to mutually fatal congenital diseases such as AIDS. This is because the respondent for the information on child deaths is the mother herself; if her child has died of AIDS, she herself may also have died and thus, the child's death cannot be reported. The methodology of measuring childhood mortality through mothers' birth histories rests on the assumption that maternal mortality is low and that there is little or no correlation between the mortality risks of mothers and their children. In countries with high death rates due to AIDS, these assumptions do not hold and the resulting childhood mortality rates are probably underestimated to some degree.

7.2 Levels and Trends in Infant and Child Mortality

In the five years preceding the survey (i.e., in the period 1987-1991), nearly 1 in 5 Zambian children died before their fifth birthday (see Table 7.2). Child mortality (at age 1-4 years) is almost as high as the level of infant mortality (94 vs. 107).

Table 7.2 Infant and child mortality

Infant and child mortality rates by five-year periods preceding the survey, Zambia 1992

Years preceding survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality (${}_1q_0$)	Child mortality (${}_4q_1$)	Under-five mortality (${}_5q_0$)
0-4	42.5	64.7	107.2	93.6	190.7
5-9	37.1	50.5	87.6	81.7	162.2
10-14	31.6	47.9	79.5	78.8	151.9

One of the most striking findings from the ZDHS is the apparent downturn in child survival prospects over the last decade. From 1977-81 to 1987-91, under-five mortality has risen 15 percent from 152 to 191 per 1000 live births. Much of this increase resulted from an increase in mortality under the age of one year. Both neonatal and postneonatal mortality increased by 35 percent in the 15-year period before the survey. In this same period child mortality increased by almost 20 percent.

The infant mortality rate of 107 calculated from the ZDHS data is also considerably higher than the rate of 97 estimated from the 1980 census (see Table 1.1). The rate had been projected to drop to 90 by 1990. Analysis of the actual 1990 census data should shed some light on levels and trends in childhood mortality.

These findings may signal the beginning of an era of increased early childhood mortality in Zambia (and perhaps in other parts of sub-Saharan Africa) in which deteriorating economic conditions, coupled with the spread of new infections such as HIV/AIDS, have led to the breakdown of infrastructures and institutions that at one time supported the downward trend in childhood mortality. In summary, child survival in Zambia is much worse today than it was 10 years ago.

7.3 Socioeconomic Differentials in Infant and Child Mortality

This section presents early childhood mortality indicators by selected background characteristics of the mother for the 10-year period preceding the survey. A 10-year reference period is used to allow adequate numbers of events in each population subgroup. Early childhood mortality rates are shown in Table 7.3 by urban-rural residence, province (grouped for more reliable estimates), mother's level of education and medical maternity care.

Table 7.3 Infant and child mortality by background characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected background characteristics, Zambia 1992

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality (1q ₀)	Child mortality (4q ₁)	Under-five mortality (5q ₀)
Residence					
Urban	31.7	46.3	78.0	78.9	150.8
Rural	47.3	68.5	115.8	96.6	201.2
Province					
Copperbelt	22.3	46.6	68.9	80.8	144.2
Eastern, Central	50.6	63.5	114.1	108.2	210.0
Lusaka	32.0	44.7	76.8	69.3	140.8
Luapula, Northern	55.1	93.4	148.5	112.6	244.4
Southern	33.7	36.8	70.5	68.5	134.2
North-Western, Western	59.9	72.1	132.0	90.2	210.3
Education					
No education	46.7	68.1	114.9	101.2	204.4
Primary	39.5	59.2	98.7	92.1	181.7
Secondary+	35.0	44.3	79.4	60.2	134.8
Medical maternity care¹					
No antenatal/delivery care	(79.9)	(108.9)	(188.8)	*	(299.5)
Either antenatal or delivery	41.8	62.3	104.1	88.9	183.7
Both antenatal & delivery	38.2	63.1	101.3	83.0	175.8
Total	40.0	58.2	98.2	88.1	177.6

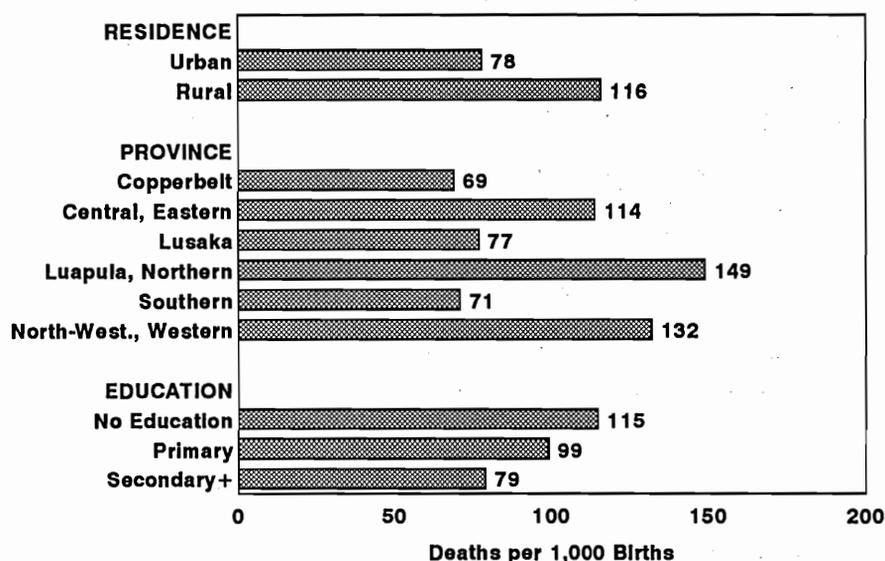
Note: Rates based on 250-499 cases (exposed children) are enclosed in parentheses.

Rates based on fewer than 250 cases are suppressed and marked with an asterisk.

¹Rates for the five-year period before survey. Medical care is that given by a doctor, nurse, trained midwife or received in a hospital, clinic or health centre.

Children in rural areas of Zambia experience 33 percent higher risk of dying before their fifth birthday than urban children. This urban-rural differential is larger during infancy (50 percent higher rural risk) than during the 1 to 5 year age period (22 percent), and may be explained by the relative unavailability of antenatal and delivery services in the more remote, rural settings. In other words, whereas one in 13 children in urban areas dies before their first birthday, the ratio for the rural areas is one in 9 children (see Figure 7.1).

**Figure 7.1
Infant Mortality Rates by Background
Characteristics**



ZDHS 1992

Differences in mortality rates by province are also quite marked. Childhood mortality is highest in Northern/Luapula Provinces, where almost 25 percent of children do not live to see their fifth birthday. Eastern/Central and North-Western/Western Provinces also have high childhood mortality. Mortality is lowest in Southern Province with an estimate of 134 deaths under age five per 1000 live births. The pattern of higher infant than child mortality is common among all Zambia's provinces except Copperbelt Province. The pattern in Copperbelt Province might be due to the fact that the bulk of the work force in this province obtains health care through the copper mining companies; this may have a more favourable effect on infant than on child mortality.

All early childhood mortality rates are higher for women with little or no education, presumably in part because they have more limited access to basic health services. Children born to uneducated mothers are 50 percent more likely to die before their fifth birthday than their counterparts born to mothers with secondary or higher education. The strength of the relationship increases with increasing age of the child at risk.

Maternal care during pregnancy and delivery is associated with childhood mortality. Children born to women who obtained both antenatal and delivery care from a medically-trained person have lower mortality rates at every age than children whose mothers received only antenatal *or* delivery care. (Although the sample of children whose mothers received neither type of care is small, the rates are so high as to be compelling.)

7.4 Demographic Differentials in Infant and Child Mortality

This section examines differentials in early childhood mortality by various demographic characteristics of both the child and the mother. Table 7.4 presents mortality rates for the ten years preceding the survey by sex of child, age of mother at birth, birth order, length of the previous birth interval and size of the child at birth.

Table 7.4 Infant and child mortality by demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected demographic characteristics, Zambia 1992

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
Sex of child					
Male	46.3	59.9	106.2	91.3	187.8
Female	33.9	56.5	90.3	85.1	167.8
Age of mother at birth					
< 20	53.3	69.8	123.2	110.1	219.7
20-29	36.0	56.4	92.4	85.0	169.5
30-39	34.4	52.7	87.1	76.2	156.6
40-49	(53.8)	(47.7)	(101.5)	(79.8)	(173.2)
Birth order					
1	50.8	70.8	121.5	104.6	213.4
2-3	35.2	60.9	96.2	92.6	179.8
4-6	35.3	50.7	86.0	74.8	154.4
7+	42.6	51.3	93.9	84.9	170.8
Previous birth interval					
< 2 yrs	70.0	85.8	155.8	104.5	244.0
2-3 yrs	28.3	48.2	76.5	80.1	150.5
4 yrs +	20.1	36.0	56.1	69.5	121.7
Size at birth¹					
Very small	*	*	*	*	*
Smaller than average	122.2	(78.3)	(200.5)	(131.6)	305.8
Average or larger	28.4	64.1	92.4	84.4	169.0

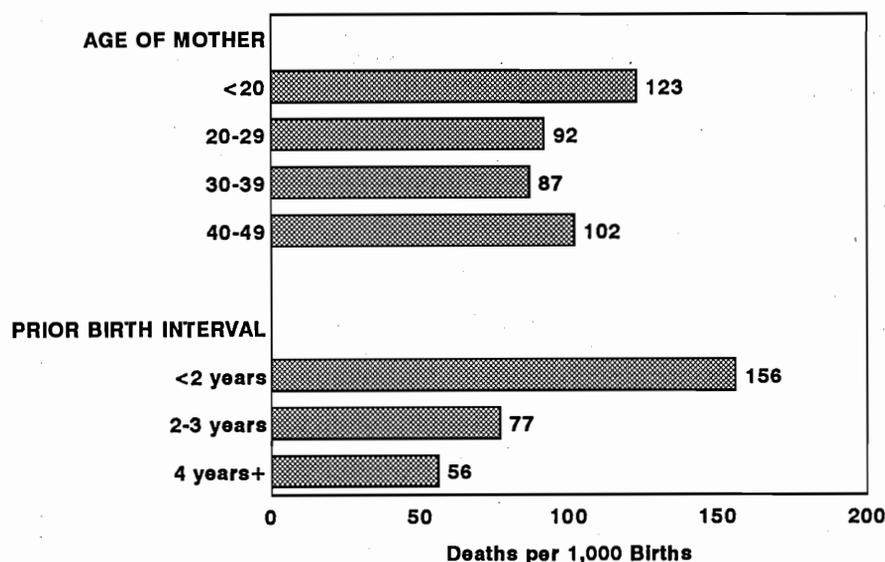
Note: Rates based on fewer than 250-499 cases (exposed children) are enclosed in parentheses. Those based on fewer than 250 cases are suppressed and marked with an asterisk.

¹Rates for the five-year period preceding the survey.

It is well established that male children are at increased mortality risk both before and shortly after birth, presumably due to genetic factors. This is true of Zambian male children who are 12 percent more likely to die before their fifth birthday than their female counterparts. Although male mortality exceeds female mortality for every age interval studied, the differences are largest for the neonatal period; during the first month of life, male children are 37 percent more likely to die than female children (46 vs. 34 deaths per 1000 births). Afterwards, the differential diminishes to negligible levels. Male children are only 18 percent more likely to die during infancy than their female counterparts.

The relationship between mother's age at the time of birth and childhood mortality exhibits the expected curvilinear pattern. In other words, the highest mortality occurs for children of very young mothers and mothers nearing the end of their reproductive lives (see Figure 7.2). This pattern can be observed for all

Figure 7.2
Infant Mortality Rates by Demographic Characteristics



ZDHS 1992

mortality rates in Table 7.4 except for postneonatal mortality, where the rate is slightly lower for women age 40-49 than that of women 30-39. This pattern is most pronounced in the first month of life and much less pronounced during the 1 to 5 year age period. Rates for the oldest women should be viewed with caution, since they are based on a relatively small number of births.

Since birth order of the child and maternal age are highly correlated, it is not surprising to find mortality risks to be greater among first births (which are generally to young mothers) and births of order seven or higher (which are generally to older mothers). Mortality differentials by birth order are more pronounced among neonates and infants where first births are 44 and 26 percent more likely to die than second and third children, respectively.

Shorter birth intervals are associated with higher mortality both during and after infancy. This is particularly true within the first month of life, when children born less than two years after a previous birth are three and a half times more likely to die than babies born four or more years after the previous birth. The birth interval effect on mortality risk persists after the neonatal period, but with diminished strength. During infancy, children born less than two years after a previous birth are almost three times more likely to die than their counterparts born four or more years after the previous birth. These differentials suggest that mortality risks for Zambian children, particularly those born to young mothers, would be substantially reduced if birth intervals were increased, possibly through family planning.

Children who are perceived by their mothers to be smaller than average at birth experience higher mortality rates than children perceived to be average or larger, particularly in their first month of life and in infancy. The pattern is consistent among all rates in the table. Since only two percent of babies are considered to be very small at birth (see Table 8.6 in next chapter), there are too few cases to make reliable mortality estimates.

7.5 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 birth order. Table 7.5 presents the distribution of children born in the five years preceding the survey according to the above categories of increased risk of infant and child mortality. 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

Table 7.5 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, Zambia 1992

Risk category	Births in last 5 years preceding the survey		Percentage of currently married women ^a
	Percentage of births	Risk ratio	
Not in any high-risk category	37.4	1.0	24.7 ^b
Single high-risk category			
Mother's age < 18	9.0	1.2	1.4
Mother's age > 34	0.1	*	1.5
Birth interval < 24	6.2	(1.3)	11.3
Birth order > 3	28.0	0.8	18.9
Subtotal	43.2	0.9	33.0
Multiple high-risk category			
Age <18 & birth interval <24 ^c	0.5	*	0.5
Age >34 & birth interval <24	0.0	*	0.0
Age >34 & birth order >3	11.0	0.7	21.0
Age >34 & birth interval <24 & birth order >3	1.6	*	5.9
Birth interval <24 & birth order >3	6.3	(1.4)	14.8
Subtotal	19.4	1.0	42.2
In any high-risk category	62.6	0.9	75.3
Total	100.0	NA	100.0
Number	6215	NA	4457

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births *not in any high-risk category*. Figures in parentheses are ratios based on 250-499 cases. An asterisk means the data are based on fewer than 250 cases and have been suppressed.

NA = Not applicable

^aWomen 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.

^bIncludes sterilised women

^cIncludes the combined categories *Age <18 and birth order >3*.

interval" means the birth occurred less than 24 months after the previous birth and a child is considered of "high birth order" if the mother had previously given birth to three or more children. In the table, births are divided into two major categories: those falling into a *single* high-risk category (such as those born to mothers below the age of 18 or over the age of 34, those born after an interval of less than 24 months and those of birth order 4 or higher) and those falling into a *multiple* high-risk category (such as those born to mothers below the age of 18 and born after an interval of less than 24 months or those born to mothers over the age of 34 and of birth order over 3).

The data show that, while 63 percent of children in Zambia are at elevated risk of mortality due to their mother's fertility behaviour, only 37 percent are free from such risk. Births in the single high-risk categories (43 percent) are more than double those in the multiple high-risk categories (19 percent).

It is evident from the table that birth order higher than 3 is the major factor contributing to elevated mortality risks. Almost half of the births (47 percent) are at risk because of high birth order. An even larger proportion of married women (61 percent) are at risk of conceiving a child of birth order over three.

Fifteen percent of babies born in Zambia are at elevated risk of mortality because they are born after an interval of less than 24 months. Thirteen percent of babies are at risk because their mothers are over age 34 when they are born and a further 10 percent are at risk because their mothers are under age 18.

The table also presents the relative risk of mortality of children born in the last five years by comparing the proportion dead of births in each risk category to the proportion dead of births with no risk factor. This risk ratio is shown in the second column of Table 7.5. The ratios show no significant differences among categories.

It is interesting to note that three-quarters of currently married women are at risk of conceiving a child with an elevated risk of mortality. This proportion is higher than that for births.

To reduce the number of high-risk births, there is need for a concerted effort to generate demand for family planning, particularly to limit births of higher parity. This, together with improved availability of contraceptive methods to couples, would reduce high risk births, which in turn would reduce childhood mortality.

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 newborn, 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 babies 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

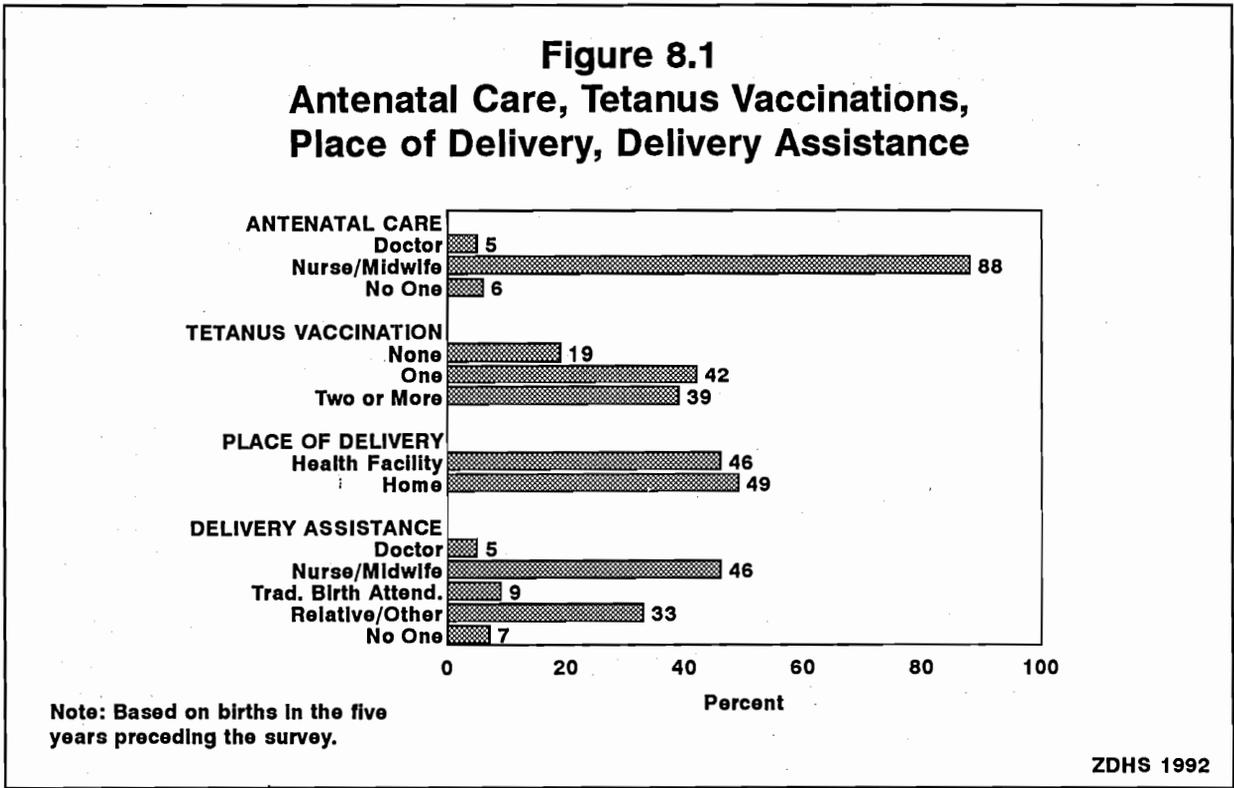
Table 8.1 shows the percent distribution of births in the five years preceding the survey by source of antenatal care received during pregnancy, according to maternal and background characteristics.

Background characteristic	Antenatal care provider ¹					Total	Number
	Doctor	Trained nurse/ Midwife	Traditional birth attendant	No one	Missing		
Mother's age at birth							
< 20	3.6	88.4	1.1	6.8	0.1	100.0	1327
20-34	4.7	88.3	1.2	5.7	0.2	100.0	4095
35+	5.8	84.2	0.9	8.8	0.3	100.0	788
Birth order							
1	4.9	87.3	1.3	6.4	0.1	100.0	1390
2-3	4.7	88.8	1.1	5.3	0.1	100.0	1917
4-5	4.0	88.2	1.5	6.0	0.2	100.0	1242
6+	4.7	86.7	0.8	7.6	0.2	100.0	1662
Residence							
Urban	6.9	91.1	0.0	1.8	0.1	100.0	2885
Rural	2.6	84.8	2.1	10.2	0.2	100.0	3326
Province							
Central	9.6	79.6	0.0	10.8	0.0	100.0	595
Copperbelt	7.3	90.7	0.0	2.0	0.1	100.0	1429
Eastern	4.0	88.9	1.8	5.0	0.3	100.0	669
Luapula	0.6	86.6	2.5	10.0	0.3	100.0	419
Lusaka	5.3	93.8	0.0	0.8	0.0	100.0	935
Northern	2.4	75.0	1.4	21.3	0.0	100.0	647
North-Western	4.4	85.6	0.9	8.8	0.2	100.0	172
Southern	2.0	94.4	0.3	3.0	0.3	100.0	1008
Western	1.0	78.0	10.6	9.9	0.4	100.0	337
Mother's education							
No education	2.1	78.9	1.7	16.9	0.4	100.0	1061
Primary	3.7	89.8	1.2	5.1	0.1	100.0	3907
Secondary	8.7	89.5	0.5	1.3	0.0	100.0	1138
Higher	19.6	80.4	0.0	0.0	0.0	100.0	103
Total	4.6	87.8	1.2	6.3	0.2	100.0	6211

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

Interviewers were instructed to record all persons a woman may have seen for care, but in the table, only the provider with the highest qualification is considered (if more than one person was seen). For nine in ten births, mothers received antenatal care from a doctor, trained nurse or midwife. Women received antenatal care from a traditional birth attendant (TBA) for only 1 percent of births and no antenatal care at all for 6 percent of births (see Figure 8.1). Thus, almost all Zambian women receive antenatal care and they rely mostly on a nurse or midwife (88 percent) or a doctor (5 percent).

There are differences in the sources of antenatal care for births in urban and rural areas. Whilst nearly all the births to urban women receive antenatal care from medically trained providers (98 percent), 10 percent of births to rural women receive no antenatal care at all. Also, births to urban women are more likely to have received antenatal care from a doctor. There are several factors underlying this pattern: rural women may not have access to antenatal care facilities, or they may not be aware of the importance of antenatal care, or they may not be able to afford to pay for costs involved in obtaining the care (transport, fees).



Births to women in Lusaka, Copperbelt and Southern Provinces are more likely than births in other provinces to receive antenatal care from a doctor and births to women in Northern, Central, Luapula, Western and North-Western Provinces are more likely than births to women in the other provinces to receive no antenatal care at all (9 to 21 percent, compared to 5 percent or less). Women in Western Province rely to some significant degree on traditional birth attendants for antenatal care, whereas none of the births to women in the more urbanised provinces of Central, Copperbelt and Lusaka received care from traditional birth attendants.

There is a strong association between education and receiving antenatal care. Births to women with no education are more likely to receive no antenatal care, whereas it is unlikely that a birth to a woman with secondary or higher 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; 2 percent of births to mothers

with no education received antenatal care from a doctor, compared to 20 percent of births to women with more than secondary education.

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 the child throughout the pregnancy. If the first 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 number and timing of visits made by pregnant women is presented in Table 8.2. In 69 percent of births, mothers made four or more antenatal care visits, indicating women are aware of the importance of regular attendance. Nonetheless, for a large proportion of births (almost one-quarter), mothers made fewer than four visits; the median number of antenatal care visits was five, far fewer than the recommended number of 12. Delayed initiation of visits contributes to the low frequency of attendance.

Nearly six in ten births received some antenatal care before the 6th month of gestation (see Table 8.2). The median duration of gestation at which the first antenatal care visit was made was 5.6 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 health can be assessed. Knowledge of a woman's normal health will make early detection of any abnormalities easier; this, in turn, assists health workers in taking appropriate action to care for the mother.

An important component of antenatal care in Zambia is ensuring that pregnant women are adequately protected against tetanus. Tetanus toxoid injections are given during pregnancy for 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. Table 8.3 presents data on tetanus toxoid coverage during pregnancy for all births in the five years preceding the ZDHS.

Thirty-nine percent of births received the protection of two or more doses of tetanus toxoid during gestation, while 42 percent received protection from one dose and 19 percent were not protected by any tetanus toxoid vaccination. Births occurring in the rural areas are about twice as likely to have received no protection by the vaccination than those in the urban areas. There are no marked provincial differentials in the proportion of births whose mothers received two or more tetanus toxoid doses during gestation, but the probability of births not being protected against neonatal tetanus at all is greater in Western, Luapula, Central, and North-Western Provinces and it is particularly high in Northern Province (38 percent of births with no antenatal tetanus vaccination).

Table 8.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the last 5 years by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, Zambia 1992

Antenatal visits/ Stage of pregnancy at first visit	All births
Number of ANC visits	
0	6.3
1	2.0
2-3	20.6
4+	68.5
Don't know, missing	2.6
Total	100.0
Median no. of visits	5.3
Number of months pregnant at the time of first ANC visit	
No antenatal care	6.3
<= 5 months	56.8
6-7 months	34.4
8+ months	2.1
Don't know, missing	0.4
Total	100.0
Median number of months pregnant at first visit	5.6
Number of live births	6211

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

Table 8.3 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, Zambia 1992

Background characteristic	Number of tetanus toxoid injections				Total	Percentage given antenatal card	Number of births
	None	One dose	Two doses or more	Don't know/ Missing			
Mother's age at birth							
< 20	19.1	41.3	39.5	0.1	100.0	92.7	1327
20-34	17.7	42.0	39.6	0.7	100.0	94.0	4095
35+	22.0	40.7	36.6	0.7	100.0	90.2	788
Birth order							
1	18.5	39.7	41.4	0.4	100.0	93.2	1390
2-3	18.1	40.9	40.5	0.5	100.0	94.4	1917
4-5	17.7	44.5	36.9	0.9	100.0	93.5	1242
6+	19.6	42.3	37.5	0.6	100.0	91.8	1662
Residence							
Urban	12.8	45.8	41.0	0.5	100.0	97.9	2885
Rural	23.5	38.2	37.6	0.7	100.0	89.2	3326
Province							
Central	21.5	33.9	43.6	0.9	100.0	89.0	595
Copperbelt	13.2	47.7	38.7	0.4	100.0	97.7	1429
Eastern	16.4	41.5	41.6	0.5	100.0	94.0	669
Luapula	22.3	42.0	35.2	0.5	100.0	89.4	419
Lusaka	14.6	46.8	38.0	0.6	100.0	99.2	935
Northern	38.4	29.9	31.5	0.2	100.0	78.1	647
North-Western	20.8	41.1	37.7	0.5	100.0	90.9	172
Southern	13.0	42.1	43.9	1.1	100.0	96.7	1008
Western	23.7	38.0	38.1	0.2	100.0	88.6	337
Mother's education							
No education	32.8	36.3	30.4	0.5	100.0	81.9	1061
Primary	17.0	43.6	38.8	0.6	100.0	94.6	3907
Secondary	10.8	41.4	47.1	0.7	100.0	98.6	1138
Higher	13.3	28.4	58.3	0.0	100.0	100.0	103
All births	18.5	41.7	39.2	0.6	100.0	93.2	6211

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

There is a direct relationship between education of mothers and vaccination status; the proportion of live births for which two or more doses of tetanus toxoid were received increases steadily from 30 percent among women with no education, to 58 percent of births to women with more than secondary education. Conversely, the proportion of births for which no tetanus vaccination was received decreases with higher education levels. Educated women may have greater accessibility to modern medical care, or may have a better understanding of the benefits of vaccinations, or may be more able to utilise the services provided.

Table 8.4 Place of delivery

Percent distribution of births in the five years preceding the survey, by place of delivery, according to selected background characteristics, Zambia 1992

Background characteristic	Place of delivery				Total	Number of births
	Health facility	At home	Other	Don't know/ Missing		
Mother's age at birth						
< 20	50.6	48.9	0.3	0.2	100.0	1327
20-34	52.2	47.2	0.4	0.3	100.0	4095
35+	43.1	56.1	0.7	0.1	100.0	788
Birth order						
1	57.9	41.4	0.5	0.2	100.0	1390
2-3	49.6	50.1	0.2	0.2	100.0	1917
4-5	50.4	48.9	0.4	0.3	100.0	1242
6+	46.1	53.0	0.6	0.3	100.0	1662
Residence						
Urban	78.8	20.9	0.0	0.3	100.0	2885
Rural	26.3	72.7	0.7	0.2	100.0	3326
Province						
Central	39.2	60.8	0.0	0.0	100.0	595
Copperbelt	79.7	20.0	0.0	0.3	100.0	1429
Eastern	36.3	60.4	2.7	0.7	100.0	669
Luapula	36.1	62.9	0.5	0.6	100.0	419
Lusaka	76.2	23.7	0.1	0.0	100.0	935
Northern	19.2	80.7	0.2	0.0	100.0	647
North-Western	54.1	45.4	0.2	0.2	100.0	172
Southern	33.9	65.8	0.1	0.2	100.0	1008
Western	32.8	66.4	0.4	0.4	100.0	337
Mother's education						
No education	22.4	76.5	0.6	0.6	100.0	1061
Primary	48.1	51.3	0.4	0.2	100.0	3907
Secondary	81.8	17.9	0.2	0.1	100.0	1138
Higher	95.7	4.3	0.0	0.0	100.0	103
Antenatal care visits						
None	2.5	95.1	0.7	1.7	100.0	392
1-3 visits	34.0	65.8	0.2	0.0	100.0	1401
4 or more visits	60.6	39.0	0.4	0.0	100.0	4255
Don't know/missing	51.2	42.8	0.7	5.3	100.0	163
All births	50.7	48.7	0.4	0.2	100.0	6211

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

Mothers received antenatal cards for nine in ten births in the five years preceding the survey. Those who were less likely to have cards were births to rural women, births to women from Northern Province, and births to women with no education.

Another crucial element in reducing the health risks of mothers and children is increasing the proportion of babies that are delivered in medical facilities. Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause the death or serious illness of either the mother or the baby. Respondents in the ZDHS were asked to report the place of birth of all children born in the five years before the survey (Table 8.4).

Table 8.5 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, Zambia 1992

Background characteristic	Attendant assisting during delivery ¹						Total	Number of births
	Doctor	Trained nurse/ Midwife	Traditional birth attendant	Relative/ Other	No One	Don't Know/ Missing		
Mother's age at birth								
< 20	3.6	46.8	11.0	36.4	2.1	0.1	100.0	1327
20-34	4.8	47.3	9.0	31.9	6.9	0.2	100.0	4095
35+	5.8	36.7	8.5	31.3	17.5	0.1	100.0	788
Birth order								
1	5.3	52.4	9.4	31.9	0.8	0.1	100.0	1390
2-3	4.9	44.4	10.2	36.3	4.1	0.1	100.0	1917
4-5	4.3	46.0	8.4	32.2	8.9	0.2	100.0	1242
6+	4.0	41.9	9.2	30.0	14.8	0.1	100.0	1662
Residence								
Urban	8.1	70.9	5.3	11.3	4.3	0.1	100.0	2885
Rural	1.7	24.1	12.9	51.4	9.7	0.2	100.0	3326
Province								
Central	3.3	35.7	10.2	39.8	11.0	0.0	100.0	595
Copperbelt	6.8	73.0	6.4	8.6	5.1	0.1	100.0	1429
Eastern	2.0	33.8	11.1	42.1	10.6	0.3	100.0	669
Luapula	1.4	34.2	9.9	43.9	10.3	0.3	100.0	419
Lusaka	12.1	64.4	5.5	14.3	3.8	0.0	100.0	935
Northern	1.4	17.6	10.9	60.7	9.4	0.0	100.0	647
North-Western	3.1	46.7	26.9	21.8	1.2	0.2	100.0	172
Southern	1.6	32.3	13.0	45.0	7.9	0.2	100.0	1008
Western	2.8	29.6	4.7	57.4	5.0	0.4	100.0	337
Mother's education								
No education	1.3	20.4	9.8	55.8	12.3	0.4	100.0	1061
Primary	3.6	44.4	11.2	33.3	7.3	0.1	100.0	3907
Secondary	10.6	71.1	3.5	12.3	2.5	0.0	100.0	1138
Higher	13.3	82.4	1.1	2.2	1.1	0.0	100.0	103
Antenatal care visits								
None	0.2	3.2	14.9	64.1	17.6	0.0	100.0	392
1-3 visits	2.5	31.2	13.0	44.8	8.5	0.0	100.0	1401
4 or more visits	5.9	54.5	7.9	25.9	5.9	0.0	100.0	4255
Don't know/Missing	2.7	48.6	5.0	33.8	4.7	5.3	100.0	163
Total	4.7	45.8	9.4	32.8	7.2	0.1	100.0	6211

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

¹If the respondent mentioned more than one attendant, only the most qualified attendant is considered.

Overall, half of births in Zambia are delivered at home and half are delivered in health facilities. Delivery of births at home is much more common in rural areas and in Northern Province than in urban, Copperbelt and Lusaka Provinces, where about 3 in 4 births are delivered in health facilities. The high proportion of births delivered at home has serious consequences for both maternal and child health. The relationship between education of the mother and place of delivery is striking; the proportion of births delivered in a health facility increases steadily from 22 percent among women with no education to 96 percent among women with higher than secondary education.

Women who are in touch with health professionals during pregnancy are much more likely to deliver at a health facility than women who have no such contact; 61 percent of births to women who made four or more antenatal care visits were delivered in health facilities, compared to 3 percent of births to women who made no antenatal care visits.

The type of assistance a woman receives during the birth of her child also has health implications for the mother and child. 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. Given the rather high proportion of deliveries occurring at home, it is not surprising that only half of births are assisted by medically trained personnel (doctor, trained nurse or midwife) (see Table 8.5 and Figure 8.1). It is, however, surprising that one-third of births in Zambia are assisted by relatives and 7 percent are delivered without assistance. Births to rural women, births to women in Central, Eastern, Luapula, and Northern Provinces, births to women with no education, births to older women 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. Also notable is the relatively high proportion of births in North-Western Province that are delivered by traditional birth attendants (27 percent vs. 9 percent nationally).

It appears that doctors assist in delivering most of the births for which they provided some antenatal care (see Tables 8.1 and 8.5), while trained nurses and midwives provided antenatal care to 88 percent of births and assisted in delivering only 46 percent (Table 8.5). Doctors and trained nurses or midwives delivered close to 80 percent of births in Copperbelt and Lusaka Provinces, compared to 30 to 50 percent in Central, Eastern, Luapula, Southern, Western and North-Western Provinces and less than 20 percent of births in Northern Province.

Less than three percent of babies born in Zambia are delivered by caesarean section and 5 percent are reported by their mothers to have been born prematurely. ZDHS respondents were asked to report the weight at birth of all children who were born in the five years preceding the survey and who were weighed

Table 8.6 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, Zambia 1992

Delivery characteristic	Percent of births
C-section	
Yes	2.6
No	95.3
Missing	2.1
Total	100.0
Premature birth	
Yes	5.0
No	94.8
Don't know/missing	0.3
Total	100.0
Birth weight	
Less than 2.5 kg	4.9
2.5 kg or more	38.2
Don't know/missing	56.9
Total	100.0
Size at birth	
Very large	3.2
Larger than average	16.6
Average	68.2
Smaller than average	9.4
Very small	2.2
Don't know/missing	0.4
Total	100.0
Number	6211

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

at birth. In addition, they were asked for their assessment of the size of each of these children at birth, i.e., whether the child was very large, larger than average, etc. The results show that 38 percent of births weighed 2.5 kilograms or more and 5 percent weighed less than 2.5 kilograms at birth. Birth weight information was not available for 57 percent of births, which is not surprising, since almost half are delivered at home. Only 20 percent of babies born in the five years preceding the survey were reported by the mother to be very large or larger than average, 12 percent to be very small or smaller than average, and seven in ten to be of average size at birth (see Table 8.6).

8.2 Vaccinations

In order to assist in the evaluation of the Expanded Programme on Immunisation (EPI), the ZDHS collected information on vaccination coverage for all children born in the five years preceding the survey, although the data presented here are restricted to children who were alive at the time of the survey. The EPI follows the World Health Organisation (WHO) guidelines for vaccinating children. In order 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 interviewer and from mothers' verbal reports. The majority of health centres and clinics in Zambia provide cards on which vaccinations are recorded. If a mother was able to present such a card to the interviewer, this was used as the source of information, with the interviewer recording 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 the mother was not able to provide a card for the child at all, she was asked to recall whether the child had received BCG, polio (including the number of doses for polio), or measles vaccinations. Unlike many other DHS surveys, mothers in the ZDHS were also asked whether their children had received DPT vaccine and if so, the number of doses.

Information on vaccination coverage is presented in Table 8.7, according to the source of 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. Figure 8.2 presents coverage figures as assessed from both vaccination cards and mothers' reports.

According to the information from vaccination cards, three-quarters of children received a BCG vaccination. However, not all children who are vaccinated have cards available; 20 percent of children who did not have a card were reported by their mothers to have received the BCG vaccine. Thus, overall, 95 percent of children age 12-23 months are vaccinated against tuberculosis. Vaccinations are most effective when given at the proper age; according to the card information, 94 percent of children receive the BCG vaccine by 12 months of age.

Table 8.7 Vaccinations by source of information

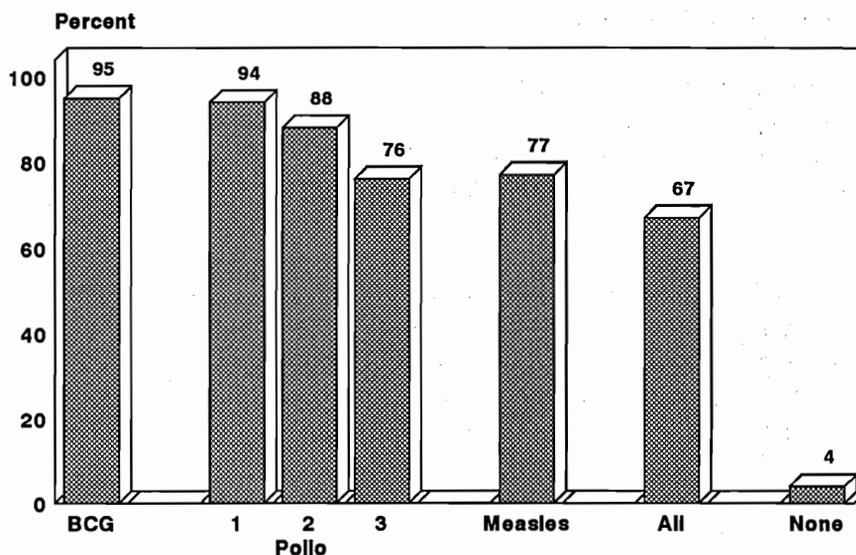
Percentage of children 12-23 months who had received specific vaccines at any time before the survey and the percentage vaccinated by 12 months of age, by whether the information was from a vaccination card or from the mother, Zambia 1992

Source of information	Percentage of children who received:											Number of children
	BCG	DPT			Polio			Measles	All ¹	None		
		1	2	3+	1	2	3+					
Vaccinated at any time before the survey												
Vaccination card	75.0	74.1	69.6	63.4	74.4	69.8	64.1	61.4	56.5	0.4	1123	
Mother's report	20.1	19.6	17.9	13.4	19.6	18.2	12.2	15.6	10.1	3.7	1123	
Either source	95.1	93.8	87.5	76.8	93.9	87.9	76.4	77.0	66.6	4.1	1123	
Vaccinated by 12 months of age												
	93.5	92.3	83.6	69.8	92.3	84.6	70.2	65.9	54.8	6.8	1123	

Note: 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.

¹Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

**Figure 8.2
Vaccination Coverage among Children
Age 12-23 Months**



Note: Based on health cards and mothers' reports.

ZDHS 1992

Coverage of the first dose of polio and the first dose of DPT is virtually the same as for BCG; 94 percent have received the first dose and 92 percent received it by 12 months of age. Coverage declines after the first dose, with 88 and 76 percent receiving the second and third doses respectively. This yields a dropout rate of about 18 percent for DPT and polio. The proportion vaccinated by 12 months of age also falls to about 85 percent at the second dose and 70 percent at the third dose.

Sixty-six percent of children age 12-23 months were vaccinated against measles before their first birthday. Overall, 55 percent of all children age 12-23 months had all the recommended vaccinations by their first birthday, although 67 percent were fully vaccinated in due course. Only 4 percent of children age 12-23 months have never received any vaccinations.

As noted above, 94 percent of children age 12-23 months received a BCG vaccination; the next highest coverage level is 92 percent for the first dose of polio and DPT vaccines. Thus, whether or not a child has received BCG appears to be indicative of whether the child will ever receive any vaccinations; the pattern is reflected for all the background characteristics presented in Table 8.8. Figure 8.3 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.

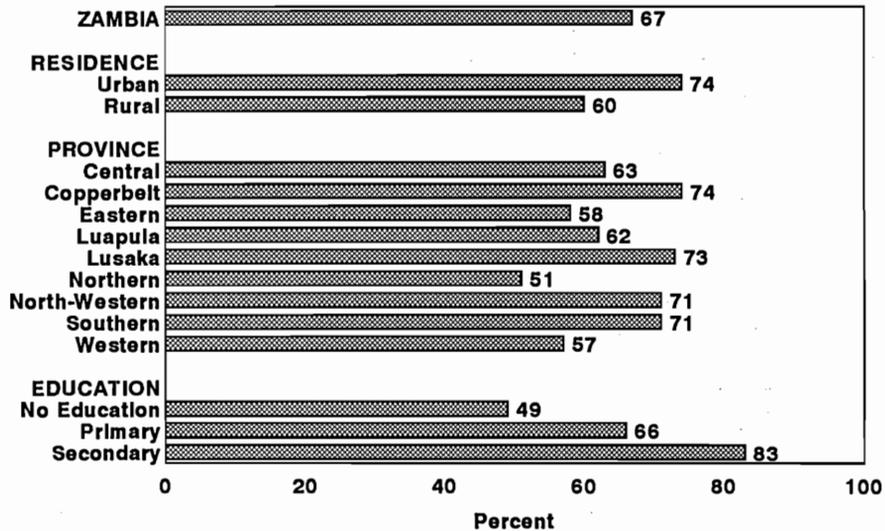
Table 8.8 Vaccinations by background characteristics

Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to vaccination cards or mothers' reports) and the percentage with a vaccination card, by selected background characteristics, Zambia 1992

Background characteristic	Percentage of children who received:										Percentage with a card	Number of children
	BCG	DPT			Polio			Measles	All ¹	None		
		1	2	3+	1	2	3+					
Sex												
Male	95.7	94.7	87.1	77.1	95.1	88.0	77.0	77.2	66.3	3.5	75.3	560
Female	94.5	92.8	87.8	76.5	92.8	87.9	75.8	76.9	66.9	4.7	76.0	562
Birth order												
1	97.1	96.6	91.6	83.4	97.0	92.3	83.9	84.9	75.4	1.6	73.3	252
2-3	96.4	96.3	89.0	79.1	95.9	90.7	79.9	79.8	70.5	2.8	75.9	329
4-5	95.1	93.1	89.7	78.5	93.3	87.9	77.1	75.7	66.4	4.4	79.1	236
6+	92.0	89.2	80.7	67.6	89.9	81.4	65.8	68.6	55.3	7.3	74.8	306
Residence												
Urban	98.3	95.6	92.0	84.5	96.4	92.6	83.8	81.3	74.4	1.5	76.9	515
Rural	92.4	92.2	83.6	70.3	91.8	84.0	70.0	73.4	60.0	6.3	74.7	607
Province												
Central	91.8	90.8	87.7	76.5	91.8	87.7	75.4	72.4	63.2	7.2	75.5	108
Copperbelt	98.0	95.5	93.1	85.0	96.3	93.9	83.4	81.3	73.6	1.6	76.9	267
Eastern	95.8	94.7	87.4	70.6	94.7	89.5	68.5	76.9	57.9	3.2	74.8	105
Luapula	93.3	92.5	84.9	74.3	92.5	83.2	74.0	73.5	62.0	6.7	75.5	79
Lusaka	98.7	96.0	91.2	84.5	96.0	91.2	83.8	77.0	73.0	1.3	77.0	161
Northern	85.0	84.0	68.9	54.9	83.0	72.9	59.9	59.9	50.9	13.0	62.9	111
North-Western	90.7	91.8	82.5	77.9	91.8	83.7	76.7	83.7	70.9	7.0	84.9	35
Southern	97.2	97.8	91.1	80.6	97.2	88.9	78.4	83.9	71.2	1.7	79.5	200
Western	94.0	90.9	80.1	61.4	92.8	83.2	66.9	76.0	56.6	4.8	74.6	57
Mother's education												
No education	87.1	86.0	76.8	62.1	85.4	77.8	58.8	68.2	49.3	11.7	71.3	190
Primary	95.9	94.4	87.6	76.5	94.5	87.8	76.4	75.1	65.7	3.1	76.1	704
Secondary	99.2	98.2	95.7	89.3	99.2	96.7	90.3	89.8	82.6	0.8	77.7	216
All children	95.1	93.8	87.5	76.8	93.9	87.9	76.4	77.0	66.6	4.1	75.7	1123

¹Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

Figure 8.3
Percentage of Children 12-23 Months Who
Are Fully Vaccinated



Note: Based on health cards and mothers' reports.

ZDHS 1992

The highest proportion of children who are fully vaccinated is among mothers with secondary education (83 percent); the lowest proportion is among children of mothers with no formal education (49 percent) and among children in Northern Province (51 percent). Vaccination status does not differ significantly by the sex of child, but it does differ appreciably by birth order, with the proportion fully vaccinated declining from 75 percent among children of mothers with one child to 55 percent of children whose mothers have 6 or more children. There is also a distinct advantage for urban children, three-quarters of whom are fully vaccinated, compared to only 60 percent of rural children.

Thus far, the discussion has focused on children age 12-23 months. Information on the proportion of children age 12-59 months who had been vaccinated by 12 months of age, by their current age is presented in Table 8.9 and can be used to assess trends; the table also shows the percentage with a vaccination card seen by the interviewer. The coverage figures are based on both card information and mothers' reports.

Cards were shown to interviewers by mothers for 66 percent of the children age 12-59 months. The percentage of children with vaccination cards decreases with increasing age, from 76 percent for children age 12-23 months to 55 percent among those aged 48-59 months of age. This decline may be due to either a genuine increase in coverage over time or to the loss of cards over time. Mothers may be inclined to retain cards only so long as they need them to present to health staff; once children are fully vaccinated and/or reach a certain age, there may be a tendency to discard the cards.

By comparing vaccination coverage among the various age groups of children, it is possible to obtain a picture of changes in the success of the vaccination programme over time. This analysis implies that the programme gradually improved its coverage rates in all but the most recent time period. For example, the proportion of children who were fully immunised by their first birthday rose from 50 percent of those who were four years old at the time of the survey to 54 percent of three-year-olds and 60 percent of two-year-olds,

Table 8.9 Vaccinations in the first year of life

Percentage of children one to four years of age for whom a vaccination card was seen by the interviewer and the percentage vaccinated for BCG, DPT, polio, and measles during the first year of life, by current age of the child, Zambia 1992

Vaccination card/ Vaccination status	Current age of child in months				All children 12-59 months
	12-23	24-35	36-47	48-59	
Vaccination card seen by interviewer	75.7	69.4	59.0	55.0	65.5
Percent vaccinated at 0-11 months^a					
BCG	93.5	92.8	91.9	88.9	91.9
DPT 1	92.3	90.8	89.2	87.9	90.2
DPT 2	83.6	85.2	82.8	78.7	82.8
DPT 3	69.8	73.1	69.4	64.2	69.4
Polio 1	92.3	91.7	90.1	88.3	90.7
Polio 2	84.6	85.4	82.3	78.5	82.9
Polio 3	70.2	70.6	66.3	63.0	67.8
Measles	65.9	68.7	65.3	65.2	66.4
All vaccinations ^b	54.8	59.5	53.7	49.7	54.7
No vaccinations	6.8	8.0	8.7	10.1	8.3
Number of children	1123	1125	921	911	4080

^aInformation 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.

^bChildren who have received BCG, measles and three doses of DPT and polio vaccines.

but declined slightly to 55 percent of one-year-olds. There is a similar pattern of increasing coverage followed by a recent decline for the second doses of both DPT and polio, as well as for measles vaccinations. The fact that there is no recent decline in coverage for either BCG or the first doses of DPT and polio implies that the programme is continuing to reach the vast majority of children, but that more emphasis is needed to ensure that these children are given all subsequent doses of the appropriate vaccines.

8.3 Acute Respiratory Infection

Medical records show that pneumonia is one of the major causes of infant mortality in Zambia. Its prevalence was estimated in the ZDHS by asking mothers if their children under age five had been ill with 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. It bears mentioning that information on disease prevalence is more subjective than many other topics covered in the ZDHS; it is highly dependent on what symptoms the mother considers serious. Similarly, reporting of treatment practices depends on how much mothers know about the medicines their children may receive. Mothers may not know whether the pills or syrups their children receive contain antibiotics or not. Thus, reporting may vary widely within the country, due to cultural differences in reporting.

Table 8.10 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, Zambia 1992

Background characteristic	Among children with cough and rapid breathing								Number of children
	Percentage of children with cough and rapid breathing	Percentage taken to a health facility or provider ¹	Percentage treated with:					None/Don't know/Missing	
			Antibiotic pill or syrup	Injection	Cough syrup	Home remedy	Other		
Child's age									
< 6 months	11.9	58.3	16.6	3.6	30.1	14.6	54.4	12.1	598
6-11 months	18.3	71.4	11.2	12.3	40.7	9.1	65.9	9.7	651
12-23 months	15.6	64.8	10.6	15.4	46.7	12.4	56.8	11.3	1123
24-35 months	11.4	57.5	17.1	6.5	41.6	15.2	52.2	12.2	1125
36-47 months	12.2	56.8	14.2	4.5	32.7	10.1	48.2	17.4	921
48-59 months	8.0	56.6	16.6	4.4	37.7	18.0	43.7	20.1	911
Sex									
Male	12.9	60.9	13.5	9.6	40.4	13.9	53.0	14.8	2645
Female	12.6	62.5	14.1	8.3	38.9	11.7	56.0	11.6	2684
Birth order									
1	11.2	64.9	10.1	8.8	34.0	13.0	55.9	15.3	1145
2-3	13.2	65.5	14.2	10.0	43.5	11.0	52.3	13.7	1643
4-5	12.1	60.8	15.0	6.0	44.9	13.2	53.7	11.4	1089
6+	13.8	56.2	14.9	9.8	35.7	14.4	56.5	12.6	1453
Residence									
Urban	10.2	73.4	23.2	12.2	54.9	4.6	50.6	9.7	2514
Rural	15.0	54.6	8.1	6.9	30.4	17.8	56.8	15.3	2815
Province									
Central	9.0	(67.5)	(11.5)	(9.3)	(44.1)	(11.7)	(72.2)	(9.3)	525
Copperbelt	11.7	83.0	25.7	10.3	58.1	2.2	51.5	10.3	1260
Eastern	26.3	49.2	9.3	7.7	23.1	23.1	55.4	14.6	547
Luapula	17.7	55.5	7.5	3.4	38.9	7.9	69.5	13.2	331
Lusaka	6.4	(55.1)	(22.4)	(10.2)	(61.2)	(10.2)	(49.0)	(6.1)	826
Northern	14.1	46.2	14.9	6.0	31.1	17.9	35.8	19.5	528
North-Western	8.1	*	*	*	*	*	*	*	145
Southern	8.9	59.7	6.9	12.4	40.3	13.9	48.7	12.5	893
Western	22.6	68.4	5.1	8.4	23.9	15.5	62.2	20.5	276
Mother's education									
No education	16.7	42.7	8.6	6.9	29.1	18.9	47.1	22.3	903
Primary	12.7	64.9	12.0	10.2	40.2	12.2	57.0	12.1	3332
Secondary	9.6	75.2	27.8	7.5	51.5	7.0	54.3	4.8	1000
Higher	7.8	*	*	*	*	*	*	*	92
All children	12.7	61.7	13.8	8.9	39.7	12.8	54.5	13.2	5330

Note: Figures are for children born in the period 1-59 months preceding the survey. Figures in parentheses are based on 25 to 49 children; those based on fewer than 25 children are suppressed and marked with an asterisk.

¹Includes health clinic, health centre, hospital, and private doctor.

Table 8.10 shows that 13 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. Sixty-two percent of these children visited a health facility of some kind, 14 percent received an antibiotic treatment, 9 percent injections, and 40 percent received cough syrup. The occurrence of the illness as well as treatment practices for sick children differ by background characteristics of the mother and child. Coughs with difficult breathing appear to be most prevalent among children age 6-11 months. Children of mothers in rural areas, those in Eastern, Western, Luapula and Northern Provinces and children whose mothers have no education are more likely to have pneumonia-like symptoms than other children (see Table 8.10). Children of mothers resident in Copperbelt Province are more likely than children in other provinces to be taken to a health facility and to be given antibiotics when they have coughs with difficult breathing. Children of more educated mothers are more likely to be taken to a health facility (75 percent) than children of uneducated mothers (43 percent). Treatment with antibiotics and cough syrup is a more common practice among more educated mothers than among their less educated counterparts. There are no marked differentials in treatment practices by age, sex or birth order of the ill child.

8.4 Fever

Malaria is endemic throughout Zambia and is the most common cause of hospital admission for all age groups (Ministry of Health, 1990:11). During the period 1978-1988, there was a four-fold increase in the number of hospital deaths due to malaria. Moreover, the number of cases reported to medical facilities shows wide variations by province (Ministry of Health, 1990:29). In order to collect information on prevalence and treatment of malaria in children outside of a health facility setting, the ZDHS included several questions about malaria. Since the major manifestation of malaria is fever, mothers were asked whether their children under age five had had a fever in the two weeks preceding the survey, and what type of treatment was sought, if any.

Table 8.11 shows that 44 percent of children under five years of age were reported to have had fever in the two weeks prior to the survey. Of these children, three in five were taken to a health facility and a little over half received antimalarial treatment. Fever is more common among children in Western and Eastern Provinces and is relatively uncommon among children in urban areas and Lusaka Province. There are also differences in treatment practices for those children who have fever. Children in urban areas, and those in Copperbelt, North-Western and Lusaka Provinces are more likely to be taken to a health facility and/or given antibiotics for treatment of their fever than children in the rural areas or in the other provinces; the same is true for children of the most educated mothers (secondary or higher), compared to children whose mothers had primary or no education. It is important to note the relatively frequent use of home remedies in treating fevers of children of the least educated women and of children in rural areas (see Table 8.11).

Table 8.11 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, Zambia 1992

Background characteristic	Among children with fever								
	Percentage of children with fever	Percentage taken to a health facility or provider ¹	Percentage treated with:						Number of children
			Anti-malarial	Antibiotic pill or syrup	Injection	Home remedy	Cough syrup	None/Don't know/Missing	
Child's age									
< 6 months	32.8	58.8	47.2	12.8	2.0	6.0	55.7	14.8	598
6-11 Months	54.4	70.3	51.7	13.5	8.8	6.6	53.7	10.2	651
12-23 Months	54.2	63.9	53.2	8.3	7.0	8.9	53.0	14.1	1123
24-35 Months	46.8	58.3	51.3	10.7	6.0	7.6	49.2	15.9	1125
36-47 Months	38.7	58.3	51.9	10.8	3.4	6.8	42.1	18.8	921
48-59 Months	31.7	55.1	47.1	7.2	3.5	8.9	51.8	18.2	911
	2744	1406	63						5727
Sex									
Male	44.1	61.3	52.1	10.2	5.5	7.7	50.0	15.2	2645
Female	43.3	61.1	50.1	10.3	5.7	7.6	51.3	15.2	2684
Birth order									
1	41.1	64.3	49.5	8.2	4.8	8.6	55.1	13.1	1145
2-3	44.1	61.9	50.5	11.8	5.4	6.8	48.7	14.8	1643
4-5	41.5	60.2	55.4	9.4	6.1	8.0	49.0	14.6	1089
6+	47.1	59.1	50.0	10.6	6.1	7.7	50.9	17.5	1453
Residence									
Urban	34.0	73.0	53.4	16.2	6.3	3.0	66.3	5.7	2514
Rural	52.4	54.4	49.7	6.8	5.3	10.4	41.6	20.7	2815
Province									
Central	35.5	58.6	50.2	8.3	2.4	11.3	55.5	14.3	525
Copperbelt	35.7	77.0	53.6	17.1	5.1	2.9	64.2	7.0	1260
Eastern	58.5	47.4	45.7	7.6	4.5	18.0	55.0	12.5	547
Luapula	45.1	47.4	59.5	5.5	2.7	4.4	37.7	20.9	331
Lusaka	29.1	67.8	45.2	14.4	9.5	4.1	70.0	7.3	826
Northern	53.5	47.0	43.5	16.0	6.3	9.0	34.4	25.5	528
North-Western	45.2	73.7	72.3	5.5	7.6	7.8	43.2	12.3	145
Southern	51.8	63.3	54.3	5.5	6.9	5.5	43.0	18.7	893
Western	63.4	64.3	52.3	2.8	4.8	8.3	36.7	23.5	276
Mother's education									
No education	52.4	44.4	38.1	7.2	3.8	11.1	37.8	29.4	903
Primary	45.8	62.7	53.5	9.4	5.8	8.0	50.5	13.6	3332
Secondary	30.4	77.8	58.6	17.5	7.4	1.5	69.6	2.4	1000
Higher	30.3	86.0	58.6	29.6	7.8	0.0	72.7	3.9	92
All children	43.7	61.2	51.1	10.2	5.6	7.7	50.7	15.2	5330

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

¹Includes health clinic, health centre, hospital, and private doctor.

8.5 Diarrhoea

Dehydration engendered by severe diarrhoea is a major cause of morbidity and mortality among Zambian children. One treatment for dehydration is oral rehydration therapy (ORT): a solution prepared from commercially produced packets of oral rehydration salts (ORS—also called by its Zambian name *madzi a moyo*); or a homemade solution prepared from sugar, salt and water. The former is distributed through health centres and pharmacies, whereas preparation of the latter is taught in health centres. ORT has been taught actively in Zambia since the 1980s. The Ministry of Health believes that the decline in the incidence of diarrhoeal disease reported by health institutions may be due to an increase in home management of diarrhoea, rather than to a drop in frequency of the disease itself (Ministry of Health, 1990:12).

Table 8.12 indicates the prevalence of diarrhoea in children under five years of age. Nearly one-quarter of children had experienced diarrhoea at some time in the two weeks preceding the survey. About 4 percent of children had experienced bloody diarrhoea during the same period, whilst 8 percent were still having an episode of diarrhoea at the time of the survey (i.e., within the last 24 hours).

Children aged 6-23 months were the most likely to have experienced diarrhoea in the two weeks preceding the survey. Children aged 24-35 months experienced slightly higher rates of bloody diarrhoea than children in other age groups. Prevalence of diarrhoea was found to be slightly higher among rural than among urban children, and higher among children in Eastern, Northern, Western, and Southern Provinces than among those in the other provinces. Similarly, children of the least educated mothers are more likely to be reported as having had diarrhoea than children with educated mothers.

Table 8.12 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, Zambia 1992

Background characteristic	Diarrhoea in the preceding 2 weeks ¹		All diarrhoea in the preceding 24 hours ²	Number of children
	All diarrhoea	Diarrhoea with blood		
Child's age				
< 6 months	14.5	1.3	7.2	598
6-11 months	33.4	2.6	14.2	651
12-23 months	36.4	4.8	13.6	1123
24-35 months	24.0	5.2	7.4	1125
36-47 months	15.8	3.6	4.0	921
48-59 months	9.5	1.7	2.3	911
Sex				
Male	24.3	3.4	8.9	2645
Female	21.4	3.6	7.3	2684
Birth order				
1	25.2	2.7	8.4	1145
2-3	24.8	3.6	8.5	1643
4-5	19.0	2.3	7.1	1089
6+	21.6	4.8	8.0	1453
Residence				
Urban	20.0	2.5	6.6	2514
Rural	25.3	4.4	9.4	2815
Province				
Central	22.1	3.0	10.7	525
Copperbelt	17.7	1.8	5.5	1260
Eastern	31.8	6.7	9.5	547
Luapula	21.2	2.9	11.0	331
Lusaka	19.8	2.8	5.8	826
Northern	28.3	5.2	12.0	528
North-Western	18.2	1.7	8.5	145
Southern	24.8	3.8	7.0	893
Western	26.0	4.8	11.0	276
Mother's education				
No education	26.2	4.6	8.7	903
Primary	24.0	3.6	8.6	3332
Secondary	16.9	2.4	6.1	1000
Higher	10.6	0.0	3.6	92
All children	22.8	3.5	8.1	5330

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

¹Includes diarrhoea in the past 24 hours

²Includes diarrhoea with blood

Knowledge of ORS packets is nearly universal among Zambian mothers; 95 percent of women who had births in the five years preceding the survey had heard of such packets and almost 8 in 10 of these mothers had ever used a packet (see Table 8.13). There are no significant differences in the level of knowledge of ORS by background characteristics of the mothers, except that uneducated mothers are less likely to know about the packets. Use of ORS differs more widely by background characteristics of the mother. Mothers most likely to have used ORS are those living in urban areas, and those resident in North-Western, Lusaka and Copperbelt Provinces, as well as mothers with more education. The youngest cohorts (i.e., age 15-19) are least likely to have used ORS.

Table 8.14 shows the percentage of children with recent bouts of diarrhoea who were given various treatments. Half of all children who had a recent bout of diarrhoea were taken to a health facility or provider. Children in urban areas are more likely to visit a health facility or provider than are rural children (62 vs. 50 percent), and children in Southern, Copperbelt, and Lusaka Provinces, as well as those whose mothers are more educated, are more likely to be taken to a health facility than other children.

More than half of the children (53 percent) who recently had diarrhoea were given a solution prepared from ORS packets and 23 percent were given a homemade solution of sugar, salt and water. Almost half the children were given more liquids to drink than they would normally receive. Despite these encouraging statistics, it is important to note that one-quarter of the children with diarrhoea were not given either ORT (whether fluid made from ORS packets or a homemade solution) or increased fluids to drink. The use of homemade sugar, salt and water solutions appears to be rather low, although increasing the fluid intake of sick children may have much of the benefit of the homemade solution even if the fluids do not have the exact proportions of ingredients. A higher percentage of children from the urban areas, from Copperbelt and Southern Provinces, and who had educated mothers (i.e., with primary or secondary education) were given the homemade solution. In fact, the use of ORT—whether ORS packets or a homemade solution—is more common among the most educated and urban mothers than among the least educated and rural mothers.

Table 8.13 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, Zambia 1992

Background characteristic	Know about ORS packets	Have ever used ORS packets	Number of mothers
Age			
15-19	91.2	63.1	538
20-24	94.8	78.0	1077
25-29	97.5	83.6	924
30-34	95.7	80.8	670
35+	93.4	78.6	771
Residence			
Urban	96.3	82.8	1880
Rural	93.6	73.5	2100
Province			
Central	95.8	77.8	368
Copperbelt	94.2	80.6	917
Eastern	89.1	70.0	440
Luapula	96.1	78.6	250
Lusaka	98.8	82.7	629
Northern	92.7	73.1	392
North-Western	98.8	89.0	104
Southern	96.1	77.6	652
Western	92.9	72.6	230
Education			
No education	85.6	63.8	689
Primary	96.2	78.2	2464
Secondary	98.3	88.2	755
Higher	100.0	93.8	69
All mothers	94.8	77.9	3980

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

Table 8.14 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, Zambia 1992

Background characteristic	Percentage taken to a health facility or provider ¹	Oral rehydration therapy (ORT)			Percentage receiving increased fluids	Percentage receiving neither ORT nor increased fluids	Percentage receiving other treatments:				Number of children with diarrhoea
		ORS packets	RHS	Either ORS or RHS			Anti-biotics	In-jection	Home remedy/Other	None	
Age of child											
<6 months	46.9	40.5	19.4	51.1	39.8	37.8	8.8	1.3	34.1	22.9	87
6-11 months	56.8	55.3	24.2	66.8	42.5	23.1	5.8	0.0	33.1	14.0	217
12-23 months	56.7	56.7	24.7	66.7	47.8	23.0	8.3	0.4	33.9	14.4	409
24-35 months	54.9	54.1	23.8	65.6	48.3	21.8	9.7	1.0	38.6	10.6	270
36-47 months	51.8	45.5	20.5	58.4	45.9	26.1	8.0	0.0	35.1	15.8	146
48-59 months	50.6	50.1	15.0	57.2	40.4	29.8	10.1	0.0	38.1	17.3	87
Sex											
Male	55.8	54.5	22.6	65.4	44.7	23.6	8.0	0.4	34.6	13.9	642
Female	53.3	51.1	23.1	61.8	46.7	25.9	8.6	0.5	36.0	15.1	573
Birth order											
1	57.6	58.5	18.2	65.7	45.6	22.2	7.9	0.0	37.4	14.5	288
2-3	56.6	53.7	24.5	66.8	47.2	21.6	8.6	0.7	32.5	12.7	407
4-5	49.7	49.4	25.9	61.2	49.7	26.6	8.4	0.0	32.4	16.8	207
6+	52.5	49.0	22.8	59.5	41.0	29.7	8.2	0.9	38.7	15.2	313
Residence											
Urban	61.9	59.3	29.5	73.3	48.5	17.2	13.1	0.6	36.9	7.8	502
Rural	49.5	48.4	18.1	56.9	43.6	29.9	4.9	0.3	34.1	19.2	713
Province											
Central	52.5	62.8	19.0	70.4	62.9	16.2	6.7	0.0	33.2	12.4	116
Copperbelt	62.0	53.7	38.5	72.7	53.2	16.1	14.1	0.5	35.1	7.3	223
Eastern	50.3	51.5	21.6	61.1	58.6	20.4	8.9	0.0	47.2	9.6	174
Luapula	43.9	46.5	21.5	62.3	46.9	24.8	5.3	2.5	41.5	16.0	70
Lusaka	58.2	57.6	14.6	68.8	36.4	23.9	15.2	0.0	40.4	10.0	164
Northern	37.8	41.5	11.1	51.1	17.0	40.1	3.7	0.7	40.7	24.5	150
North-Western	56.2	53.1	8.7	56.2	60.3	24.4	4.1	0.0	34.2	19.9	26
Southern	66.6	58.1	29.7	64.1	46.2	25.0	5.0	0.5	19.9	17.0	222
Western	45.5	41.1	11.7	48.9	35.4	44.2	0.0	1.0	28.6	29.8	72
Education²											
No education	38.3	44.7	11.7	49.9	35.5	39.1	1.2	0.0	41.6	23.9	237
Primary	56.2	52.3	24.3	64.1	45.9	23.1	9.3	0.4	34.5	13.1	799
Secondary	70.5	66.3	32.2	80.2	57.7	13.6	13.3	1.3	30.7	8.4	169
Total	54.6	52.9	22.8	63.7	45.6	24.7	8.3	0.5	35.2	14.5	1216

Note: Figures are for children born in the period 1-59 months preceding the survey. Oral rehydration therapy (ORT) includes solution prepared from ORS packets and recommended home solution (RHS) prepared from sugar, salt and water.

¹Includes health clinic, health centre, hospital, private doctor

²Excludes children of women with higher education due to small sample sizes (9 children with diarrhoea).

Use of antibiotics and injections was relatively low (8 and less than 1 percent of cases, respectively), which is consistent with the acceptance of ORT as the modern treatment for diarrhoea. A high percentage of children (35 percent) were given remedies other than the recommended home solution, a more widespread practice in the Eastern, Luapula, Lusaka and Northern Provinces and among uneducated women.

Table 8.15 shows that 73 percent of children who had diarrhoea and who were still being breastfed continued to be breastfed as usual, without increasing the frequency of feeds. Nearly half of all children with diarrhoea were given the same amount of fluid as usual, while 43 percent were given more fluids. This high proportion of children who were given increased fluids suggests that the importance of increasing fluid intake during a bout of diarrhoea is well understood by a sizeable proportion of Zambian women.

Table 8.15 Feeding practices during diarrhoea

Percent distribution of feeding practices among children under five years who had diarrhoea in the two weeks preceding the survey, Zambia 1992

Feeding practices during diarrhoea	Percent
Breastfeeding frequency¹	
Same as usual	72.9
Increased	13.3
Reduced	11.5
Stopped	0.7
Don't know/missing	1.5
Total	100.0
Number of children	965
Amount of fluids given	
Same as usual	46.6
More	42.7
Less	9.7
Don't know/missing	1.0
Total	100.0
Number of children with diarrhoea	1216

Note: Figures are for children born in the period 1-59 months preceding the survey.
¹Applies only to children who are still breastfed.

CHAPTER 9

INFANT FEEDING AND CHILDHOOD AND MATERNAL 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 of young children and their mothers (based on height and weight measurements of the respondent's children under the age of five years and of herself).

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 influence 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 foods and liquids.

The data presented in Table 9.1 indicate that almost all Zambian children (98 percent) are breastfed for some period of time. Forty percent of the children were put to the breast within an hour of birth and 87 percent within the first day. With the exception of North-Western Province, where 63 percent of last-born children were put to the breast within the first hour of birth and Western Province, where only 25 percent of newborns are put to the breast within the first hour of life, there are no marked differentials in breastfeeding initiation practices among the provinces. However, rural children are slightly more likely to be breastfed within either the first hour or the first day after birth than urban children. The proportions of children breastfed within the first hour and/or the first day of birth are inversely related to the level of education, and children who were delivered at home or by non-medically trained assistants are also more likely to be put to the breast sooner after delivery than those delivered at health facilities or by medically trained personnel.

Breast milk is uncontaminated, 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. The percent distribution of children under age three years by breastfeeding status at the time of the survey is presented in Table 9.2, based on information about feeding practices in the 24 hours preceding the survey. Only 2 percent of children age 12-13 months are not breastfeeding, i.e., almost all children are breastfed for at least one year. By age 16-17 months, 18 percent of children are no longer being breastfed and seven of ten children are no longer being breastfed by the time they are 22-23 months old.

Table 9.1 Initial breastfeeding

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, Zambia 1992

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	97.3	3142	39.9	87.3	2032
Female	97.7	3132	40.3	86.7	2031
Residence					
Urban	97.4	2915	36.8	83.8	1914
Rural	97.6	3360	43.0	89.8	2148
Province					
Central	98.7	600	39.1	91.8	372
Copperbelt	97.6	1444	37.2	84.5	940
Eastern	95.4	675	47.7	86.7	449
Luapula	98.5	423	34.8	89.1	254
Lusaka	96.9	945	39.6	81.0	637
Northern	98.2	659	39.2	90.3	398
North-Western	96.9	173	62.4	87.1	106
Southern	97.9	1016	44.3	92.6	666
Western	96.6	340	25.4	82.2	239
Mother's education					
No education	97.8	1074	43.4	89.4	704
Primary	97.3	3950	42.2	87.8	2519
Secondary	97.5	1145	31.1	82.8	769
Higher	97.9	103	29.2	78.1	69
Assistance at delivery					
Medically trained person	97.2	3165	35.3	83.7	2063
Traditional birth attendant	98.3	589	48.9	91.9	388
Other or none	97.9	2512	44.1	90.1	1610
Place of delivery					
Health facility	97.5	2876	35.4	83.5	1890
At home	98.1	3057	45.2	90.6	1967
All children	97.5	6275	40.1	87.0	4062

Note: Table excludes 17 children born in places other than at home or health facility and 189 whose place of birth was missing. Also excluded are 1 child whose mother's education is missing and 1 for whom assistance at delivery is missing.

Table 9.2 Breastfeeding status

Percent distribution of living children by breastfeeding status, according to child's age in months, Zambia 1992

Age in months	Percentage of living children who are:					Total	Number of living children
	Not breast-feeding	Exclusively breast-fed	Breastfeeding and:				
			Plain water only	Supplements			
0-1	1.2	15.9	67.9	15.0	100.0	186	
2-3	1.3	11.3	39.3	48.1	100.0	245	
4-5	0.0	2.9	13.1	84.1	100.0	231	
6-7	0.9	0.7	7.0	91.4	100.0	253	
8-9	1.1	0.0	6.2	92.7	100.0	204	
10-11	1.9	0.0	3.7	94.4	100.0	194	
12-13	2.3	0.0	4.5	93.2	100.0	190	
14-15	16.1	0.0	2.9	81.0	100.0	206	
16-17	18.2	0.0	3.8	77.9	100.0	174	
18-19	44.2	0.0	0.4	55.4	100.0	187	
20-21	58.8	0.0	0.8	40.4	100.0	194	
22-23	73.6	0.0	0.6	25.8	100.0	171	
24-25	82.0	0.0	0.6	17.4	100.0	180	
26-27	90.5	0.0	0.6	9.0	100.0	199	
28-29	97.1	0.0	0.0	2.9	100.0	215	
30-31	99.2	0.0	0.0	0.8	100.0	178	
32-33	96.3	0.0	0.0	3.7	100.0	185	
34-35	98.7	0.0	0.0	1.3	100.0	167	

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

Exclusive breastfeeding is not common in Zambia: only 16 percent of children under 2 months of age are fed only breast milk. Most children are given water in addition to breast milk (68 percent of children under 2 months of age). Supplements (other than water) are introduced mainly when the children are 2-3 months old; as many as 48 percent of children age 2-3 months are receiving supplements, as are 84 percent of children age 4-5 months. The percentage receiving supplements increases to 94 percent among children aged 10-11 months, and thereafter drops as children stop breastfeeding altogether. Whilst most children are breastfed for a full year, 5 percent of those aged 12-13 months are reportedly not yet receiving supplements to their diet of breast milk and water.

Solid or mushy food is introduced into the diet as early as one month after birth, when 5 percent of breastfeeding children are given food (see Table 9.3). By age 4-5 months, seven out of ten breastfeeding children have food introduced into their diets and by the time they are one and half years old, nearly all the breastfeeding infants (96 percent) are receiving supplements of solid or mushy food. Bottle feeding is not common in Zambia; only 3 percent of babies age 0-1 months are being given a bottle and teat (nipple) in addition to being breastfed. These findings are encouraging, since neonates are particularly vulnerable to infections and use of unsterilised bottles with nipples is a prime source of 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, Zambia 1992

Age in months	Percentage of breastfeeding children who are:					Number of children
	Receiving supplement				Using a bottle with a nipple	
	Infant formula	Other milk	Other liquid	Solid/mushy		
0-1	2.4	2.4	6.9	4.8	3.4	184
2-3	3.6	4.6	13.4	37.5	3.0	242
4-5	4.7	11.6	20.0	72.1	7.1	231
6-7	6.3	11.2	37.5	87.5	4.6	251
8-9	4.8	13.5	44.4	90.1	9.5	202
10-11	4.6	11.0	57.4	93.0	7.6	190
12-13	2.7	13.2	52.4	92.9	1.7	185
14-15	2.5	13.8	52.4	92.8	1.5	173
16-17	1.5	9.4	53.9	92.1	4.4	142
18-19	2.1	13.2	60.6	96.3	5.6	105
20-21	0.0	7.7	57.7	94.9	0.5	80
22-23	(0.0)	(13.0)	(49.5)	(95.2)	(3.3)	45
24-25	(0.0)	(7.7)	(48.6)	(88.6)	(0.0)	32

Note: Figures in parentheses are based on 25 to 49 unweighted cases. 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 19 months (see Table 9.4). The duration of breastfeeding is longest for the children in North-Western and Western Provinces (between 22 and 23 months). As mentioned above, exclusive breastfeeding is not common in Zambia; the median duration of breastfeeding with no supplementation is less than one month.

Children are classified 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 2.3 months. The longest duration of full breastfeeding is for children in the Central, Western, and Southern Provinces (4 months).

Table 9.4 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and full breastfeeding and the percentage of children under 6 months of age who were breastfed six or more times in the 24 hours preceding the interview, according to background characteristics, Zambia 1992

Background characteristic	Median duration in months ¹			Number of children under 3 years of age	Children under 6 months	
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²		Breastfed 6+ times in preceding 24 hours	Number of children
Residence						
Urban	18.2	0.5	2.2	1912	88.7	327
Rural	19.0	0.4	2.6	2149	96.1	335
Province						
Central	17.4	0.4	3.7	378	94.8	63
Copperbelt	18.1	0.4	1.9	955	84.7	156
Eastern	17.8	0.4	0.7	440	95.1	67
Luapula	18.6	0.4	2.3	270	92.7	48
Lusaka	17.7	0.5	2.2	638	91.2	99
Northern	19.4	0.4	2.4	412	98.6	77
North-Western	22.2	0.4	2.0	114	89.6	21
Southern	19.4	0.7	3.5	644	96.6	98
Western	22.9	0.4	3.6	211	97.9	33
Education						
No education	19.1	0.5	2.3	664	94.3	119
Primary	18.8	0.4	2.4	2596	91.6	422
Secondary	18.0	0.4	2.1	737	94.2	112
Assistance at delivery						
Medically trained	18.5	0.4	2.1	2046	90.8	319
Traditional midwife	18.7	0.5	2.4	385	89.4	58
Other or none	19.1	0.4	2.7	1628	94.9	285
Sex of child						
Male	18.9	0.5	2.3	2048	91.7	332
Female	18.3	0.4	2.4	2013	93.2	330
Total	18.7	0.4	2.3	4061	92.5	662
Mean	18.3	1.3	3.9	97.8	-	-
Prevalence/Incidence³	18.3	0.6	3.3	-	-	-

¹Medians and means are based on current status

²Either exclusively breastfed or received only plain water in addition to breastfeeding

³Prevalence-incidence mean

Frequency of breastfeeding influences the nutritional status of the baby by affecting the overall amount of milk he or she receives. It also affects the mother by influencing the return of her menstrual period after the birth. Medical research has shown that mothers who nurse their babies more frequently have longer durations of postpartum amenorrhoea than mothers whose infants suckle less intensely.

ZDHS data indicate that 93 percent of children under 6 months of age were breastfed six or more times in the 24 hours preceding the interview. The percentage is slightly higher in the rural areas (96 percent) than in the urban areas (89 percent) and is relatively low in Copperbelt Province (85 percent). There are no appreciable differences in the frequency of feeds for the other background characteristics.

9.2 Nutritional Status of Children

One of the major contributions of the ZDHS to the study of child health status is the anthropometric data collected on respondents' children under age five. These data 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. In the ZDHS, all respondents with children born since January 1987 were eligible for anthropometric measurement as were the children. Data on the mothers' nutritional status are presented in the next section (Section 9.3). Both the height and weight were measured; these data were used to construct the following indices for children:

- 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. Not all children eligible to be weighed and measured are included in the results presented here; the height and weight measurement is missing for 6 percent of eligible children, and one or both of the measurements are grossly improbable in 3 percent of cases. The month and year of birth is not known for less than one percent (0.4 percent) of cases, which renders two of the indices (height-for-age, and weight-for-age) incalculable. Hence, height and weight data are shown for 91 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. Center for Disease Control (CDC). Each of the three nutritional status indicators described below are expressed in standard deviation units (*z*-scores) from the median for the reference population. 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 *z*-score 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 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 whose z-scores 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.

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, Zambia 1992

Demographic characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
Age							
Under 6 months	2.2	9.1	0.7	2.1	0.7	3.6	588
6-11 months	5.4	22.1	1.2	5.7	4.6	18.2	623
12-23 months	16.7	47.8	1.7	9.9	8.6	35.9	1055
24-35 months	20.4	49.3	1.2	4.9	9.1	34.2	1035
36-47 months	21.6	49.5	0.9	2.4	4.6	24.7	822
48-59 months	16.7	42.5	0.6	3.9	3.1	20.8	776
Sex							
Male	16.0	41.0	1.0	5.0	6.1	25.6	2427
Female	14.3	38.3	1.2	5.3	5.4	24.7	2472
Birth order							
1	14.8	40.2	1.3	4.8	6.3	26.0	1017
2-3	14.8	39.5	1.2	5.1	5.0	25.3	1522
4-5	15.3	39.8	0.9	6.2	6.7	24.5	1002
6+	15.5	39.3	0.9	4.7	5.4	24.8	1357
Birth interval							
First birth	14.9	40.4	1.3	4.7	6.4	26.0	1023
Under 24 months	20.7	46.0	0.6	5.3	7.4	26.2	669
24-47 months	14.6	39.2	1.4	5.5	5.7	25.7	2544
48+ months	11.9	33.7	0.3	4.4	2.8	20.5	663
All children	15.1	39.6	1.1	5.1	5.7	25.1	4899

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.

¹Includes children who are below -3 SD

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 and selected demographic characteristics. Forty percent of the children are classified as stunted (this includes 15 percent who are severely stunted). The figures are high and they suggest that feeding practices for children are very poor.

Stunting is relatively uncommon in the first few months of life, but becomes increasingly common as children get older; more than twice as many children aged 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. Almost half of the children age two years and older are stunted. The prevalence of stunting varies very 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) (46 percent vs. 34 percent).

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. Five percent of children are reported as wasted, i.e., below minus two standard deviations (-2 SD) from the median of the reference population; one percent are severely wasted (-3 SD). Variations in the level of wasting by demographic characteristics of the child are minimal.

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. One-quarter of children are underweight, implying that the Government's target of 18 percent has not yet been achieved (see Section 1.4). Six percent of children under five are severely underweight (i.e., below minus three standard deviations from the median of the reference population). The likelihood of being underweight varies little by sex or birth order, but children born 4 years or more after a sibling are less likely to be underweight than those with birth intervals of less than 4 years (26 vs. 21 percent).

Children under 6 months of age are the least likely to be underweight (4 percent). This is most likely due to the positive effects of breastfeeding. As shown in Table 9.2, less than 2 percent of children of this age are not being breastfed. After six months of age, the percentage of children who are underweight rises substantially to 36 percent among the 12-23 month-olds and remains relatively high.

The percentage of children under five years of age classified as undernourished according to the three anthropometric indices is presented in Table 9.6 by socioeconomic characteristics. Stunting occurs more frequently among rural than urban children (46 vs. 33 percent). The percentage of children stunted is highest in Northern and Luapula Provinces, followed by Eastern and North-Western Provinces, and lowest in Lusaka and Copperbelt Provinces. One-fifth of the children in Eastern Province and over one-quarter of those in Luapula and Northern Provinces are severely stunted. Similar provincial patterns have been observed in other studies (see Central Statistical Office 1990b). Stunting is inversely related to the level of education of the mother, ranging from almost half of children whose mothers are uneducated to only 9 percent of the children whose mothers have higher than secondary education. Figure 9.1 shows the percentage of children under five years of age who are stunted, by selected socioeconomic characteristics of the mother.

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, Zambia 1992

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	10.5	32.5	1.2	5.4	3.9	20.8	2305
Rural	19.2	46.0	1.0	5.0	7.3	29.0	2594
Province							
Central	13.8	38.4	0.7	3.3	4.4	21.5	474
Copperbelt	11.7	33.5	1.4	5.3	4.2	22.7	1164
Eastern	20.6	47.6	0.2	3.2	5.4	24.9	490
Luapula	29.6	55.8	0.9	6.0	11.7	39.9	303
Lusaka	10.0	30.8	1.4	8.6	4.9	22.0	757
Northern	28.9	56.5	1.5	6.8	11.7	35.3	502
North-Western	19.0	42.3	1.5	4.3	7.5	26.4	128
Southern	8.8	35.4	0.9	3.3	3.8	21.7	824
Western	12.1	41.1	0.8	3.2	4.6	25.8	256
Mother's education							
No education	21.4	46.0	0.8	5.4	7.8	29.1	831
Primary	15.5	41.6	1.2	5.5	6.0	26.6	3061
Secondary	9.5	30.5	0.8	3.8	3.4	18.0	918
Higher	0.0	8.5	2.5	5.0	1.3	12.6	86
All children	15.1	39.6	1.1	5.1	5.7	25.1	4899

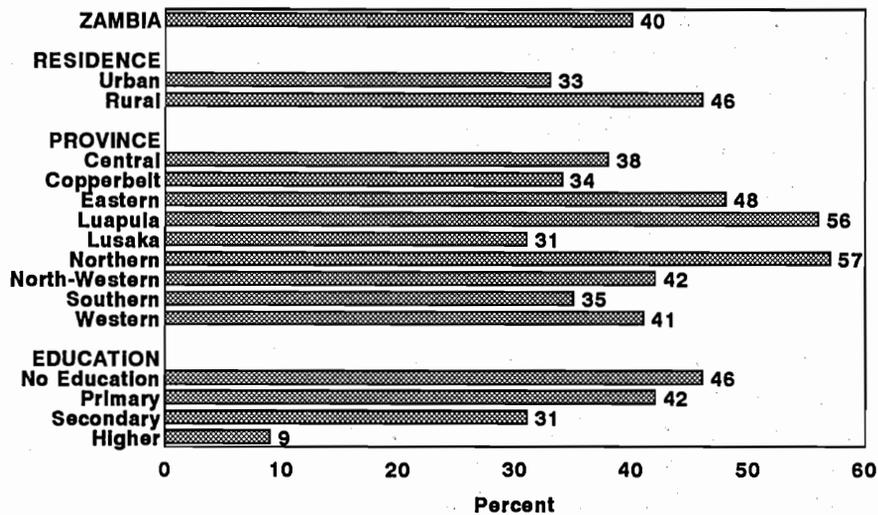
Note: Figures are for children born in the period 1-59 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as undernourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.

¹Includes children who are below -3 SD

With regard to the level of wasting among children, there is no significant difference between urban and rural children (5 percent in both areas). It is surprising to note that the highest level of wasting (8 percent) is reported for children in Lusaka Province, where the national capital is located.

The proportion of children underweight (low weight-for-age) is higher in the rural than in the urban areas and children in Luapula and Northern Provinces are more likely to be underweight (35-40 percent). Most of the severely underweight children are also found in these two provinces, provinces with the highest levels of stunting. The proportion of children who are underweight is inversely related to the level of mother's education.

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



Note: Chronically undernourished children are those whose height-for-age z-score is below -2SD based on the NCHS/CDC/WHO reference population.

ZDHS 1992

9.3 Nutritional Status of Mothers

As mentioned above, all mothers of children born since January 1987—approximately the five years preceding the survey—were eligible to be weighed and measured in the ZDHS. The objective was to obtain a picture of the nutritional status of women of reproductive age; however, since weighing and measuring all respondents would add considerably to the length and cost of the fieldwork, it was decided to limit the anthropometric section to women with young children who would be measured anyway.¹ Women were weighed on an electronic bathroom-type scale which measured the weight to an accuracy of 100 grams and their height was measured with an L-shaped wooden board that was specially designed for the DHS project. This information was used to construct the following indicators of mothers' nutritional status:

- Mean height (in centimetres)
- Mean weight (in kilograms)
- Body mass index

Height and weight measurement is missing for about 2 percent of eligible women. Furthermore, women who were pregnant at the time of the survey and those who had delivered within the two months preceding the survey were excluded from the tables on weight and body mass index. Thus, data on height are available for 3917 women, while data on weight are available for 3418 women.

¹ Interviewers were instructed to weigh and measure all women who had a birth since January 1987, regardless of whether or not the child was still living.

Table 9.7 presents the distribution of mothers by height, weight and body mass index, along with the means and standard deviations for each of these measures. Height, as well as being a good indicator of socioeconomic status of the mother, is also used to identify mothers at nutritional risk. Height of mothers can be used to predict the risk of difficulty in delivering children, given the association between height and size of the pelvis. Also, the risk of giving birth to children of low weight is greater among women of small stature. Although the cut-off point at which the mother can be considered at risk varies between populations, it probably falls in the range of 140-150 centimetres. The average height of the mothers measured in Zambia (158 centimetres) falls above the critical point. Less than one percent of mothers are shorter than 140 centimetres and less than ten percent are shorter than 150 centimetres.

Low pre-pregnancy weight is an important risk factor for unfavourable pregnancy outcomes, although height also needs to be taken into account. The data shown in Table 9.7 exclude pregnant women, as well as those who gave birth in the two months preceding the survey. The mean weight of mothers is 55 kilograms, with a large proportion of women (44 percent) falling in the 50-59 kilogram range.

Indices of body mass are used to assess thinness or obesity. The most commonly used index is the BMI (also referred to as the Quetelet index), which is defined as weight in kilograms divided by the square of the height in meters. The main advantage of the BMI is that it does not require a reference table compiled from a well-nourished population; widely accepted reference tables exist for children, however they are still being developed for women of reproductive age. For the BMI, a cut-off point of 18.5 has been recommended for defining chronic energy deficiency. Obesity has not been defined clearly in terms of the scale. Table 9.7 shows the distribution of women who had a birth in the five years preceding the survey by BMI, as well as the mean BMI. The mean BMI is 22.4, well above the cut-off point of 18.5. Ten percent of mothers fall below the cut-off point.

Table 9.8 presents differentials by selected socioeconomic characteristics for height, weight and BMI. For each indicator, the mean is presented, as well as the proportion falling below certain rather arbitrary cut-off points. There are few differentials in height of mothers, however the proportion of mothers falling below the cut-off point for BMI is rather high in Western Province (20 percent).

Table 9.7 Anthropometric indicators of maternal nutritional status

Percent distribution of women who delivered a child in the five years preceding the survey according to anthropometric indicators, and mean height, weight and body mass index, Zambia 1992

Variables	Distribution including missing
Height (cms.)	
<140	0.4
140-144	1.1
145-149	6.9
150-159	51.8
160-169	35.5
170-179	2.6
>= 180	0.1
Missing	1.6
Total	100.0
Mean	157.9
Standard deviation	7.6
Number of women	3980
Weight (kgs.)	
<40	1.5
40-49	30.1
50-59	43.4
60-69	17.2
>= 70	6.0
Missing	1.8
Total	100.0
Mean	54.9
Standard deviation	9.7
Number of women ¹	3481
BMI	
<16.0	0.6
16.0-18.4	9.0
18.5-19.9	18.5
20.0-22.9	41.5
23.0-25.9	17.9
26.0-28.9	6.9
>=29.0	3.7
Missing	1.9
Total	100.0
Mean	22.4
Standard deviation	15.7
Number of women ¹	3481

¹Excludes pregnant women and those who gave birth in the two months preceding the survey

Table 9.8 Differentials in maternal anthropometric indicators

Mean height and the percentage of women shorter than 145 centimetres, mean body mass index (BMI) and the percentage of women whose BMI is less than 18.5, according to selected background characteristics, Zambia 1992

Background characteristic	Height			Body mass index (BMI)		
	Mean	Percent <145	Number of women	Mean	Percent <18.5	Number of women
Age						
< 20	157.1	1.2	528	21.1	12.5	455
20-34	158.1	1.7	2629	22.4	9.9	2256
>= 35	157.9	1.3	759	23.0	10.2	705
Residence						
Urban	158.6	0.8	1847	23.4	8.3	1647
Rural	157.3	2.2	2070	21.4	12.2	1769
Province						
Central	158.2	0.6	362	22.1	6.8	292
Copperbelt	158.7	1.0	904	24.0	9.7	805
Eastern	156.9	2.0	438	21.6	8.9	385
Luapula	155.1	4.4	243	21.1	13.9	208
Lusaka	158.4	1.1	619	22.8	9.3	566
Northern	156.1	2.9	389	21.1	11.7	323
North-Western	157.2	3.0	102	21.6	13.0	87
Southern	158.9	0.9	634	22.0	9.2	551
Western	158.4	1.5	227	20.9	19.9	200
Education						
No education	156.6	2.7	675	21.7	11.5	571
Primary	157.7	1.7	2423	22.4	10.5	2105
Secondary	159.4	0.3	749	22.6	9.3	676
Higher	160.9	0.0	69	23.3	7.1	62
Children ever born						
1	157.7	1.3	860	21.2	12.8	749
2-3	158.0	1.3	1198	21.5	11.1	1007
4-5	158.3	2.0	764	22.7	8.6	656
6+	157.6	1.6	1095	23.9	8.8	1004
Total	157.9	1.5	3917	22.4	10.3	3416

Note: Excluded from the BMI index are pregnant women and those who gave birth in the two months preceding the survey.

CHAPTER 10

KNOWLEDGE OF AIDS

10.1 Knowledge About AIDS

AIDS is a major health problem in Zambia. In order to assess basic knowledge about AIDS transmission and prevention, the ZDHS questionnaire included a section of ten questions about AIDS. Women were first asked if they had ever heard of AIDS and if so, from what source they heard information in the last month. They were then asked several questions about various possible means of transmission of the AIDS virus and whether they thought it was possible to prevent AIDS transmission and if so, how. Finally, respondents were asked what they thought government should do for people with AIDS and who they would prefer to care for a relative with AIDS.

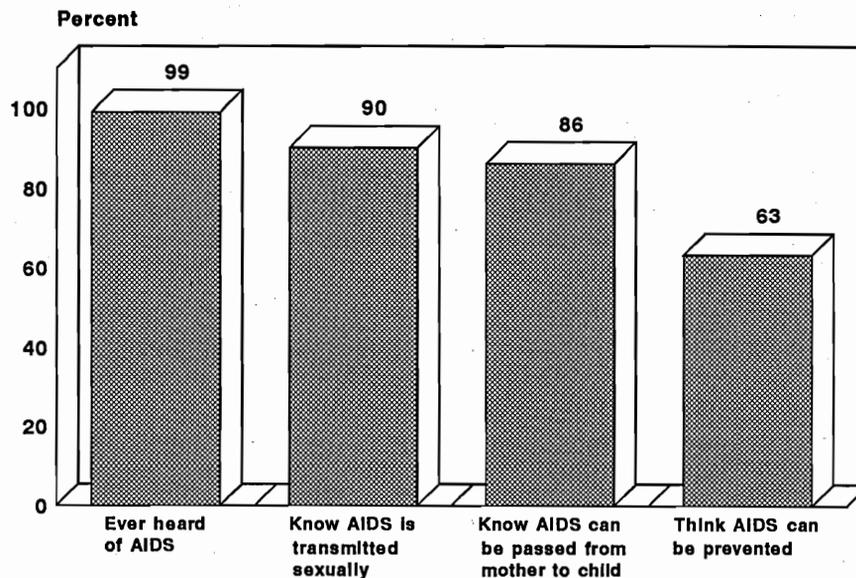
Knowledge of AIDS is almost universal among women in Zambia: 99 percent of women interviewed said they had heard of the disease (see Table 10.1 and Figure 10.1). Moreover, this same high level of knowl-

Table 10.1 Knowledge of AIDS

Percentage of women who have ever heard of AIDS and percentage reporting various modes of transmission, by selected background characteristics, Zambia 1992

Background characteristic	Ever heard of AIDS	Mode of AIDS transmission					Don't know	Number of women
		Sexual intercourse	Needles, blades, skin punctures	Mother to child	Blood transfusion	Other		
Age								
15-19	98.0	86.3	14.3	0.8	7.7	2.3	11.7	1984
20-24	98.9	92.3	15.1	0.9	7.3	1.8	6.8	1441
25-29	99.5	93.6	18.0	0.7	9.7	2.3	5.1	1179
30-34	99.5	90.9	17.6	0.3	10.3	1.7	7.5	915
35-39	99.0	92.4	18.6	1.3	10.3	2.3	5.8	656
40-44	99.2	86.6	15.5	1.2	6.2	2.0	11.6	505
45-49	97.5	86.6	14.6	0.8	4.0	2.2	12.4	380
Residence								
Urban	99.4	93.8	16.6	0.9	12.6	1.5	5.1	3636
Rural	98.1	85.8	15.4	0.7	3.6	2.8	12.2	3424
Province								
Central	99.1	85.8	9.6	0.5	5.0	3.4	12.2	622
Copperbelt	99.6	93.6	16.4	0.5	11.8	1.8	5.2	1743
Eastern	98.8	76.7	17.4	0.5	4.6	3.9	20.6	729
Luapula	96.9	96.1	30.6	1.6	9.2	1.2	3.4	431
Lusaka	99.4	93.3	13.7	1.1	12.9	1.2	5.6	1234
Northern	97.3	91.6	27.0	2.6	7.6	0.7	6.3	652
North-Western	98.7	90.2	11.6	0.2	7.2	1.8	9.2	183
Southern	98.7	87.3	11.3	0.3	3.6	1.4	10.8	1045
Western	97.4	91.6	10.3	0.3	2.6	6.2	6.8	422
Education								
No education	95.9	81.3	8.7	0.8	1.9	1.5	17.3	1161
Primary	99.2	89.2	13.9	0.4	4.7	2.7	9.0	4213
Secondary	99.7	97.4	23.9	1.5	18.3	1.2	1.6	1561
Higher	100.0	99.1	53.3	6.7	59.7	0.0	0.0	124
Total	98.8	90.0	16.0	0.8	8.2	2.1	8.5	7060

Figure 10.1
Knowledge of AIDS among
Women Age 15-49



ZDHS 1992

edge is found among women at every age group, in rural as well as urban areas and in every province and education group. It is also encouraging that the vast majority of women (90 percent) know that AIDS is transmitted through sexual intercourse. Far fewer reported other modes of transmission such as needles, skin punctures, birth, or blood transfusions. This may indicate lack of knowledge, but it could also be due to the interviewing process. Interviewers were instructed to mark all modes of transmission mentioned by the respondent and to probe for other means; however, it is likely that many marked only the first answer the respondent gave and did not probe for others. In any case, it appears that women in Eastern Province are relatively less knowledgeable about how AIDS is transmitted—only three-quarters of them said that AIDS could be transmitted by sexual intercourse and one in five said they did not know how AIDS is transmitted. Knowledge of AIDS transmission is better among more educated women.

ZDHS respondents were also asked if they thought they could get AIDS from a variety of not uncommon social situations such as shaking hands with someone who has AIDS or sharing clothing or eating utensils with someone who has AIDS. These situations are generally believed to pose extremely low risk of transmission of the AIDS virus. Women were also asked if they thought it was possible for a healthy-looking person to be carrying the AIDS virus or for a woman with the AIDS virus to give birth to a child with the virus. The results are shown in Table 10.2.

Table 10.2 Perceived modes of AIDS transmission

Percentage of women who think it is possible to get AIDS by various means, according to urban-rural residence, Zambia 1992

Mode of transmission	Urban	Rural	Total
Possible to get AIDS by:			
Shaking hands with someone who has AIDS	7.8	23.6	15.4
Hugging someone who has AIDS	9.6	26.9	17.9
Kissing someone who has AIDS	42.0	54.5	48.0
Sharing the clothes of someone who has AIDS	21.7	43.9	32.4
Sharing eating utensils with someone who has AIDS	20.1	39.6	29.5
Stepping on the urine or stool of someone who has AIDS	40.7	58.0	49.0
Mosquito, flies or bedbug bites	53.6	68.1	60.6
Possible for a healthy-looking person to carry AIDS?			
Yes	83.0	67.0	75.3
No	12.4	23.4	17.7
Don't know	4.1	9.4	6.7
Missing	0.5	0.2	0.3
Possible for a woman with AIDS to give birth to a child with AIDS virus?			
Yes	91.0	80.8	86.1
No	4.6	9.6	7.0
Don't know	4.1	9.5	6.7
Missing	0.3	0.2	0.2
Number of women	3616	3357	6973

Less than 20 percent of women believe that it is possible to get AIDS from shaking hands with or hugging someone who has AIDS, however, almost half say that it is possible to get AIDS from kissing someone with the disease. Sharing clothes or eating utensils with someone with AIDS was mentioned as a mode of transmission by less than one-third of the women interviewed, while stepping on the urine or stools of someone who has AIDS was mentioned by half of the women and mosquito, flea or bedbug bites were mentioned as a possible means of transmission by 61 percent of women. Rural women are much more likely than urban women to believe that it is possible to contract AIDS from the situations asked about in the ZDHS.

Three-quarters of the ZDHS respondents said that it was possible for a healthy-looking person to be carrying the AIDS virus and 86 percent said that it is possible for a woman with AIDS to give birth to a child with the virus. A higher proportion of urban than rural women responded affirmatively to these two questions. These results show that Zambian women are generally quite knowledgeable about the main sources of AIDS transmission; however, many also believe that it can be transmitted through casual contact and insect bites as well. Urban women appear to be considerably more knowledgeable about the means of AIDS transmission than rural women.

Only 63 percent of women believe that AIDS can be prevented (see Table 10.3). The vast majority of them say that sticking to one partner is a way to prevent the disease, with very few reporting other means of prevention. Again, this could be due to lack of probing by interviewers rather than lack of knowledge of other means of prevention. Differences between urban and rural women are minimal.

Table 10.3 Perceptions about AIDS prevention

Percent distribution of women age 15-49 by whether they believe AIDS can be prevented and, of those who believe it can be prevented, the percentage reporting various means of prevention, according to urban-rural residence, Zambia 1992

AIDS preventability/ Means of prevention	Urban	Rural	Total
Can AIDS be prevented?			
Yes	69.6	56.1	63.1
No	26.1	31.4	28.6
Don't know	3.9	12.4	8.0
Missing	0.4	0.1	0.3
Total	100.0	100.0	100.0
Number of women	3616	3357	6973
Among those who believe AIDS is preventable, percentage reporting means:			
Stick to one partner	94.2	90.7	92.7
Use condoms	9.1	5.9	7.8
Sterilise needles	7.5	6.5	7.1
Other	6.8	10.3	8.3
Number of women	3616	3357	6973

10.2 Sources of Information about AIDS

The government of Zambia has been actively seeking to inform the general public about AIDS and how to prevent its spread. Table 10.4 indicates that dissemination of AIDS information is widespread. Although the largest single source of information cited was friends and relatives (60 percent), almost 40 percent of women had heard about AIDS on the radio in the month preceding the survey and one-third said they had heard about AIDS from health workers. Ten percent of women had heard about AIDS from television and 10 percent from slogans, pamphlets or posters in the month preceding the interview. In fact, only 9 percent of women said they had not heard any information about AIDS in the previous month. As might be expected, radio, television and newspapers are a more important source of AIDS information for urban women than for rural women.

Table 10.4 Sources of AIDS information

Percentage of women who report hearing of AIDS from various sources in the month before the survey, by urban-rural residence, Zambia 1992

Source of information	Urban	Rural	Total
Radio	54.3	22.3	38.9
Television	18.1	1.4	10.1
Newspaper	13.8	3.2	8.7
Health worker	33.6	35.6	34.5
Church	4.9	5.6	5.2
Friend/relative	58.0	62.1	60.0
School/teacher	8.7	4.5	6.7
Slogan/poster/pamphlet	14.2	5.3	9.9
Community meeting	2.7	2.0	2.4
Other	1.2	4.1	2.6
None	8.5	10.5	9.4
Number of women	3616	3357	6973

10.3 Attitudes about AIDS

ZDHS respondents were asked what they thought was the most important thing the government should do for people who have AIDS. As shown in Table 10.5, three in five said government should provide medical treatment. Ten percent think that government should quarantine those with AIDS and ten percent think government should not be involved.

Three in five women say that if a relative were suffering from AIDS, they would prefer relatives and friends to care for him or her. Almost one-quarter say they would prefer government to provide care. Urban and rural women do not differ much in their responses to these questions.

Table 10.5 Attitudes toward AIDS

Percent distribution of women by perception of the most important action government could take for people with AIDS and by preferred caretakers for a relative with AIDS, according to urban-rural residence, Zambia 1992

Government action/ Preferred caretaker	Urban	Rural	Total
Suggested government action			
Provide medical treatment	58.7	64.7	61.6
Help relatives provide care	4.6	1.7	3.2
Isolate/Quarantine/Jail	11.9	8.7	10.4
Not be involved	10.7	9.1	9.9
Other	13.7	15.6	14.6
Missing	0.3	0.1	0.2
Total	100.0	100.0	100.0
Preferred caretaker			
Relatives/friends	62.8	60.9	61.9
Government	24.5	22.2	23.4
Religious organisation/mission	0.2	0.1	0.1
Nobody, abandon	2.8	6.7	4.6
Other	9.7	10.1	9.9
Missing	0.1	0.0	0.1
Total	100.0	100.0	100.0
Number of women	3616	3357	6973

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APPENDIX A
SURVEY DESIGN

APPENDIX A

SURVEY DESIGN

A.1 Sample Design and Implementation

Zambia is divided administratively into 9 provinces and 57 districts. In preparation for the 1990 Census of Population, Housing and Agriculture, the entire country was demarcated into Census Supervisory Areas (CSAs). Each CSA was in turn divided into Standard Enumeration Areas (SEAs) of roughly equal size. The measure of size used for selecting the ZDHS sample was the number of households obtained during a quick count operation carried out in 1987. The frame of 4240 CSAs was stratified into urban and rural areas within each province, with the districts ordered geographically within provinces, thus providing further implicit stratification.

The ZDHS sample was selected from this frame in three stages. First, 262 CSAs (149 in urban areas and 113 in rural areas) were selected from this frame with probability proportional to size (the number of households from the quick count). One SEA was then selected from within each sampled CSA, again with probability proportion to size. The Central Statistical Office (CSO) then organised a household listing operation, in which all structures in the selected SEAs were numbered (on doors), the names of the heads of households were listed and the households were marked by number on sketch maps of the SEAs. These household lists were used to select a systematic sample of households for the third and final stage of sampling.

Initially, the objective of the ZDHS sample design was to be able to produce estimates at the national level, for urban and rural areas separately, and for the larger provinces. Since Zambia's population is almost equally divided by urban and rural residence, a self-weighting sample was originally designed. Later, it was decided that it would be desirable to be able to produce separate estimates for all

Table A.1 Sample design parameters

Distribution of 1990 census population and number of CSAs allocated and number of households selected in the ZDHS sample

Stratum	Population (1990)	Percent	Number of CSAs allocated	Number of households selected
Urban				
Central	216023	6.6	10	203
Copperbelt	1428697	43.5	64	1036
Eastern	85714	2.6	4	61
Luapula	83036	2.5	4	79
Lusaka	1041473	31.7	47	831
Northern	123457	3.8	6	82
North-Western	45599	1.4	2	44
Southern	190384	5.8	9	234
Western	71383	2.2	3	37
Total	3285766	100.0	149	2607
Rural				
Central	509588	11.2	10	394
Copperbelt	150845	3.3	3	131
Eastern	888104	19.6	17	604
Luapula	443669	9.8	16	577
Lusaka	166507	3.7	3	113
Northern	744338	16.4	14	527
North-Western	337547	7.5	18	624
Southern	755969	16.7	15	508
Western	536114	11.8	17	624
Total	4532681	100.0	113	4102
Total				
Central	725611	9.3	20	597
Copperbelt	1579542	20.2	67	1167
Eastern	973818	12.5	21	665
Luapula	526705	6.7	20	656
Lusaka	1207980	15.5	50	944
Northern	867795	11.1	20	609
North-Western	383146	4.9	20	668
Southern	946353	12.1	24	742
Western	607497	7.8	20	661
Total	7818447	100.0	262	6709

nine provinces. To achieve this objective, additional rural CSAs (and SEAs) were selected in Luapula, North-Western and Western Provinces and the sample *take* (number of households) in each rural SEA in these provinces was reduced from 42 to 35 in order to minimise the total sample size increase (the sample take was 20 households in urban areas). As a result of this oversampling in Luapula, North-Western and Western Provinces, the ZDHS sample is not self-weighting at the national level. Table A.1 presents data on the distribution of the population and various sample parameters by province.

Results of the sample implementation by province and urban-rural residence are presented in Table A.2. The results indicate that of the 6709 households selected, ZDHS interviewers successfully interviewed 93 percent. Three percent of the households selected were found to be either vacant or not a valid household, while another 3 percent were absent (not at home). The response rate at the household level was 96 percent. In the interviewed households, 7247 eligible women were found, of whom 97 percent were interviewed.

A.2 Fieldwork

The ZDHS household and individual questionnaires were pretested September-October 1991. Sixteen staff from the Ministry of Health (mostly nurses and clinical officers) who spoke the languages into which the questionnaires had been translated were trained for two weeks at the Mwachisompola Health Demonstration Clinic, about one hour's drive from Lusaka. In the following 10 days, these interviewers completed 109 interviews mostly in Lusaka and Central Province.

Training of field staff for the main survey was conducted at the University of Zambia. After one-week training sessions—first for the trainers and then for the supervisors and field editors in early December—interviewers were trained from 16 December 1991 to 5 January 1992. Staff from the University, the CSO, the Ministry of Health, Planned Parenthood Association of Zambia, and Macro International conducted the four-week training course. A total of 72 candidates were trained, including most of those who had participated in the pretest. With the exception of two supervisors from the CSO, all candidates for fieldstaff positions were recruited from the Ministry of Health and consisted of nurses, nurse/midwives and clinical officers.

The training course consisted of instruction in general interviewing techniques, field procedures, a detailed review of items on the questionnaires, instruction and practice in weighing and measuring children, mock interviews between participants in the classroom, and practice interviews in the field. Trainees who performed satisfactorily in the training programme were selected as interviewers, while those whose performance was rated as superior were selected as field editors. Those whose performance was satisfactory, but who either could not travel in the field or who did not speak one of the major languages in Zambia, were selected as data processing staff.

The fieldwork for the ZDHS was carried out by 10 teams. Each consisted of one supervisor, one field editor, four interviewers and one driver; however, due to heavier workloads in their provinces, one team had five interviewers and another had six. In total, there were 10 supervisors, 10 field editors, 43 interviewers, and 10 drivers. Of the interviewers, 34 were women and 9 were men. In addition, each team was assigned a fieldwork coordinator, generally one of the trainers, who spent approximately half of the fieldwork time in the field with his/her team. Each team was assigned a vehicle either by the CSO or another government agency and team members moved together through the areas assigned to them. Fieldwork commenced on 18th January and was completed on 15th May 1992.

Table A.2 Sample implementation

Percent distribution of households and eligible women by result of the interview and household response rates, eligible woman response rates, and overall response rates, according to sample domain and urban-rural residence, Zambia 1992

Result	Province									Residence		Total
	Central	Copper-belt	East-ern	Lua-pula	Lusaka	North-ern	North West-ern	South-ern	West-ern	Urban	Rural	
	Selected households											
Completed (C)	92.1	97.0	94.1	90.4	95.3	94.6	75.6	97.8	92.0	96.2	90.2	92.5
Household present but no competent respondent at home (P)	0.3	0.4	0.0	0.3	0.3	0.2	0.0	0.4	0.3	0.3	0.2	0.3
Refused (R)	0.2	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1
Dwelling not found (DNF)	0.2	0.0	0.6	0.3	0.0	0.2	0.6	0.0	0.2	0.1	0.2	0.2
Household absent (HA)	3.2	0.5	1.4	1.4	1.1	2.6	12.8	0.6	2.1	1.1	3.6	2.6
Dwelling vacant/address not a dwelling (DV)	3.2	1.9	2.4	6.6	3.2	2.1	6.7	1.0	4.5	2.1	4.2	3.4
Dwelling destroyed (DD)	0.8	0.0	1.2	0.8	0.1	0.3	0.0	0.1	0.3	0.1	0.5	0.4
Other (O)	0.0	0.1	0.3	0.0	0.0	0.0	4.3	0.0	0.6	0.0	0.9	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	597	1167	665	656	944	609	698	712	661	2577	4132	6709
Household response rate (HRR)¹	96.0	98.9	97.7	97.5	98.6	97.0	81.1	98.9	96.7	98.3	94.7	96.1
Eligible women												
Completed (EWC)	97.6	96.6	97.3	98.5	97.8	97.8	94.6	98.3	97.8	97.4	97.4	97.4
Not at home (EWNH)	1.4	2.6	1.5	0.5	1.7	1.5	4.6	1.5	1.2	2.0	1.7	1.8
Postponed (EWP)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Refused (EWR)	0.3	0.4	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.3	0.2	0.2
Partly completed (EWPC)	0.0	0.1	0.1	0.3	0.1	0.3	0.2	0.0	0.2	0.1	0.2	0.1
Other (EWO)	0.7	0.2	0.7	0.3	0.2	0.2	0.2	0.2	0.8	0.2	0.5	0.4
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	579	1662	676	598	1163	603	409	963	594	3446	3801	7247
Eligible woman response rate (EWRR)²	97.6	96.6	97.3	98.5	97.8	97.8	94.6	98.3	97.8	97.4	97.4	97.4
Overall response rate (ORR)³	93.7	95.5	95.1	96.1	96.4	94.9	76.7	97.2	94.5	95.8	92.3	93.7

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

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

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

²Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

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

³The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR$$

A.3 Data Processing

All questionnaires for the ZDHS were returned to the University of Zambia for data processing. The processing operation consisted of office editing, coding of open-ended questions, data entry, and editing errors found by the computer programs. Two programmers (one from the CSO and one from the University), one questionnaire administrator, two office editors, and three data entry operators were responsible for the data processing operation. The data were processed on four microcomputers owned by the Department of Social Development Studies at the University of Zambia. The ZDHS data entry and editing programs were written in ISSA (Integrated System for Survey Analysis) and followed the standard DHS consistency checks and editing procedures. Simple range and skip errors were corrected at the data entry stage. Secondary machine editing of the data was initiated as soon as a sufficient number of questionnaires had been entered. The purpose of the secondary editing was to detect and correct, if possible, inconsistencies in the data. No major problems were encountered during data editing. Data processing commenced on 22nd January and was completed on 20th June 1992.

APPENDIX B

ESTIMATES OF SAMPLING ERRORS

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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, and data entry errors. Although numerous efforts were made during the implementation of the ZDHS 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 ZDHS 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 ZDHS sample is the result of a three-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 package 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:

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

in which

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

where	h m_h y_{hi} x_{hi} f	represents the stratum which varies from 1 to H, is the total number of standard enumeration areas selected in the h^{th} stratum, is the sum of the values of variable y in SEA i in the h^{th} stratum, is the sum of the number of cases (women) in SEA i in the h^{th} stratum, and is the overall sampling fraction, which is so small that CLUSTERS ignores it.
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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 ZDHS 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 nine provinces. 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.13 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 ($R \pm 2SE$), for each variable.

In general, the relative standard error for most estimates for the country as a whole is 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 rural areas is 1.3 percent, 1.7 percent, and 1.9 percent, respectively.

The confidence interval (e.g., as calculated for EVBORN) can be interpreted as follows: the overall average from the national sample is 3.105 and its standard error is .040. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, ie. $3.105 \pm .080$. 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 3.025 and 3.185.

Table B.1 List of Selected Variables for Sampling Errors, Zambia 1992

Variable		Estimate	Base population
URBAN	Urban	Proportion	All women
SECOND	With secondary education or higher	Proportion	All women
CURMAR	Currently married	Proportion	All women
MAR20	Married before age 20	Proportion	Women aged 20 and older
SEX18	Had first sexual intercourse before 18	Proportion	Women aged 20 and older
EVBORN	Children ever born	Mean	All women
EVB4049	Children ever born to women over 40	Mean	Women aged 40-49
SURVIV	Children surviving	Mean	All women
KMETHOD	Knowing any contraceptive method	Proportion	Currently married women
KMODMET	Knowing any modern method	Proportion	Currently married women
KSOURCE	Knowing 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
CUCOND	Currently using condom	Proportion	Currently married women
CUSTERIL	Currently using female sterilization	Proportion	Currently married women
CUPABST	Currently using periodic abstinence	Proportion	Currently married women
PSOURCE	Using public sector source	Proportion	Current users of modern method
NOMORE	Wanting no more children	Proportion	Currently married women
DELAY	Wanting to delay 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 diarrhea in last 24 hours	Proportion	Children under 5
DIARR2	Had diarrhea in last 2 weeks	Proportion	Children under 5
ORSTRE	Treated with ORS packets	Proportion	Children under 5 with diarrhea in last 2 weeks
MEDTRE	Consulted a medical facility	Proportion	Children under 5 with diarrhea 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 immunized	Proportion	Children 12-23 months

Table B.2 Sampling errors, entire sample, Zambia 1992

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	.515	.012	7060	7060	1.944	.022	.492	.538
SECOND	.239	.009	7060	7060	1.719	.037	.221	.256
CURMAR	.631	.008	7060	7060	1.317	.012	.616	.646
MAR20	.730	.008	5096	5076	1.232	.010	.715	.746
SEX18	.723	.007	5096	5076	1.187	.010	.708	.738
EVBORN	3.105	.040	7060	7060	1.069	.013	3.025	3.185
EVB4049	7.694	.110	901	885	1.106	.014	7.473	7.915
SURVIV	2.566	.032	7060	7060	1.010	.012	2.502	2.630
KMETHOD	.937	.004	4467	4457	1.233	.005	.928	.946
KMODMET	.907	.006	4467	4457	1.432	.007	.895	.920
KSOURCE	.875	.007	4467	4457	1.469	.008	.861	.890
EVUSE	.492	.012	4467	4457	1.615	.025	.468	.516
CUSING	.152	.008	4467	4457	1.430	.051	.137	.167
CUMODERN	.089	.006	4467	4457	1.352	.065	.077	.100
CUPILL	.043	.004	4467	4457	1.162	.082	.036	.050
CUUD	.005	.001	4467	4457	1.045	.230	.002	.007
CUCOND	.018	.002	4467	4457	1.159	.129	.013	.022
CUSTERIL	.021	.002	4467	4457	1.092	.113	.016	.025
CUPABST	.009	.002	4467	4457	1.197	.185	.006	.013
PSOURCE	.561	.027	473	493	1.170	.048	.507	.614
NOMORE	.220	.007	4467	4457	1.080	.030	.207	.234
DELAY	.406	.009	4467	4457	1.170	.021	.389	.423
IDEAL	5.786	.042	6636	6624	1.358	.007	5.703	5.870
TETANUS	.814	.010	6236	6215	1.705	.012	.795	.834
MDCARE	.505	.015	6236	6215	1.843	.029	.476	.534
DIARR1	.081	.004	5332	5332	1.050	.050	.073	.089
DIARR2	.228	.007	5332	5332	1.166	.030	.214	.242
ORSTRE	.529	.016	1207	1216	1.061	.030	.497	.561
MEDTRE	.546	.017	1207	1216	1.102	.030	.513	.579
HCARD	.757	.016	1134	1123	1.215	.021	.725	.788
BCG	.951	.009	1134	1123	1.449	.010	.932	.970
DPT3	.768	.016	1134	1123	1.285	.021	.735	.801
POLIO3	.764	.016	1134	1123	1.280	.022	.731	.797
MEASLES	.770	.016	1134	1123	1.262	.021	.738	.802
FULLIM	.666	.017	1134	1123	1.207	.026	.632	.700

Table B.3 Sampling errors, urban areas, Zambia 1992

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	3358	3636	.000	.000	1.000	1.000
SECOND	.378	.014	3358	3636	1.615	.036	.351	.405
CURMAR	.575	.009	3358	3636	1.109	.016	.556	.594
MAR20	.676	.011	2364	2560	1.138	.016	.654	.697
SEX18	.682	.012	2364	2560	1.212	.017	.659	.705
EVBORN	2.786	.048	3358	3636	.927	.017	2.691	2.882
EVB4049	7.443	.180	323	350	1.097	.024	7.083	7.802
SURVIV	2.384	.042	3358	3636	.936	.018	2.300	2.469
KMETHOD	.972	.004	1931	2091	1.099	.004	.963	.980
KMODMET	.965	.005	1931	2091	1.104	.005	.956	.974
KSOURCE	.945	.006	1931	2091	1.224	.007	.932	.957
EVUSE	.596	.015	1931	2091	1.338	.025	.566	.626
CUSING	.208	.012	1931	2091	1.333	.059	.183	.232
CUMODERN	.153	.011	1931	2091	1.313	.070	.131	.174
CUPILL	.079	.007	1931	2091	1.092	.085	.065	.092
CUIUD	.010	.002	1931	2091	1.003	.229	.005	.014
CUCOND	.026	.004	1931	2091	1.045	.146	.018	.033
CUSTERIL	.033	.004	1931	2091	1.106	.137	.024	.042
CUPABST	.014	.003	1931	2091	1.174	.224	.008	.020
PSOURCE	.554	.030	363	393	1.143	.054	.494	.613
NOMORE	.240	.011	1931	2091	1.111	.045	.218	.261
DELAY	.419	.014	1931	2091	1.208	.032	.392	.447
IDEAL	5.206	.048	3201	3466	1.243	.009	5.110	5.303
TETANUS	.872	.007	2664	2885	1.047	.008	.858	.887
MDCARE	.790	.014	2664	2885	1.485	.018	.762	.818
DIARR1	.066	.005	2322	2514	1.008	.083	.055	.077
DIARR2	.200	.010	2322	2514	1.218	.052	.179	.221
ORSTRE	.593	.022	464	502	.912	.037	.549	.636
MEDTRE	.619	.023	464	502	.979	.037	.572	.665
HCARD	.769	.020	476	515	1.046	.027	.728	.810
BCG	.983	.006	476	515	1.010	.006	.971	.995
DPT3	.845	.017	476	515	1.000	.020	.811	.879
POLIO3	.838	.018	476	515	1.021	.021	.803	.873
MEASLES	.813	.018	476	515	.971	.022	.778	.848
FULLIM	.744	.020	476	515	.987	.027	.704	.784

Table B.4 Sampling errors, rural areas, Zambia 1992

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	.000	.000	3702	3424	.000	.000	.000	.000
SECOND	.091	.010	3702	3424	2.088	.109	.071	.110
CURMAR	.691	.011	3702	3424	1.469	.016	.669	.713
MAR20	.786	.010	2732	2516	1.310	.013	.765	.807
SEX18	.764	.009	2732	2516	1.136	.012	.746	.783
EVBORN	3.443	.065	3702	3424	1.213	.019	3.313	3.573
EVB4049	7.858	.139	578	535	1.106	.018	7.581	8.136
SURVIV	2.760	.048	3702	3424	1.088	.017	2.663	2.856
KMETHOD	.906	.007	2536	2366	1.250	.008	.892	.921
KMODMET	.857	.010	2536	2366	1.508	.012	.836	.878
KSOURCE	.814	.012	2536	2366	1.547	.015	.790	.838
EVUSE	.400	.017	2536	2366	1.705	.041	.367	.433
CUSING	.103	.009	2536	2366	1.560	.092	.084	.121
CUMODERN	.032	.005	2536	2366	1.378	.150	.023	.042
CUPILL	.011	.003	2536	2366	1.346	.256	.005	.016
CUUD	.000	.000	2536	2366	.000	.000	.000	.000
CUCOND	.011	.003	2536	2366	1.329	.253	.005	.016
CUSTERIL	.010	.002	2536	2366	.924	.185	.006	.013
CUPABST	.005	.002	2536	2366	1.177	.327	.002	.008
PSOURCE	.588	.058	110	100	1.223	.098	.473	.704
NOMORE	.203	.008	2536	2366	1.046	.041	.186	.220
DELAY	.394	.011	2536	2366	1.120	.028	.372	.415
IDEAL	6.423	.062	3435	3158	1.352	.010	6.300	6.546
TETANUS	.764	.018	3572	3330	2.093	.023	.728	.799
MDCARE	.258	.019	3572	3330	2.171	.073	.220	.296
DIARR1	.094	.006	3010	2817	1.101	.064	.082	.105
DIARR2	.253	.009	3010	2817	1.114	.035	.235	.271
ORSTRE	.484	.022	743	713	1.141	.045	.441	.527
MEDTRE	.495	.022	743	713	1.138	.044	.452	.538
HCARD	.747	.023	658	607	1.360	.031	.700	.794
BCG	.924	.017	658	607	1.593	.018	.890	.957
DPT3	.703	.027	658	607	1.493	.038	.649	.757
POLIO3	.700	.027	658	607	1.478	.038	.647	.754
MEASLES	.734	.026	658	607	1.471	.035	.683	.785
FULLIM	.600	.027	658	607	1.394	.045	.546	.654

Table B.5 Sampling errors, Central Province, Zambia 1992

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	.355	.039	565	622	1.939	.110	.277	.433
SECOND	.212	.036	565	622	2.101	.170	.140	.285
CURMAR	.671	.032	565	622	1.595	.047	.608	.735
MAR20	.739	.020	424	467	.944	.027	.699	.779
SEX18	.762	.028	424	467	1.354	.037	.706	.818
EVBORN	3.211	.149	565	622	1.115	.046	2.913	3.510
EVB4049	7.573	.434	79	87	1.187	.057	6.706	8.440
SURVIV	2.687	.123	565	622	1.078	.046	2.441	2.933
KMETHOD	.743	.022	379	418	.964	.029	.700	.786
KMODMET	.706	.029	379	418	1.255	.042	.647	.765
KSOURCE	.677	.034	379	418	1.397	.050	.610	.744
EVUSE	.339	.023	379	418	.938	.067	.293	.385
CUSING	.092	.020	379	418	1.370	.221	.051	.133
CUMODERN	.068	.016	379	418	1.204	.229	.037	.099
CUPILL	.042	.010	379	418	1.013	.249	.021	.063
CUIUD	.000	.000	379	418	.000	.000	.000	.000
CUCOND	.016	.005	379	418	.748	.303	.006	.025
CUSTERIL	.008	.004	379	418	.981	.565	-.001	.017
CUPABST	.008	.006	379	418	1.229	.705	-.003	.019
PSOURCE	.875	.071	32	35	1.193	.081	.733	1.017
NOMORE	.232	.027	379	418	1.239	.116	.179	.286
DELAY	.390	.021	379	418	.852	.055	.347	.433
IDEAL	6.022	.180	512	564	1.697	.030	5.663	6.382
TETANUS	.785	.051	540	595	2.459	.065	.682	.887
MDCARE	.390	.049	540	595	1.905	.127	.291	.489
DIARR1	.107	.016	476	525	1.057	.145	.076	.138
DIARR2	.221	.016	476	525	.826	.072	.189	.253
ORSTRE	.628	.040	105	116	.787	.063	.549	.707
MEDTRE	.525	.049	105	116	.966	.094	.427	.624
HCARD	.755	.053	98	108	1.180	.070	.649	.861
BCG	.918	.054	98	108	1.939	.059	.810	1.025
DPT3	.765	.069	98	108	1.601	.090	.627	.902
POLIO3	.754	.070	98	108	1.613	.093	.614	.895
MEASLES	.724	.064	98	108	1.414	.089	.596	.852
FULLIM	.632	.072	98	108	1.477	.115	.487	.777

Table B.6 Sampling errors, Copperbelt Province, Zambia 1992

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	.920	.007	1606	1743	1.088	.008	.905	.934
SECOND	.348	.017	1606	1743	1.425	.049	.314	.381
CURMAR	.587	.013	1606	1743	1.082	.023	.561	.614
MAR20	.724	.016	1113	1208	1.164	.022	.692	.755
SEX18	.695	.014	1113	1208	1.025	.020	.667	.723
EVBORN	2.907	.069	1606	1743	.890	.024	2.769	3.045
EVB4049	7.884	.200	153	166	.936	.025	7.483	8.284
SURVIV	2.514	.056	1606	1743	.821	.022	2.402	2.626
KMETHOD	.992	.003	943	1024	1.032	.003	.985	.998
KMODMET	.988	.004	943	1024	1.054	.004	.981	.996
KSOURCE	.970	.007	943	1024	1.321	.008	.956	.985
EVUSE	.599	.022	943	1024	1.363	.036	.556	.643
CUSING	.190	.015	943	1024	1.152	.078	.160	.219
CUMODERN	.136	.013	943	1024	1.196	.098	.109	.162
CUPILL	.071	.009	943	1024	1.091	.129	.053	.089
CUIUD	.007	.004	943	1024	1.262	.476	.000	.014
CUCOND	.017	.004	943	1024	.915	.227	.009	.025
CUSTERIL	.035	.007	943	1024	1.089	.187	.022	.048
CUPABST	.012	.004	943	1024	1.213	.364	.003	.020
PSOURCE	.400	.043	155	168	1.094	.108	.314	.487
NOMORE	.245	.017	943	1024	1.187	.068	.212	.278
DELAY	.478	.021	943	1024	1.277	.043	.437	.520
IDEAL	5.507	.072	1541	1672	1.359	.013	5.363	5.651
TETANUS	.868	.011	1317	1429	1.082	.013	.845	.891
MDCARE	.798	.025	1317	1429	1.856	.031	.749	.848
DIARR1	.055	.007	1161	1259	1.034	.133	.041	.070
DIARR2	.177	.012	1161	1260	1.076	.070	.152	.201
ORSTRE	.537	.036	205	223	.993	.068	.464	.610
MEDTRE	.620	.044	205	223	1.236	.070	.532	.707
HCARD	.769	.030	246	267	1.115	.040	.708	.830
BCG	.980	.009	246	267	1.010	.009	.962	.998
DPT3	.850	.024	246	267	1.028	.028	.802	.898
POLIO3	.834	.026	246	267	1.086	.032	.781	.886
MEASLES	.813	.024	246	267	.954	.029	.766	.861
FULLIM	.736	.030	246	267	1.051	.041	.676	.796

Table B.7 Sampling errors, Eastern Province, Zambia 1992

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	.122	.012	658	729	.938	.098	.098	.146
SECOND	.093	.016	658	729	1.421	.173	.061	.126
CURMAR	.736	.025	658	729	1.440	.034	.686	.785
MAR20	.789	.022	484	536	1.163	.027	.746	.832
SEX18	.733	.025	484	536	1.229	.034	.684	.783
EVBORN	3.342	.114	658	729	.899	.034	3.114	3.570
EVB4049	7.887	.376	104	115	1.220	.048	7.134	8.640
SURVIV	2.546	.098	658	729	.988	.039	2.350	2.742
KMETHOD	.925	.010	484	536	.856	.011	.905	.946
KMODMET	.898	.013	484	536	.961	.015	.872	.925
KSOURCE	.847	.022	484	536	1.317	.025	.804	.890
EVUSE	.386	.029	484	536	1.310	.075	.328	.444
CUSING	.097	.027	484	536	1.976	.274	.044	.150
CUMODERN	.047	.011	484	536	1.185	.242	.024	.070
CUPILL	.012	.005	484	536	1.012	.414	.002	.022
CUIUD	.002	.002	484	536	.989	1.000	-.002	.006
CUCOND	.017	.009	484	536	1.499	.526	-.001	.034
CUSTERIL	.015	.005	484	536	.908	.340	.005	.024
CUPABST	.002	.002	484	536	1.012	1.010	-.002	.006
PSOURCE	.498	.095	30	33	1.023	.191	.308	.688
NOMORE	.229	.016	484	536	.817	.068	.198	.260
DELAY	.329	.020	484	536	.957	.062	.288	.370
IDEAL	5.339	.118	555	615	1.167	.022	5.104	5.575
TETANUS	.830	.033	608	674	1.869	.040	.764	.897
MDCARE	.356	.033	608	674	1.441	.093	.290	.422
DIARR1	.095	.019	496	550	1.353	.196	.057	.132
DIARR2	.317	.031	496	550	1.468	.097	.255	.378
ORSTRE	.515	.046	157	174	1.072	.089	.424	.607
MEDTRE	.503	.036	157	174	.844	.071	.431	.574
HCARD	.748	.047	95	105	1.051	.063	.653	.842
BCG	.958	.021	95	105	1.002	.022	.916	.999
DPT3	.706	.055	95	105	1.138	.078	.596	.815
POLIO3	.685	.054	95	105	1.096	.078	.577	.792
MEASLES	.769	.047	95	105	1.055	.062	.674	.863
FULLIM	.579	.060	95	105	1.153	.103	.460	.699

Table B.8 Sampling errors, Luapula Province, Zambia 1992

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	.241	.022	589	431	1.233	.090	.198	.285
SECOND	.169	.034	589	431	2.194	.201	.101	.237
CURMAR	.652	.021	589	431	1.073	.032	.610	.694
MAR20	.805	.030	419	304	1.555	.037	.744	.865
SEX18	.765	.031	419	304	1.510	.041	.703	.828
EVBORN	3.428	.157	589	431	1.136	.046	3.115	3.742
EVB4049	8.183	.388	88	62	1.208	.047	7.408	8.959
SURVIV	2.659	.128	589	431	1.126	.048	2.404	2.915
KMETHOD	.949	.015	390	281	1.357	.016	.919	.979
KMODMET	.900	.014	390	281	.894	.015	.873	.927
KSOURCE	.879	.022	390	281	1.346	.025	.834	.924
EVUSE	.215	.037	390	281	1.795	.174	.140	.289
CUSING	.095	.029	390	281	1.958	.306	.037	.153
CUMODERN	.060	.023	390	281	1.865	.373	.015	.106
CUPILL	.028	.009	390	281	1.126	.337	.009	.047
CUIUD	.000	.000	390	281	.000	.000	.000	.000
CUCOND	.012	.007	390	281	1.176	.531	-.001	.026
CUSTERIL	.009	.005	390	281	1.114	.607	-.002	.019
CUPABST	.005	.005	390	281	1.383	1.018	-.005	.014
PSOURCE	.683	.085	21	19	.815	.124	.513	.853
NOMORE	.153	.018	390	281	.979	.117	.118	.189
DELAY	.398	.028	390	281	1.141	.071	.342	.455
IDEAL	6.496	.138	553	406	1.286	.021	6.220	6.772
TETANUS	.777	.060	576	419	2.847	.078	.657	.898
MDCARE	.356	.062	576	419	2.414	.174	.232	.480
DIARR1	.110	.018	457	331	1.200	.162	.074	.146
DIARR2	.212	.031	457	331	1.509	.145	.150	.273
ORSTRE	.465	.079	96	70	1.489	.169	.308	.623
MEDTRE	.439	.087	96	70	1.670	.199	.264	.614
HCARD	.755	.053	111	79	1.283	.071	.648	.861
BCG	.933	.051	111	79	2.117	.055	.831	1.035
DPT3	.743	.067	111	79	1.558	.090	.609	.877
POLIO3	.740	.068	111	79	1.584	.093	.603	.877
MEASLES	.735	.075	111	79	1.761	.102	.585	.885
FULLIM	.620	.079	111	79	1.672	.128	.462	.779

Table B.9 Sampling errors, Lusaka Province, Zambia 1992

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	.914	.026	1137	1234	3.099	.028	.863	.966
SECOND	.360	.022	1137	1234	1.541	.061	.316	.404
CURMAR	.598	.015	1137	1234	1.058	.026	.568	.629
MAR20	.638	.018	842	914	1.084	.028	.602	.674
SEX18	.647	.022	842	914	1.364	.035	.602	.692
EVBORN	2.793	.078	1137	1234	.892	.028	2.637	2.948
EVB4049	7.088	.325	129	140	1.186	.046	6.437	7.738
SURVIV	2.421	.070	1137	1234	.907	.029	2.281	2.562
KMETHOD	.954	.007	680	738	.902	.008	.940	.969
KMODMET	.945	.009	680	738	.978	.009	.928	.963
KSOURCE	.916	.011	680	738	1.007	.012	.895	.938
EVUSE	.601	.023	680	738	1.247	.039	.554	.648
CUSING	.242	.023	680	738	1.404	.095	.196	.288
CUMODERN	.176	.021	680	738	1.447	.120	.134	.218
CUPILL	.081	.012	680	738	1.137	.147	.057	.104
CUIUD	.013	.003	680	738	.763	.253	.007	.020
CUCOND	.043	.009	680	738	1.137	.207	.025	.060
CUSTERIL	.037	.008	680	738	1.109	.218	.021	.053
CUPABST	.015	.005	680	738	1.107	.348	.004	.025
PSOURCE	.599	.052	147	159	1.275	.086	.495	.702
NOMORE	.229	.020	680	738	1.236	.087	.189	.269
DELAY	.339	.021	680	738	1.160	.062	.297	.382
IDEAL	4.711	.087	1064	1155	1.288	.018	4.537	4.884
TETANUS	.854	.014	861	935	1.104	.016	.827	.882
MDCARE	.765	.014	861	935	.814	.019	.737	.794
DIARR1	.058	.010	761	826	1.122	.176	.037	.078
DIARR2	.198	.020	761	826	1.279	.100	.159	.238
ORSTRE	.576	.039	151	164	.896	.068	.498	.654
MEDTRE	.582	.048	151	164	1.098	.082	.487	.678
HCARD	.770	.031	148	161	.882	.040	.709	.831
BCG	.987	.009	148	161	.989	.010	.968	1.005
DPT3	.845	.026	148	161	.878	.031	.792	.897
POLIO3	.838	.025	148	161	.827	.030	.788	.888
MEASLES	.770	.034	148	161	.972	.044	.703	.838
FULLIM	.730	.030	148	161	.816	.041	.670	.790

Table B.10 Sampling errors, Northern Province, Zambia 1992

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	.179	.014	590	652	.858	.076	.152	.206
SECOND	.128	.021	590	652	1.549	.167	.085	.170
CURMAR	.648	.035	590	652	1.789	.054	.578	.718
MAR20	.804	.024	407	450	1.196	.029	.757	.851
SEX18	.680	.024	407	450	1.053	.036	.632	.729
EVBORN	3.367	.205	590	652	1.489	.061	2.958	3.777
EVB4049	8.053	.202	90	100	.692	.025	7.649	8.457
SURVIV	2.607	.139	590	652	1.267	.053	2.329	2.884
KMETHOD	.919	.021	382	423	1.519	.023	.876	.961
KMODMET	.821	.030	382	423	1.537	.037	.761	.882
KSOURCE	.806	.032	382	423	1.565	.039	.742	.869
EVUSE	.704	.024	382	423	1.026	.034	.656	.752
CUSING	.175	.030	382	423	1.519	.169	.116	.234
CUMODERN	.031	.015	382	423	1.653	.471	.002	.061
CUPILL	.018	.012	382	423	1.676	.628	-.005	.041
CUIUD	.000	.000	382	423	.000	.000	.000	.000
CUCOND	.003	.003	382	423	1.014	1.012	-.003	.008
CUSTERIL	.010	.006	382	423	1.177	.589	-.002	.023
CUPABST	.010	.004	382	423	.687	.344	.003	.018
PSOURCE	.867	.084	15	17	.929	.097	.699	1.036
NOMORE	.207	.014	382	423	.680	.068	.178	.235
DELAY	.586	.032	382	423	1.272	.055	.522	.651
IDEAL	6.768	.132	534	590	1.143	.019	6.504	7.031
TETANUS	.616	.028	585	647	1.131	.045	.560	.672
MDCARE	.190	.020	585	647	1.002	.103	.151	.229
DIARR1	.120	.011	477	528	.716	.091	.098	.141
DIARR2	.283	.020	477	528	.980	.071	.243	.324
ORSTRE	.415	.032	135	150	.724	.077	.351	.478
MEDTRE	.378	.037	135	150	.852	.097	.304	.451
HCARD	.629	.070	100	111	1.460	.112	.488	.770
BCG	.850	.053	100	111	1.493	.063	.743	.956
DPT3	.549	.071	100	111	1.419	.129	.408	.690
POLIO3	.599	.075	100	111	1.531	.125	.449	.749
MEASLES	.599	.078	100	111	1.584	.130	.444	.754
FULLIM	.509	.070	100	111	1.395	.137	.369	.648

Table B.11 Sampling errors, North-Western Province, Zambia 1992

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	.237	.028	387	183	1.278	.117	.181	.292
SECOND	.152	.043	387	183	2.328	.280	.067	.237
CURMAR	.680	.027	387	183	1.154	.040	.625	.734
MAR20	.754	.026	286	133	1.026	.035	.702	.806
SEX18	.845	.026	286	133	1.190	.030	.794	.896
EVBORN	3.175	.135	387	183	.888	.042	2.905	3.444
EVB4049	7.069	.602	47	20	1.236	.085	5.865	8.274
SURVIV	2.569	.093	387	183	.739	.036	2.382	2.755
KMETHOD	.916	.029	265	124	1.705	.032	.857	.974
KMODMET	.909	.030	265	124	1.698	.033	.849	.969
KSOURCE	.877	.037	265	124	1.843	.043	.802	.951
EVUSE	.483	.035	265	124	1.148	.073	.413	.554
CUSING	.104	.020	265	124	1.045	.189	.065	.143
CUMODERN	.059	.015	265	124	1.025	.251	.030	.089
CUPILL	.018	.010	265	124	1.255	.564	-.002	.039
CUIUD	.000	.000	265	124	.000	.000	.000	.000
CUCOND	.013	.008	265	124	1.123	.603	-.003	.029
CUSTERIL	.028	.012	265	124	1.181	.427	.004	.052
CUPABST	.009	.009	265	124	1.527	1.003	-.009	.026
PSOURCE	.414	.130	20	9	1.148	.313	.155	.674
NOMORE	.241	.022	265	124	.823	.090	.198	.284
DELAY	.324	.028	265	124	.988	.088	.267	.381
IDEAL	5.954	.117	365	174	.886	.020	5.721	6.187
TETANUS	.792	.032	364	172	1.289	.040	.728	.856
MDCARE	.499	.057	364	172	1.731	.114	.385	.612
DIARR1	.085	.015	310	145	.971	.182	.054	.115
DIARR2	.182	.027	310	145	1.258	.149	.128	.237
ORSTRE	.531	.064	57	26	.921	.121	.402	.660
MEDTRE	.562	.074	57	26	1.068	.132	.413	.710
HCARD	.849	.060	74	35	1.279	.071	.728	.969
BCG	.907	.046	74	35	1.229	.051	.814	.000
DPT3	.779	.073	74	35	1.392	.094	.633	.925
POLIO3	.767	.074	74	35	1.386	.096	.619	.914
MEASLES	.837	.061	74	35	1.267	.073	.715	.959
FULLIM	.709	.075	74	35	1.342	.106	.558	.859

Table B.12 Sampling errors, Southern Province, Zambia 1992

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	.262	.029	947	1045	2.027	.111	.204	.320
SECOND	.189	.027	947	1045	2.131	.143	.135	.243
CURMAR	.644	.020	947	1045	1.280	.031	.604	.684
MAR20	.749	.023	665	734	1.388	.031	.703	.796
SEX18	.794	.012	665	734	.788	.016	.769	.819
EVBORN	3.205	.103	947	1045	.997	.032	3.000	3.410
EVB4049	8.021	.300	108	119	1.089	.037	7.422	8.620
SURVIV	2.736	.087	947	1045	.982	.032	2.562	2.910
KMETHOD	.967	.008	609	673	1.075	.008	.951	.983
KMODMET	.947	.013	609	673	1.390	.013	.922	.972
KSOURCE	.908	.015	609	673	1.312	.017	.877	.939
EVUSE	.331	.040	609	673	2.099	.121	.251	.411
CUSING	.085	.014	609	673	1.243	.165	.057	.113
CUMODERN	.042	.010	609	673	1.167	.225	.023	.061
CUPILL	.023	.006	609	673	.973	.259	.011	.034
CUIUD	.002	.002	609	673	.984	.994	-.002	.005
CUCOND	.012	.005	609	673	1.243	.467	.001	.022
CUSTERIL	.007	.002	609	673	.758	.378	.002	.012
CUPABST	.010	.005	609	673	1.312	.535	-.001	.020
PSOURCE	.673	.057	37	41	.725	.084	.559	.786
NOMORE	.223	.015	609	673	.916	.069	.192	.254
DELAY	.368	.020	609	673	.998	.053	.329	.407
IDEAL	6.047	.097	933	1030	1.295	.016	5.853	6.241
TETANUS	.870	.015	912	1008	1.147	.017	.841	.900
MDCARE	.339	.040	912	1008	2.142	.119	.258	.420
DIARR1	.070	.008	808	893	.886	.116	.054	.087
DIARR2	.248	.014	808	893	.911	.056	.221	.276
ORSTRE	.581	.045	201	222	1.240	.077	.491	.671
MEDTRE	.666	.044	201	222	1.263	.066	.578	.754
HCARD	.795	.042	181	200	1.362	.052	.712	.879
BCG	.972	.011	181	200	.934	.012	.950	.995
DPT3	.806	.036	181	200	1.195	.045	.734	.878
POLIO3	.784	.032	181	200	1.016	.041	.720	.847
MEASLES	.839	.030	181	200	1.086	.035	.780	.899
FULLIM	.712	.031	181	200	.903	.043	.650	.773

Table B.13 Sampling errors, Western Province, Zambia 1992

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	.136	.027	581	422	1.866	.195	.083	.189
SECOND	.126	.024	581	422	1.773	.194	.077	.175
CURMAR	.570	.017	581	422	.847	.031	.536	.605
MAR20	.682	.023	456	330	1.034	.033	.637	.727
SEX18	.772	.018	456	330	.929	.024	.736	.809
EVBORN	3.253	.164	581	422	1.288	.050	2.926	3.580
EVB4049	7.009	.317	103	74	1.016	.045	6.375	7.644
SURVIV	2.486	.123	581	422	1.205	.049	2.241	2.732
KMETHOD	.957	.010	335	241	.898	.010	.937	.977
KMODMET	.862	.039	335	241	2.067	.045	.784	.940
KSOURCE	.783	.038	335	241	1.678	.048	.708	.859
EVUSE	.610	.031	335	241	1.147	.050	.549	.672
CUSING	.178	.019	335	241	.899	.106	.141	.216
CUMODERN	.029	.014	335	241	1.474	.466	.002	.056
CUPILL	.003	.003	335	241	.969	.988	-.003	.009
CUIUD	.005	.004	335	241	1.190	.969	-.004	.013
CUCOND	.006	.006	335	241	1.366	.984	-.006	.017
CUSTERIL	.011	.006	335	241	.000	.508	-.000	.023
CUPABST	.003	.003	335	241	.965	.984	-.003	.009
PSOURCE	.675	.090	16	12	.743	.133	.495	.855
NOMORE	.129	.013	335	241	.692	.099	.103	.154
DELAY	.338	.023	335	241	.871	.067	.293	.383
IDEAL	7.420	.236	579	420	1.602	.032	6.947	7.893
TETANUS	.763	.052	473	337	2.284	.068	.659	.867
MDCARE	.324	.044	473	337	1.723	.134	.237	.411
DIARR1	.110	.019	386	275	1.219	.175	.071	.148
DIARR2	.260	.012	386	276	.560	.048	.235	.285
ORSTRE	.411	.057	100	72	1.106	.138	.297	.524
MEDTRE	.455	.050	100	72	.966	.110	.355	.554
HCARD	.746	.039	81	58	.798	.053	.668	.825
BCG	.940	.037	81	58	1.393	.040	.865	1.014
DPT3	.614	.110	81	58	1.987	.178	.395	.833
POLIO3	.669	.103	81	58	1.936	.154	.463	.875
MEASLES	.760	.077	81	58	1.604	.102	.605	.915
FULLIM	.566	.101	81	58	1.802	.179	.363	.769

APPENDIX C

DATA QUALITY TABLES

APPENDIX C

DATA QUALITY TABLES

The purpose of this Appendix is to provide the data user with an initial view of the general quality of the ZDHS data. Appendix B is concerned with sampling errors and their effects on the survey results. The tables in this appendix refer to possible *non-sampling* errors: digit preference, rounding or heaping on certain ages or dates; omission of events occurring farther in the past; deliberate distortion of information by some interviewers in an attempt to lighten their workloads; non-cooperation of the respondent in providing information or refusal to be measured and weighed, etc. A description of the magnitude of such non-sampling errors is provided in the following paragraphs.

The distribution of the de facto household population by single year of age is presented in Table C.1 (see also Figure 2.1). The data show little preference to report ages that end in zeros and fives (age "heaping" or digit preference) that is commonly found in countries where ages are not known well. There is some evidence of irregularities in the age distribution, e.g., relatively higher numbers among men at ages 9, 12, and 27 and among women at ages 13, 19, 23 and 27. However, it is difficult to find any pattern to these results and they may be due to random errors. The irregularities appear to be somewhat worse among women than among men.

There is also some evidence that interviewers "displaced" women outside of the eligible age range (15-49), presumably in order to avoid the need to interview them. For example, while the number of men age 15 is substantially higher than the number age 14 and 13 (perhaps due to the tendency mentioned above to round ages to the nearest age ending in zero or five), the number of women age 15 is substantially lower than the number age 14 or 13. At the other end of the range, the number of men age 49 exceeds the number age 50, while the converse is true for women, implying that interviewers assigned an age of 50 (or 51) to women whose ages might not have been known with certainty, in order to avoid interviewing them. In any case, this displacement out of the eligible age range is much less severe than in many other DHS surveys (Rutstein and Bicego, 1990).

Table C.2 shows that response rates vary little according to age of respondents. The five-year age distribution of respondents shows a larger proportion than expected in age group 15-19 (28 percent) and a smaller proportion in the older age groups, 35-49 (see also Chapter 2, Section 2.3). The fact that men enumerated in the household have a similar distribution at age groups 15-19 and 20-24 as the women (see Table C.1) indicates that the large proportion of women age 15-19 is not sex selective and might be real.

Information on the completeness of reporting selected important variables is provided in Table C.3. Overall, the percentage of cases with missing information is extraordinarily low. Month of birth was missing for two percent of births that occurred in the 15 years before the survey and both month and year were missing for less than half of one percent. Age at death was missing for an infinitesimal proportion of non-surviving births. Only for the anthropometric measurements is there a sizeable proportion for which data are missing; about 6 percent of children under five were not measured. This level of nonresponse is still very acceptable in comparison with rates from other DHS surveys. The main reason for not measuring children was that the child was not present, either because he/she did not live with the mother or because he/she was not home. Very few mothers refused to let their children be measured.

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Zambia 1992

Age	Males		Females		Age	Males		Females	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
<1	702	4.2	730	4.2	36	148	0.9	136	0.8
1	596	3.6	572	3.3	37	156	0.9	131	0.8
2	607	3.6	618	3.6	38	139	0.8	127	0.7
3	521	3.1	527	3.1	39	134	0.8	121	0.7
4	517	3.1	528	3.1	40	111	0.7	106	0.6
5	520	3.1	582	3.4	41	100	0.6	76	0.4
6	566	3.4	559	3.2	42	118	0.7	119	0.7
7	492	3.0	562	3.3	43	108	0.6	129	0.7
8	468	2.8	553	3.2	44	94	0.6	104	0.6
9	554	3.3	506	2.9	45	119	0.7	93	0.5
10	469	2.8	563	3.3	46	95	0.6	83	0.5
11	439	2.6	443	2.6	47	65	0.4	75	0.4
12	507	3.0	502	2.9	48	80	0.5	83	0.5
13	396	2.4	523	3.0	49	104	0.6	76	0.4
14	426	2.6	495	2.9	50	98	0.6	115	0.7
15	454	2.7	427	2.5	51	83	0.5	113	0.7
16	435	2.6	444	2.6	52	91	0.5	126	0.7
17	420	2.5	422	2.4	53	66	0.4	94	0.5
18	384	2.3	401	2.3	54	58	0.3	70	0.4
19	381	2.3	430	2.5	55	70	0.4	104	0.6
20	342	2.1	309	1.8	56	84	0.5	69	0.4
21	319	1.9	315	1.8	57	55	0.3	54	0.3
22	289	1.7	320	1.9	58	48	0.3	62	0.4
23	274	1.6	359	2.1	59	70	0.4	64	0.4
24	235	1.4	228	1.3	60	97	0.6	78	0.5
25	259	1.6	238	1.4	61	46	0.3	51	0.3
26	196	1.2	241	1.4	62	58	0.3	35	0.2
27	283	1.7	307	1.8	63	42	0.3	42	0.2
28	248	1.5	226	1.3	64	46	0.3	41	0.2
29	177	1.1	229	1.3	65	44	0.3	49	0.3
30	202	1.2	202	1.2	66	31	0.2	17	0.1
31	168	1.0	196	1.1	67	40	0.2	29	0.2
32	218	1.3	197	1.1	68	34	0.2	31	0.2
33	166	1.0	201	1.2	69	29	0.2	29	0.2
34	145	0.9	167	1.0	70+	310	1.9	231	1.3
35	191	1.1	172	1.0	Don't know, missing	21	0.1	3	0.0
Total						16662	100.0	17261	100.0

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

Table C.2 Age distribution of eligible and interviewed women

Five-year age distribution of the de facto household population of women aged 10-54, five year age distribution of interviewed women aged 15-49, and percentage of eligible women who were interviewed (weighted), Zambia 1992

Age	Household population of women		Interviewed women		Percent interviewed (weighted)
	Number	Percent	Number	Percent	
10-14	2526	NA	NA	NA	NA
15-19	2123	28.3	1984	28.1	93.4
20-24	1531	20.4	1441	20.4	94.1
25-29	1241	16.6	1179	16.7	95.0
30-34	964	12.9	915	13.0	94.9
35-39	687	9.2	656	9.3	95.6
40-44	534	7.1	505	7.2	94.6
45-49	410	5.5	380	5.4	92.6
50-54	518	NA	NA	NA	NA
15-49	7490	100.0	7060	100.0	94.3

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

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Zambia 1992

Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in last 15 years		
Month only		1.8	15825
Month and year		0.1	15825
Age at death	Deaths to births in last 15 years	0.1	2535
Age/date at first union¹	Ever-married women	1.3	5269
Respondent's education	All women	0.1	7060
Child's size at birth	Births in last 59 months	0.2	3171
Anthropometry²	Living children age 0-59 months		
Height		5.7	5393
Weight		5.5	5393
Height and weight missing		6.0	5393
Diarrhoea in last 2 weeks	Living children age 0-59 months	2.2	5393

¹Both year and age missing

²Child not measured

Table C.4 Births by calendar year since birth

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, Zambia 1992

Year	Number of births			Percentage with complete birth date ¹			Sex ratio at birth ²			Calendar ratio ³			Male			Female		
	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T
92	284	17	301	99.6	100.0	99.6	100.2	100.3	100.2	NA	NA	NA	142	8	151	142	8	150
91	1297	162	1459	99.8	93.7	99.1	101.0	113.6	102.4	186.2	155.8	182.3	652	86	738	645	76	721
90	1108	191	1300	99.2	97.7	99.0	97.5	97.2	97.5	93.2	111.1	95.5	547	94	641	561	97	658
89	1082	182	1264	99.2	93.4	98.3	101.1	124.4	104.2	107.2	97.2	105.6	544	101	645	538	81	619
88	911	184	1094	99.2	98.1	99.0	96.3	113.7	99.0	91.6	97.2	92.5	447	98	544	464	86	550
87	907	196	1102	99.6	95.0	98.8	93.9	125.9	98.9	95.7	93.8	95.4	439	109	548	468	87	554
86	984	233	1217	99.1	95.2	98.4	92.3	102.0	94.1	108.5	117.1	110.0	472	118	590	512	115	627
85	908	203	1111	98.9	96.9	98.5	91.1	100.9	92.8	98.5	96.0	98.0	433	102	535	475	101	576
84	860	189	1049	98.6	93.5	97.7	80.2	114.9	85.6	99.7	101.7	100.1	383	101	484	477	88	565
83	817	169	985	98.3	94.4	97.6	105.4	102.2	104.9	NA	NA	NA	419	85	504	398	84	481
88-92	4682	736	5418	99.4	95.9	98.9	99.2	111.2	100.8	NA	NA	NA	2332	388	2719	2350	348	2698
83-87	4475	990	5465	98.9	95.0	98.2	92.1	108.6	94.9	NA	NA	NA	2146	515	2661	2329	474	2804
78-82	3649	705	4354	98.5	92.6	97.5	97.2	105.3	98.5	NA	NA	NA	1799	362	2160	1850	343	2194
73-77	2777	561	3338	97.6	90.1	96.3	101.9	86.2	99.1	NA	NA	NA	1402	260	1661	1376	301	1677
<73	2537	809	3346	95.2	86.9	93.2	101.7	96.6	100.4	NA	NA	NA	1279	398	1677	1258	412	1669
All	18119	3801	21920	98.2	92.3	97.2	97.8	102.3	98.5	NA	NA	NA	8957	1922	10878	9163	1879	11042

NA = Not applicable

¹Both year and month of birth given

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

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

According to Table C.4, the information on birth dating is good: both month and year of birth were provided for 97 percent of all births and for 99 percent of births in the five years before the survey. As expected, information on birth dates is more complete for children who were still living at the time of the survey than for those who had died. Still, both month and year of birth were provided for 92 percent of non-surviving children. Sex ratios are somewhat on the low side; the expected value would be 102 to 103, while those from the ZDHS are often less than 100. This indicates some possible undercounting of male births, especially those that occurred earlier in time.

The data in Table C.4 also indicate that there was transference of births out of 1987 to earlier years, particularly to 1986. The ratio of births in 1987 to the average of the two adjoining years is 95. This is almost surely not accidental, but rather represents the deliberate attempt by some interviewers to lighten their workloads, since several sections of the ZDHS questionnaire are applicable to only those children born since January 1987. This transference of births across the five-year cutoff point has been noted in many other DHS surveys (Arnold, 1990); in fact, the level of transference is lower in Zambia than in most of the sub-Saharan countries covered (e.g., Botswana 93; Burundi 83; Ghana 101; Liberia 71; Mali 84; Nigeria 77; Senegal 89; Togo 81; Uganda 96; Zimbabwe 97).

Table C.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, Zambia 1992

Age at death (in days)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1	63	41	12	21	138
1	40	24	17	5	85
2	30	21	10	12	74
3	15	11	9	7	42
4	16	9	9	2	36
5	12	7	6	2	28
6	2	3	2	2	9
7	31	40	30	19	120
8	1	2	3	0	5
9	1	0	2	0	3
10	2	0	1	2	5
11	0	0	1	0	1
12	2	1	1	1	6
13	1	0	0	2	3
14	24	23	17	4	67
15	0	1	1	0	2
16	1	0	0	1	2
17	0	1	1	0	2
18	2	0	0	0	2
19	0	1	0	0	1
20	0	1	0	0	1
21	16	10	7	7	40
22	0	1	0	0	1
23	0	0	0	1	1
25	2	1	0	0	3
27	1	0	0	0	1
28	2	1	1	1	5
29	1	0	0	0	1
30	0	2	3	3	8
31+	1	0	0	0	1
Total 0-30	264	202	133	94	693
Percent early neonatal ¹	67.5	57.5	48.7	55.2	59.3

¹(0-6 days/0-30 days) * 100

Measurement of childhood deaths through retrospective household surveys often suffers from underreporting of deaths, in particular those deaths which occur very early in infancy. If early neonatal deaths are selectively underreported, the result would be an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality. Changes in these ratios over time can be examined to detect the hypothesis that underreporting of early infant deaths is more common for births that occurred longer before the survey.

Table C.5 shows the distribution of deaths under one month of age by age at death in days, while Table C.6 shows the distribution of deaths under two years of age by age at death in months. The data suggest that early infant deaths have *not* been severely underreported in the ZDHS, since the percentage of neonatal deaths occurring in the first 6 days (next-to-last row in Table C.5) and the percentage of infant deaths

occurring during the neonatal period (next-to-last row in Table C.6) are reasonable. The former proportions increase over time, implying that some early infant deaths were not reported in the earlier periods; however, much, if not all, of this pattern can be attributed to heaping on 7 days at death, which is more severe for the earlier periods. As mentioned in Chapter 7, there was very little heaping on age at death of 12 months.

Table C.6 Reporting of age at death in months

Distribution of reported deaths under 2 years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods of birth preceding the survey, Zambia 1992

Age at death (in months)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1 ^a	264	202	133	94	693
1	41	27	21	18	106
2	37	30	28	12	107
3	44	29	16	12	101
4	38	25	19	11	92
5	40	27	16	5	88
6	35	41	28	17	121
7	32	19	10	10	70
8	25	23	21	12	82
9	31	25	19	10	85
10	19	13	11	10	53
11	18	19	8	1	47
12	25	26	22	15	87
13	24	21	21	8	74
14	19	38	11	17	84
15	19	17	12	10	58
16	18	14	5	5	43
17	12	20	5	5	42
18	14	47	22	20	104
19	14	9	8	8	38
20	17	20	9	2	47
21	11	11	7	1	30
22	1	4	0	0	6
23	4	7	1	1	13
24+	5	1	7	2	16
1 year	3	12	7	5	28
Total 0-11	623	480	330	213	1646
Percent neonatal ^b	42.4	42.1	40.2	44.1	42.1

^aIncludes deaths under 1 month reported in days
^b(Under 1 month/under 1 year) * 100

APPENDIX D

PERSONS INVOLVED IN THE ZAMBIA DEMOGRAPHIC AND HEALTH SURVEY

APPENDIX D

PERSONS INVOLVED IN THE ZAMBIA DEMOGRAPHIC AND HEALTH SURVEY

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APPENDIX E

SURVEY INSTRUMENTS

Household Questionnaire

Individual Questionnaire

**ZAMBIA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD QUESTIONNAIRE**

IDENTIFICATION																						
PROVINCE _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>																					
DISTRICT _____																						
CSA NUMBER.....																						
SEA NUMBER.....																						
HOUSEHOLD NUMBER.....																						
NAME OF HOUSEHOLD HEAD _____																						
URBAN/RURAL (urban=1, rural=2).....																						
LUSAKA/OTHER CITY/TOWN/VILLAGE..... (Lusaka=1, other city=2, town=3, village=4)	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>																					

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table> MONTH <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table> YEAR <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table>
INTERVIEWER'S NAME	_____	_____	_____	NAME <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table>
RESULT*	_____	_____	_____	RESULT <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table>
NEXT VISIT: DATE TIME	_____ _____	_____ _____		TOTAL NUMBER OF VISITS <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table>

<p>*RESULT CODES:</p> <p>1 COMPLETED</p> <p>2 HOUSEHOLD PRESENT BUT NO COMPETENT RESP. AT HOME</p> <p>3 HOUSEHOLD ABSENT</p> <p>4 POSTPONED</p> <p>5 REFUSED</p> <p>6 DWELLING VACANT OR ADDRESS NOT A DWELLING</p> <p>7 DWELLING DESTROYED</p> <p>8 DWELLING NOT FOUND</p> <p>9 OTHER _____ (SPECIFY)</p>	TOTAL IN HOUSEHOLD <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table> TOTAL ELIGIBLE WOMEN <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table> LINE NO. OF RESP. TO HOUSEHOLD SCHEDULE <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"></table>
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LANGUAGE OF QUESTIONNAIRE: ENGLISH	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; text-align: center;">0</td> <td style="width: 20px; height: 20px; text-align: center;">1</td> </tr> </table>	0	1
0	1		

NAME DATE	FIELD EDITED BY _____	OFFICE EDITED BY _____	KEYED BY _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>		

HOUSEHOLD SCHEDULE

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

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX		AGE	EDUCATION			PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD***				ELIGIBILITY
			Does (NAME) usually live here?	Did (NAME) sleep here last night?	Is (NAME) male or female?	How old is (NAME)?	IF AGED 6 YEARS OR OLDER	IF ATTENDED SCHOOL		Is (NAME)'s natural mother alive?	IF ALIVE	Is (NAME)'s natural father alive?	IF ALIVE		
(1)	(2)	(3)	YES NO	YES NO	M F	IN YEARS	Has (NAME) ever been to school?	What is the highest level of school (NAME) attended?	IF AGED LESS THAN 25 YEARS	Is (NAME) still in school?	YES NO DK	Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER (12)	YES NO DK	Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER (14)	(15)
01	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.		1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		01
02			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		02
03			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		03
04			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		04
05			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		05
06			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		06
07			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		07
08			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		08
09			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		09
10			1 2	1 2	1 2		1 2			1 2	1 2 8		1 2 8		10

HOUSEHOLD SCHEDULE CONTINUED

(1)	(2)	(3)	(4)		(5)		(6)		(7)	(8)		(9)		(10)			(11)			(12)			(13)			(14)	(15)
			YES	NO	YES	NO	M	F		IN YEARS	YES	NO	LEVEL	YEARS	YES	NO	YES	NO	DK	YES	NO	DK	YES	NO	DK		
11			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			11	
12			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			12	
13			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			13	
14			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			14	
15			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			15	
16			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			16	
17			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			17	
18			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			18	
19			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			19	
20			1	2	1	2	1	2		1	2			1	2	1	2	8			1	2	8			20	

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

* 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

** CODES FOR Q.9 LEVEL OF EDUCATION:

- 1= PRIMARY
- 2= SECONDARY
- 3= HIGHER
- 8= DK

YEARS:
00=LESS THAN 1 YEAR COMPLETED
98=DK

- 09= OTHER RELATIVE
- 10= ADOPTED, FOSTER, STEPCHILD
- 11= NOT RELATED
- 98= DK

*** These questions refer to the biological parents of the child. Record 00 if parent not member of household.

169

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	TO															
16	What is the source of water your household uses for handwashing and dishwashing?	PIPED WATER PIPED INTO HOME OR PLOT.....11 PUBLIC TAP.....12 WELL WATER WELL IN RESIDENCE/YARD/PLOT...21 PUBLIC WELL.....22 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER.....71 (SPECIFY)	→18 →18 →18 →18 →18																
17	How long does it take to go there, get water, and come back?	MINUTES..... <input type="text"/> <input type="text"/> <input type="text"/> ON PREMISES.....996																	
18	Does your household get drinking water from this same source?	YES.....1 NO.....2	→20																
19	What is the source of drinking water for members of your household?	PIPED WATER PIPED INTO HOME OR PLOT.....11 PUBLIC TAP.....12 WELL WATER WELL IN RESIDENCE/YARD/PLOT...21 PUBLIC WELL.....22 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER.....71 (SPECIFY)																	
20	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 NO FACILITY/BUSH/FIELD.....31 OTHER.....41 (SPECIFY)																	
21	Does your household have: Electricity? A radio? A television? A refrigerator?	<table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> </tr> <tr> <td>ELECTRICITY.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>RADIO.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TELEVISION.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>REFRIGERATOR.....</td> <td>1</td> <td>2</td> </tr> </table>		YES	NO	ELECTRICITY.....	1	2	RADIO.....	1	2	TELEVISION.....	1	2	REFRIGERATOR.....	1	2		
	YES	NO																	
ELECTRICITY.....	1	2																	
RADIO.....	1	2																	
TELEVISION.....	1	2																	
REFRIGERATOR.....	1	2																	
22	How many rooms in your household are used for sleeping?	ROOMS..... <input type="text"/> <input type="text"/>																	
23	What is the material of the floor?	NATURAL FLOOR EARTH/SAND.....11 RUDIMENTARY FLOOR WOOD PLANKS/BOARDS.....21 FINISHED FLOOR PARQUET OR POLISHED WOOD.....31 TERRAZO TILE.....32 PVC TILES.....33 CEMENT.....34 CARPET.....35 OTHER.....41 (SPECIFY)																	
24	Does any member of your household own: A bicycle? A motorcycle? A car?	<table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> </tr> <tr> <td>BICYCLE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>MOTORCYCLE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>CAR.....</td> <td>1</td> <td>2</td> </tr> </table>		YES	NO	BICYCLE.....	1	2	MOTORCYCLE.....	1	2	CAR.....	1	2					
	YES	NO																	
BICYCLE.....	1	2																	
MOTORCYCLE.....	1	2																	
CAR.....	1	2																	

**ZAMBIA DEMOGRAPHIC AND HEALTH SURVEY
QUESTIONNAIRE FOR INDIVIDUAL WOMEN**

IDENTIFICATION															
PROVINCE _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>														
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NAME AND LINE NUMBER OF WOMAN _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>														

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

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

LANGUAGE OF QUESTIONNAIRE** ENGLISH	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px; text-align: center;">0</td><td style="width: 25px; height: 25px; text-align: center;">1</td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>	0	1						
0	1								
LANGUAGE USED IN INTERVIEW**.....	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>								
RESPONDENT'S LOCAL LANGUAGE**.....	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>								
TRANSLATOR USED (1=NOT AT ALL; 2=SOMETIME; 3=ALL THE TIME)...	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>								

**LANGUAGE CODES: 01 ENGLISH 03 KAONDE 05 LUNDA 07 NYANJA 09 OTHER
 02 BEMBA 04 LOZI 06 LUVALE 08 TONGA

NAME DATE	FIELD EDITED BY: _____	OFFICE EDITED BY: _____	KEYED BY: _____	KEYED BY: <table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>		

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
101	RECORD THE TIME.	HOUR..... MINUTES.....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in a village?	CITY.....1 TOWN.....2 VILLAGE.....3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... ALWAYS.....95 VISITOR.....96	<input type="text"/> <input type="text"/> <input type="text"/> → 105
104	Just before you moved here, did you live in a city, in a town, or in a village?	CITY.....1 TOWN.....2 VILLAGE.....3	
105	In what month and year were you born?	MONTH..... DK MONTH.....98 YEAR..... DK YEAR.....98	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS.....	<input type="text"/> <input type="text"/>
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	How many years did you complete at that level? COMMENT _____	YEARS.....	<input type="text"/> <input type="text"/>
110	CHECK 108: PRIMARY <input type="checkbox"/> SECONDARY OR HIGHER <input type="checkbox"/>		→ 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	→ 113
112	Do you usually read a newspaper or magazine at least once a week?	YES.....1 NO.....2	
113	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
114	Do you usually watch television at least once a week?	YES.....1 NO.....2	
115	What religion are you?	CATHOLIC.....1 PROTESTANT.....2 MUSLIM.....3 OTHER.....4 (SPECIFY)	
116	What tribe do you belong to?		<input type="text"/> <input type="text"/>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
117	CHECK Q.4 IN THE HOUSEHOLD QUESTIONNAIRE THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT <input type="checkbox"/>	THE WOMAN INTERVIEWED IS A USUAL RESIDENT <input type="checkbox"/>	201
118	Now I would like to ask about the place in which you usually live. Do you usually live in a city, in a town, or in a village? IF CITY: In which city do you live?	LUSAKA, LARGE CITY.....1 SMALL CITY.....2 TOWN.....3 VILLAGE.....4	
119	In which province is that located?	CENTRAL.....1 COPPERBELT.....2 EASTERN.....3 LUAPULA.....4 LUSAKA.....5 NORTHERN.....6 NORTH-WESTERN.....7 SOUTHERN.....8 WESTERN.....9 OUTSIDE ZAMBIA/OTHER.....0	
120	Now I would like to ask about the household in which you usually live. What is the source of water your household uses for handwashing and dishwashing?	PIPED WATER PIPED INTO HOME OR PLOT.....11 → 122 PUBLIC TAP.....12 WELL WATER WELL IN RESIDENCE/YARD/PLOT...21 → 122 PUBLIC WELL.....22 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 RAINWATER.....41 → 122 TANKER TRUCK.....51 BOTTLED WATER.....61 → 122 OTHER.....71 (SPECIFY)	
121	How long does it take to go there, get water, and come back?	MINUTES..... <input type="text"/> <input type="text"/> <input type="text"/> ON PREMISES.....996	
122	Does your household get drinking water from this same source?	YES.....1 → 124 NO.....2	
123	What is the source of drinking water for members of your household?	PIPED WATER PIPED INTO HOME OR PLOT.....11 PUBLIC TAP.....12 WELL WATER WELL IN RESIDENCE/YARD/PLOT...21 PUBLIC WELL.....22 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER.....71 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO															
124	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 NO FACILITY/BUSH/FIELD.....31 OTHER _____ 41 (SPECIFY)																
125	Does your household have: Electricity? A radio? A television? A refrigerator?	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>ELECTRICITY.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>RADIO.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TELEVISION.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>REFRIGERATOR.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	ELECTRICITY.....	1	2	RADIO.....	1	2	TELEVISION.....	1	2	REFRIGERATOR.....	1	2	
	YES	NO																
ELECTRICITY.....	1	2																
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TELEVISION.....	1	2																
REFRIGERATOR.....	1	2																
126	How many rooms in your household are used for sleeping?	ROOMS..... <input type="text"/> <input type="text"/>																
127	Could you describe the main material of the floor of your home?	NATURAL FLOOR EARTH/SAND.....11 RUDIMENTARY FLOOR WOOD PLANKS/BOARDS.....21 FINISHED FLOOR PARQUET OR POLISHED WOOD.....31 TERRAZO TILE.....32 PVC TILES.....33 CEMENT.....34 CARPET.....35 OTHER _____ 41 (SPECIFY)																
128	Does any member of your household own: A bicycle? A motorcycle? A car?	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>BICYCLE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>MOTORCYCLE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>CAR.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	BICYCLE.....	1	2	MOTORCYCLE.....	1	2	CAR.....	1	2				
	YES	NO																
BICYCLE.....	1	2																
MOTORCYCLE.....	1	2																
CAR.....	1	2																

EN 4

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO				
201	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 to whom you have given birth who are now living with you?	YES.....1 NO.....2	→204				
203	How many sons live with you? And how many daughters live with you? IF NONE RECORD '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES.....1 NO.....2	→206				
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE RECORD '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				
206	Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208				
207	In all, how many boys have died? And how many girls have died? IF NONE RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE RECORD '00'.	TOTAL.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> </table>				
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ births during your life. Is that correct? YES <input type="checkbox"/> NO <input type="checkbox"/> → PROBE AND CORRECT 201-208 AS NECESSARY						
210	CHECK 208: ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/> →223						

211 Now I would like to talk to you about all of your births, whether still alive or not, starting with the first one you had.

RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

212	213	214	215	216	217	218	219	220
What name was given to your (first,next) baby?	RECORD SINGLE OR MULTIPLE BIRTH STATUS.	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	Is (NAME) still alive?	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... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>
02 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>
03 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>
04 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>
05 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>
06 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>
07 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 220	AGE IN YEARS <input type="text"/> <input type="text"/>	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 <input type="text"/> <input type="text"/> <input type="text"/>

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 (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 was he/she born?	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	SING...1 MULT...2	BOY...1 GIRL...2	MONTH... YEAR...	YES...1 NO...2 ↓ 220	AGE IN YEARS <input type="text"/>	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
(NAME)								
09	SING...1 MULT...2	BOY...1 GIRL...2	MONTH... YEAR...	YES...1 NO...2 ↓ 220	AGE IN YEARS <input type="text"/>	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
(NAME)								
10	SING...1 MULT...2	BOY...1 GIRL...2	MONTH... YEAR...	YES...1 NO...2 ↓ 220	AGE IN YEARS <input type="text"/>	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
(NAME)								
11	SING...1 MULT...2	BOY...1 GIRL...2	MONTH... YEAR...	YES...1 NO...2 ↓ 220	AGE IN YEARS <input type="text"/>	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
(NAME)								
12	SING...1 MULT...2	BOY...1 GIRL...2	MONTH... YEAR...	YES...1 NO...2 ↓ 220	AGE IN YEARS <input type="text"/>	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
(NAME)								
13	SING...1 MULT...2	BOY...1 GIRL...2	MONTH... YEAR...	YES...1 NO...2 ↓ 220	AGE IN YEARS <input type="text"/>	YES.....1 (GO TO NEXT BIRTH)← NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO TO 221)	DAYS....1 MONTHS...2 YEARS...3
(NAME)								

221	COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME <input type="checkbox"/> NUMBERS ARE DIFFERENT <input type="checkbox"/> → (PROBE AND RECONCILE)
	CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. <input type="text"/>
	FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. <input type="text"/>
	FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. <input type="text"/>
	FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. <input type="text"/>

222	CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1987. IF NONE, RECORD 0. <input type="text"/>
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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..... <table border="1" data-bbox="1223 388 1293 441"><tr><td> </td><td> </td></tr></table>									
225	At the time you became pregnant, did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you <u>not</u> want to become pregnant at all?	THEN.....1 LATER.....2 NOT AT ALL.....3									
226	When did your last menstrual period start?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 IN MENOPAUSE.....994 BEFORE LAST BIRTH.....995 NEVER MENSTRUATED.....996	<table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>								
227	Between the first day of a woman's period and the first day of her <u>next</u> period, are there certain times when she has a greater chance of becoming pregnant than other times?	YES.....1 NO.....2 DK.....8	301								
228	During which times of the monthly cycle does a woman have the greatest chance of becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS...4 OTHER.....5 (SPECIFY) DK.....8									

SECTION 3. CONTRACEPTION

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 IUCD 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 TABLET/JELLY Women can place a sponge, suppository, diaphragm, jelly or cream inside them before intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
05 CONDOM Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
06 FEMALE STERILIZATION Women can have an operation to avoid having any more children. This is also called 'turning the womb.'	YES/SPONT.....1 YES/PROBED.....2 NO.....3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
07 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
08 NATURAL FAMILY PLANNING 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 natural family planning? YES.....1 NO.....2
09 WITHDRAWAL Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	
10 Have you heard of any other ways or methods that women or men can use to avoid pregnancy? 1 _____ (SPECIFY) 2 _____ (SPECIFY) 3 _____ (SPECIFY)	YES/SPONT.....1 NO.....3	YES.....1 NO.....2 YES.....1 NO.....2 YES.....1 NO.....2	

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

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
306	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES..... <input type="checkbox"/> NO..... <input type="checkbox"/>	324
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, RECORD '00'.	NUMBER OF CHILDREN..... <input type="text"/>	
308A	CHECK 303 (8):	EVER USED NATURAL FAMILY PLANNING <input type="checkbox"/> NEVER USED NATURAL FAMILY PLANNING <input type="checkbox"/>	309
308B	You said that sometimes you have avoided having sexual intercourse on certain days of the month to avoid getting pregnant. How did you know which days to avoid sexual intercourse?	CALENDAR, COUNTING DAYS.....1 CERVICAL MUCUS METHOD.....2 TOOK TEMPERATURE DAILY.....3 MUCUS AND TEMPERATURE.....4 OTHER.....5 (SPECIFY)	
309	CHECK 223:	NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/>	324
310	CHECK 303:	WOMAN NOT STERILIZED <input type="checkbox"/> WOMAN STERILIZED <input type="checkbox"/>	312A
311	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2	324
312	Which method are you using?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 NATURAL FAMILY PLANNING.....08 WITHDRAWAL.....09 OTHER.....10 (SPECIFY)	318 323
312A	CIRCLE '06' FOR FEMALE STERILIZATION.		
313	At the time you first started using the pill, did you consult a doctor or a nurse?	YES.....1 NO.....2 DK.....8	
314	At the time you last got pills, did you consult a doctor or a nurse?	YES.....1 NO.....2	
315	May I see the package of pills you are using now? RECORD NAME OF BRAND.	PACKAGE SEEN.....1 BRAND NAME <input type="text"/> PACKAGE NOT SEEN.....2	317
316	Do you know the brand name of the pills you are now using? RECORD NAME OF BRAND.	BRAND NAME <input type="text"/> DK.....98	
317	How much does one (packet/cycle) of pills cost you?	COST..... <input type="text"/> FREE.....996 DK.....998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO								
318	<p>CHECK 312:</p> <p>SHE/HE STERILIZED <input type="checkbox"/> USING ANOTHER METHOD <input type="checkbox"/></p> <p>Where did the sterilization take place? _____</p> <p>Where did you obtain (METHOD) the last time? _____</p> <p>(NAME OF PLACE)</p> <p>RECORD MINES HOSPITAL OR CLINIC AS PRIVATE ('21').</p>	<p>PUBLIC SECTOR</p> <p>GOVERNMENT HOSPITAL.....11</p> <p>GOVERNMENT HEALTH CENTER.....12</p> <p>FIELD WORKER.....13 → 321</p> <p>MEDICAL PRIVATE SECTOR</p> <p>PRIVATE HOSPITAL OR CLINIC...21</p> <p>MISSION HOSPITAL OR CLINIC...22</p> <p>PHARMACY.....23</p> <p>PRIVATE DOCTOR.....24</p> <p>MOBILE CLINIC.....25</p> <p>FIELD WORKER.....26 → 321</p> <p>OTHER PRIVATE SECTOR</p> <p>SHOP.....31</p> <p>FRIENDS/RELATIVES.....32</p> <p>OTHER _____ 41 → 321</p> <p>(SPECIFY)</p> <p>DK.....98</p>									
319	<p>How long does it take to travel from your home to this place?</p> <p>IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS.</p>	<p>MINUTES.....1</p> <p>HOURS.....2</p> <p>DK.....9998</p>	<table border="1"> <tr><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td></tr> </table>				0				
0											
320	<p>Is it easy or difficult to get there?</p>	<p>EASY.....1</p> <p>DIFFICULT.....2</p>									
321	<p>CHECK 312: SHE/HE STERILIZED <input type="checkbox"/> USING ANOTHER METHOD <input type="checkbox"/></p>	<p>→ 323</p>									
322	<p>In what month and year was the sterilization operation performed?</p>	<p>MONTH.....</p> <p>YEAR.....</p>	<table border="1"> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table> <p>→ 334</p>								
323	<p>For how many months have you been using (CURRENT METHOD) continuously? IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS.....</p> <p>8 YEARS OR LONGER.....96</p>	<table border="1"> <tr><td></td><td></td></tr> </table> <p>→ 329</p>								
324	<p>Do you intend to use a method to delay or avoid pregnancy at any time in the future?</p>	<p>YES.....1 → 326</p> <p>NO.....2</p> <p>DK.....8 → 330</p>									
325	<p>What is the main reason you do not intend to use a method?</p>	<p>WANTS CHILDREN.....01</p> <p>LACK OF KNOWLEDGE.....02</p> <p>PARTNER OPPOSED.....03</p> <p>COST TOO MUCH.....04</p> <p>SIDE EFFECTS.....05</p> <p>HEALTH CONCERNS.....06</p> <p>HARD TO GET METHODS.....07</p> <p>RELIGION.....08</p> <p>OPPOSED TO FAMILY PLANNING.....09</p> <p>FATALISTIC.....10</p> <p>OTHER PEOPLE OPPOSED.....11</p> <p>INFREQUENT SEX.....12</p> <p>DIFFICULT TO GET PREGNANT.....13</p> <p>MENOPAUSAL/HAD HYSTERECTOMY.....14</p> <p>INCONVENIENT.....15</p> <p>NOT MARRIED.....16</p> <p>OTHER _____ 17</p> <p>(SPECIFY)</p> <p>DK.....98</p>	<p>→ 330</p>								
326	<p>Do you intend to use a method within the next 12 months?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>									
327	<p>When you use a method, which method would you prefer to use?</p>	<p>PILL.....01</p> <p>IUD.....02</p> <p>INJECTIONS.....03</p> <p>DIAPHRAGM/FOAM/JELLY.....04</p> <p>CONDOM.....05</p> <p>FEMALE STERILIZATION.....06</p> <p>MALE STERILIZATION.....07</p> <p>NATURAL FAMILY PLANNING.....08</p> <p>WITHDRAWAL.....09</p> <p>OTHER _____ 10</p> <p>(SPECIFY)</p> <p>UNSURE.....90</p>	<p>→ 330</p>								

SECTION 4A. PREGNANCY AND BREASTFEEDING

401	CHECK 222: ONE OR MORE BIRTHS SINCE JAN. 1987 <input type="checkbox"/>	NO BIRTHS SINCE JAN. 1987 <input type="checkbox"/> → (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 3 BIRTHS, USE ADDITIONAL FORMS). Now I would like to ask you some more questions about the health of all your children born in the past five years. (We will talk about one child at a time.)		
	LINE NUMBER FROM Q. 212.	<input type="text"/>	<input type="text"/>
	FROM Q. 212	LAST BIRTH NAME	NEXT-TO-LAST BIRTH NAME
403	At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> or did you want <u>no (more)</u> children at all?	THEN.....1 (SKIP TO 405) ← LATER.....2 NO MORE.....3 (SKIP TO 405) ←	THEN.....1 (SKIP TO 405) ← LATER.....2 NO MORE.....3 (SKIP TO 405) ←
404	How much longer would you like to have waited?	MONTHS.....1 <input type="text"/> YEARS.....2 <input type="text"/> DK.....998	MONTHS.....1 <input type="text"/> YEARS.....2 <input type="text"/> DK.....998
405	When you were pregnant with (NAME), did you see anyone for antenatal care for this pregnancy? IF YES, Whom did you see? Anyone else? RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B CLINICAL OFFICER.....C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT.....D TRADITIONAL BIRTH ATTENDANT.....E OTHER.....F (SPECIFY) NO ONE.....G (SKIP TO 409) ←	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B CLINICAL OFFICER.....C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT.....D TRADITIONAL BIRTH ATTENDANT.....E OTHER.....F (SPECIFY) NO ONE.....G (SKIP TO 409) ←
406	Were you given an antenatal card for this pregnancy?	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..... <input type="text"/> DK.....98	MONTHS..... <input type="text"/> DK.....98
408	How many antenatal visits did you have during this pregnancy?	NO. OF VISITS..... <input type="text"/> DK.....98	NO. OF VISITS..... <input type="text"/> DK.....98
409	When you were pregnant with (NAME) were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES.....1 NO.....2 (SKIP TO 411) ← DK.....8	YES.....1 NO.....2 (SKIP TO 411) ← DK.....8
410	During this pregnancy how many times did you get this injection?	TIMES..... <input type="text"/> DK.....8	TIMES..... <input type="text"/> DK.....8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
411	Where did you give birth to (NAME)?	HOME YOUR HOME.....11 OTHER HOME.....12 PUBLIC SECTOR GVT. HOSPITAL.....21 GVT. HEALTH CENTER....22 PRIVATE SECTOR PVT. HOSPITAL/CLINIC...31 MISSION HOSP./CLINIC...32 OTHER.....41 (SPECIFY)	HOME YOUR HOME.....11 OTHER HOME.....12 PUBLIC SECTOR GVT. HOSPITAL.....21 GVT. HEALTH CENTER....22 PRIVATE SECTOR PVT. HOSPITAL/CLINIC...31 MISSION HOSP./CLINIC...32 OTHER.....41 (SPECIFY)	HOME YOUR HOME.....11 OTHER HOME.....12 PUBLIC SECTOR GVT. HOSPITAL.....21 GVT. HEALTH CENTER....22 PRIVATE SECTOR PVT. HOSPITAL/CLINIC...31 MISSION HOSP./CLINIC...32 OTHER.....41 (SPECIFY)
412	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B CLINICAL OFFICER.....C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT.....D TRADITIONAL BIRTH ATTENDANT.....E RELATIVE.....F OTHER.....G (SPECIFY) NO ONE.....H	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B CLINICAL OFFICER.....C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT.....D TRADITIONAL BIRTH ATTENDANT.....E RELATIVE.....F OTHER.....G (SPECIFY) NO ONE.....H	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B CLINICAL OFFICER.....C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT.....D TRADITIONAL BIRTH ATTENDANT.....E RELATIVE.....F OTHER.....G (SPECIFY) NO ONE.....H
413	Was (NAME) born on time or prematurely?	ON TIME.....1 PREMATURELY.....2 DK.....8	ON TIME.....1 PREMATURELY.....2 DK.....8	ON TIME.....1 PREMATURELY.....2 DK.....8
414	Was (NAME) delivered by caesarian section?	YES.....1 NO.....2	YES.....1 NO.....2	YES.....1 NO.....2
415	When (NAME) was born, was he/she: very large, larger than average, average, smaller than average, or very small?	VERY LARGE.....1 LARGER THAN AVERAGE....2 AVERAGE.....3 SMALLER THAN AVERAGE....4 VERY SMALL.....5 DK.....8	VERY LARGE.....1 LARGER THAN AVERAGE....2 AVERAGE.....3 SMALLER THAN AVERAGE....4 VERY SMALL.....5 DK.....8	VERY LARGE.....1 LARGER THAN AVERAGE....2 AVERAGE.....3 SMALLER THAN AVERAGE....4 VERY SMALL.....5 DK.....8
416	Was (NAME) weighed at birth?	YES.....1 NO.....2 (SKIP TO 418)←	YES.....1 NO.....2 (SKIP TO 419)←	YES.....1 NO.....2 (SKIP TO 419)←
417	How much did (NAME) weigh?	KILOGRAMS..... <input type="text"/> <input type="text"/> DK.....98	KILOGRAMS..... <input type="text"/> <input type="text"/> DK.....98	KILOGRAMS..... <input type="text"/> <input type="text"/> DK.....98
418	Has your period returned since the birth of (NAME)?	YES1 (SKIP TO 420)← NO.....2 (SKIP TO 421)←		
419	Did your period return between the birth of (NAME) and your next pregnancy?		YES1 NO.....2 (SKIP TO 423)←	YES1 NO.....2 (SKIP TO 423)←
420	For how many months after the birth of (NAME) did you <u>not</u> have a period?	MONTHS..... <input type="text"/> <input type="text"/> DK.....98	MONTHS..... <input type="text"/> <input type="text"/> DK.....98	MONTHS..... <input type="text"/> <input type="text"/> DK.....98
421	CHECK 223: RESPONDENT PREGNANT?	NOT PREGNANT <input type="checkbox"/> PREGNANT OR UNSURE <input type="checkbox"/> ↓ (SKIP TO 423)		
422	Have you resumed sexual relations since the birth of (NAME)?	YES.....1 NO.....2 (SKIP TO 424)←		
423	For how many months after the birth of (NAME) did you <u>not</u> have sexual relations?	MONTHS..... <input type="text"/> <input type="text"/> DK.....98	MONTHS..... <input type="text"/> <input type="text"/> DK.....98	MONTHS..... <input type="text"/> <input type="text"/> DK.....98

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____																														
424	Did you ever breastfeed (NAME)?	YES.....1 (SKIP TO 426)←	YES.....1 (SKIP TO 433)←	YES.....1 (SKIP TO 433)←																														
		NO.....2	NO.....2	NO.....2																														
425	Why did you not breastfeed (NAME)?	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....08 (SPECIFY) (SKIP TO 435)←	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....08 (SPECIFY) (SKIP TO 435)←	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....08 (SPECIFY) (SKIP TO 435)←																														
426	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY.....000 HOURS.....1 DAYS.....2																																
427	CHECK 216: CHILD ALIVE?	ALIVE <input type="checkbox"/> ↓ (SKIP TO 433)	DEAD <input type="checkbox"/> ↓																															
428	Are you still breast-feeding (NAME)?	YES.....1 NO.....2 (SKIP TO 433)←																																
429	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS																																
430	How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS																																
431	At any time yesterday or last night was (NAME) given any of the following?: Plain water? Sugar water? Juice? Tea? Baby formula? Fresh milk? Tinned or powdered milk? Other liquids? Any solid or mushy food?	<table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> </tr> <tr> <td>PLAIN WATER.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>SUGAR WATER.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>JUICE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TEA.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>BABY FORMULA.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>FRESH MILK.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TINNED/POWDERED MILK..</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER LIQUIDS.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>SOLID/MUSHY FOOD.....</td> <td>1</td> <td>2</td> </tr> </table>		YES	NO	PLAIN WATER.....	1	2	SUGAR WATER.....	1	2	JUICE.....	1	2	TEA.....	1	2	BABY FORMULA.....	1	2	FRESH MILK.....	1	2	TINNED/POWDERED MILK..	1	2	OTHER LIQUIDS.....	1	2	SOLID/MUSHY FOOD.....	1	2		
	YES	NO																																
PLAIN WATER.....	1	2																																
SUGAR WATER.....	1	2																																
JUICE.....	1	2																																
TEA.....	1	2																																
BABY FORMULA.....	1	2																																
FRESH MILK.....	1	2																																
TINNED/POWDERED MILK..	1	2																																
OTHER LIQUIDS.....	1	2																																
SOLID/MUSHY FOOD.....	1	2																																
432	CHECK 431: FOOD OR LIQUID GIVEN YESTERDAY?	"YES" TO ONE OR MORE <input type="checkbox"/> ↓ (SKIP TO 437)	"NO" TO ALL <input type="checkbox"/> ↓ (SKIP TO 436)																															

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
433	For how many months did you breastfeed (NAME)?	MONTHS..... <input type="text"/> <input type="text"/> UNTIL DIED.....96 (SKIP TO 436)←	MONTHS..... <input type="text"/> <input type="text"/> UNTIL DIED.....96 (SKIP TO 436)←	MONTHS..... <input type="text"/> <input type="text"/> UNTIL DIED.....96 (SKIP TO 436)←
434	Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER.....11 (SPECIFY)	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER.....11 (SPECIFY)	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER.....11 (SPECIFY)
435	CHECK 216: CHILD ALIVE?	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> v (SKIP TO 437)	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> v (SKIP TO 437)	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> v (SKIP TO 437)
436	Was (NAME) ever given water or anything else to drink or eat (other than breastmilk)?	YES.....1 NO.....2 (SKIP TO 440)←	YES.....1 NO.....2 (SKIP TO 440)←	YES.....1 NO.....2 (SKIP TO 440)←
437	How many months old was (NAME) when you started giving the following on a regular basis?: Formula or milk other than breastmilk? Plain water? Other liquids? Any solid or mushy food? IF LESS THAN 1 MONTH, RECORD '00'.	AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96	AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 (SKIP TO 440)	AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 AGE IN MONTHS..... <input type="text"/> <input type="text"/> NOT GIVEN.....96 (SKIP TO 440)
438	CHECK 216: CHILD ALIVE?	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> v (SKIP TO 440)		
439	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....1 NO.....2 DK.....8		
440	GO BACK TO 403 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO FIRST COLUMN OF 441			

SECTION 4B. IMMUNIZATION AND HEALTH

441 ENTER THE LINE NUMBER AND NAME OF EACH BIRTH SINCE JANUARY 1987 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).

LINE NUMBER FROM Q. 212

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

442 Do you have a card where (NAME'S) vaccinations are written down?
IF YES: May I see it, please?

YES, SEEN.....1 (SKIP TO 444)←	YES, SEEN.....1 (SKIP TO 444)←	YES, SEEN.....1 (SKIP TO 444)←
YES, NOT SEEN.....2 (SKIP TO 446)←	YES, NOT SEEN.....2 (SKIP TO 446)←	YES, NOT SEEN.....2 (SKIP TO 446)←
NO CARD.....3	NO CARD.....3	NO CARD.....3

443 Did you ever have a vaccination card for (NAME)?

YES.....1 (SKIP TO 446)←	YES.....1 (SKIP TO 446)←	YES.....1 (SKIP TO 446)←
NO.....2	NO.....2	NO.....2

444 (1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD.
(2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS A VACCINE WAS GIVEN BUT NO DATE WAS RECORDED.

	DAY	MO	YR	DAY	MO	YR	DAY	MO	YR
BCG	BCG			BCG			BCG		
POLIO 1	P1			P1			P1		
POLIO 2	P2			P2			P2		
POLIO 3	P3			P3			P3		
DPT 1	D1			D1			D1		
DPT 2	D2			D2			D2		
DPT 3	D3			D3			D3		
MEASLES	MEA			MEA			MEA		

445 Has (NAME) received any vaccinations that are not recorded on this card?
RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 1-3 AND/OR MEASLES VACCINE(S).

YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444)←	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444)←	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444)←
NO.....2	NO.....2	NO.....2
DK.....8 (SKIP TO 448)←	DK.....8 (SKIP TO 448)←	DK.....8 (SKIP TO 448)←

446 Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?

YES.....1	YES.....1	YES.....1
NO.....2 (SKIP TO 448)←	NO.....2 (SKIP TO 448)←	NO.....2 (SKIP TO 448)←
DK.....8	DK.....8	DK.....8

447 Please tell me if (NAME) (has) received any of the following vaccinations:

A BCG vaccination against tuberculosis, that is, an injection in the left forearm that caused a scar?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
Polio vaccine, that is, drops in the mouth?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
IF YES: How many times?	NUMBER OF TIMES..... <input type="text"/>	NUMBER OF TIMES..... <input type="text"/>	NUMBER OF TIMES..... <input type="text"/>
DPT vaccine, given in the right thigh or buttock to prevent whooping cough?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
IF YES: How many times?	NUMBER OF TIMES..... <input type="text"/>	NUMBER OF TIMES..... <input type="text"/>	NUMBER OF TIMES..... <input type="text"/>
An injection against measles?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8

448 CHECK 216: CHILD ALIVE?

ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>
(SKIP TO 450)	(SKIP TO 450)	(SKIP TO 450)

449 GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 480.

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
450	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
451	Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES.....1 NO.....2 DK.....8 (SKIP TO 455) ←	YES.....1 NO.....2 DK.....8 (SKIP TO 455) ←	YES.....1 NO.....2 DK.....8 (SKIP TO 455) ←
452	Has (NAME) been ill with a cough in the last 24 hours?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
453	For how many days has the cough lasted/did the cough last? IF LESS THAN 1 DAY, WRITE '00'.	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>
454	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
455	CHECK 450 AND 451: FEVER OR COUGH?	"YES" IN EITHER 450 OR 451 <input type="checkbox"/> OTHER (SKIP TO 460) <input type="checkbox"/>	"YES" IN EITHER 450 OR 451 <input type="checkbox"/> OTHER (SKIP TO 460) <input type="checkbox"/>	"YES" IN EITHER 450 OR 451 <input type="checkbox"/> OTHER (SKIP TO 460) <input type="checkbox"/>
456	Was anything given to treat the fever/cough?	YES.....1 NO.....2 DK.....8 (SKIP TO 458) ←	YES.....1 NO.....2 DK.....8 (SKIP TO 458) ←	YES.....1 NO.....2 DK.....8 (SKIP TO 458) ←
457	What was given to treat the fever/cough? Anything else? RECORD ALL MENTIONED.	INJECTION.....A ANTIBIOTIC (PILL OR SYRUP).....B ANTIMALARIAL (PILL OR SYRUP).....C COUGH SYRUP.....D OTHER PILL OR SYRUP.....E UNKNOWN PILL OR SYRUP.....F HOME REMEDY/ HERBAL MEDICINE.....G OTHER.....H (SPECIFY)	INJECTION.....A ANTIBIOTIC (PILL OR SYRUP).....B ANTIMALARIAL (PILL OR SYRUP).....C COUGH SYRUP.....D OTHER PILL OR SYRUP.....E UNKNOWN PILL OR SYRUP.....F HOME REMEDY/ HERBAL MEDICINE.....G OTHER.....H (SPECIFY)	INJECTION.....A ANTIBIOTIC (PILL OR SYRUP).....B ANTIMALARIAL (PILL OR SYRUP).....C COUGH SYRUP.....D OTHER PILL OR SYRUP.....E UNKNOWN PILL OR SYRUP.....F HOME REMEDY/ HERBAL MEDICINE.....G OTHER.....H (SPECIFY)
458	Did you seek advice or treatment for the fever/cough?	YES.....1 NO.....2 (SKIP TO 460) ←	YES.....1 NO.....2 (SKIP TO 460) ←	YES.....1 NO.....2 (SKIP TO 460) ←
459	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B COMMUNITY HEALTH WORKER.C MEDICAL PRIVATE SECTOR PVT. HOSPITAL/CLINIC....D MISSION HOSP./CLINIC....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL HEALER.....I OTHER.....J (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B COMMUNITY HEALTH WORKER.C MEDICAL PRIVATE SECTOR PVT. HOSPITAL/CLINIC....D MISSION HOSP./CLINIC....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL HEALER.....I OTHER.....J (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B COMMUNITY HEALTH WORKER.C MEDICAL PRIVATE SECTOR PVT. HOSPITAL/CLINIC....D MISSION HOSP./CLINIC....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL HEALER.....I OTHER.....J (SPECIFY)

		LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
		NAME	NAME	NAME
460	Has (NAME) had diarrhea in the last two weeks?	YES.....1 (SKIP TO 462)← NO.....2 DK.....8	YES.....1 (SKIP TO 462)← NO.....2 DK.....8	YES.....1 (SKIP TO 462)← NO.....2 DK.....8
461 GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 480				
462	Has (NAME) had diarrhea in the last 24 hours? (3 OR MORE WATERY STOOLS)	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
463	For how many days (has the diarrhea lasted/did the diarrhea last)? IF LESS THAN 1 DAY, WRITE '00'.	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>
464	Was there any blood in the stools?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8 (SKIP TO 468)	YES.....1 NO.....2 DK.....8 (SKIP TO 468)
465	CHECK 424/428: LAST CHILD STILL BREASTFED?	YES <input type="checkbox"/> NO <input type="checkbox"/> (SKIP TO 468)		
466	During (NAME)'s diarrhea, did you change the frequency of breastfeeding?	YES.....1 NO.....2 (SKIP TO 468)←		
467	Did you <u>increase</u> the number of breastfeeds or <u>reduce</u> them, or did you <u>stop completely</u> ?	INCREASED.....1 REDUCED.....2 STOPPED COMPLETELY.....3		
468	(Aside from breastmilk) Was he/she given the same amount to drink as before the 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
469	Was anything given to treat the diarrhea?	YES.....1 NO.....2 (SKIP TO 471)← DK.....8	YES.....1 NO.....2 (SKIP TO 471)← DK.....8	YES.....1 NO.....2 (SKIP TO 471)← DK.....8
470	What was given to treat the diarrhea? Anything else? RECORD ALL MENTIONED.	FLUID FROM ORS PACKET...A HOMEMADE SUGAR/SALT SOLUTION.....B ANTIBIOTIC PILL OR SYRUP.C OTHER PILL OR SYRUP.....D INJECTION.....E (I.V.) INTRAVENOUS.....F HOME REMEDIES/ HERBAL MEDICINES.....G OTHER.....H (SPECIFY)	FLUID FROM ORS PACKET...A HOMEMADE SUGAR/SALT SOLUTION.....B ANTIBIOTIC PILL OR SYRUP.C OTHER PILL OR SYRUP.....D INJECTION.....E (I.V.) INTRAVENOUS.....F HOME REMEDIES/ HERBAL MEDICINES.....G OTHER.....H (SPECIFY)	FLUID FROM ORS PACKET...A HOMEMADE SUGAR/SALT SOLUTION.....B ANTIBIOTIC PILL OR SYRUP.C OTHER PILL OR SYRUP.....D INJECTION.....E (I.V.) INTRAVENOUS.....F HOME REMEDIES/ HERBAL MEDICINES.....G OTHER.....H (SPECIFY)
471	Did you seek advice or treatment for the diarrhea?	YES.....1 NO.....2 (SKIP TO 473)←	YES.....1 NO.....2 (SKIP TO 473)←	YES.....1 NO.....2 (SKIP TO 473)←
472	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B COMMUNITY HEALTH WORKER.C MEDICAL PRIVATE SECTOR PVT. HOSPITAL/CLINIC.....D MISSION HOSP./CLINIC.....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL HEALER.....I OTHER.....J (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B COMMUNITY HEALTH WORKER.C MEDICAL PRIVATE SECTOR PVT. HOSPITAL/CLINIC.....D MISSION HOSP./CLINIC.....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL HEALER.....I OTHER.....J (SPECIFY)	PUBLIC SECTOR GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B COMMUNITY HEALTH WORKER.C MEDICAL PRIVATE SECTOR PVT. HOSPITAL/CLINIC.....D MISSION HOSP./CLINIC.....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL HEALER.....I OTHER.....J (SPECIFY)

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____				
473	CHECK 470: ORS FLUID FROM PACKET MENTIONED?	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> ↓ (SKIP TO 475)	YES, ORS FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 475)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> ↓ (SKIP TO 475)	YES, ORS FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 475)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> ↓ (SKIP TO 475)	YES, ORS FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 475)
474	Was (NAME) given Madzi a Moyo (or UNICEF ORS packet) when he/she had the diarrhea?	YES.....1 NO.....2 (SKIP TO 476)← DK.....8	YES.....1 NO.....2 (SKIP TO 476)← DK.....8	YES.....1 NO.....2 (SKIP TO 476)← DK.....8	YES.....1 NO.....2 (SKIP TO 476)← DK.....8	YES.....1 NO.....2 (SKIP TO 476)← DK.....8	YES.....1 NO.....2 (SKIP TO 476)← DK.....8
475	For how many days was (NAME) given Madzi a Moyo? IF LESS THAN 1 DAY, RECORD '00'.	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98
476	CHECK 470: HOMEMADE SUGAR/SALT SOLUTION MENTIONED?	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> ↓ (SKIP TO 478)	YES, HOME FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 478)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> ↓ (SKIP TO 478)	YES, HOME FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 478)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> ↓ (SKIP TO 478)	YES, HOME FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 478)
477	Was (NAME) given a homemade fluid made from sugar, salt and water when he/she had the diarrhea?	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	YES.....1 NO.....2 (SKIP TO 479)← DK.....8	YES.....1 NO.....2 (SKIP TO 479)← DK.....8	YES.....1 NO.....2 (SKIP TO 479)← DK.....8
478	For how many days was (NAME) given the fluid made from sugar, salt and water? IF LESS THAN 1 DAY, WRITE '00'.	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98
479 GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO 480							

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
480	CHECK 470 AND 474 (ALL COLUMNS):		
	ORS FLUID FROM PACKET GIVEN TO ANY CHILD <input type="checkbox"/>	ORS FLUID FROM PACKET NOT GIVEN TO ANY CHILD OR 470 AND 474 NOT ASKED <input type="checkbox"/>	484
481	Have you ever heard of a special product called Madzi a Moyo you can get for the treatment of diarrhea?	YES.....1 NO.....2	483
482	Have you ever seen a packet like this before? SHOW PACKET.	YES.....1 NO.....2	487
483	Have you ever prepared a solution with one of these packets to treat diarrhea in yourself or someone else? SHOW PACKET.	YES.....1 NO.....2	486
484	The last time you prepared Madzi a Moyo, did you prepare the whole packet at once or only part of the packet?	WHOLE PACKET AT ONCE.....1 PART OF PACKET.....2	486
485	How much water did you use to prepare Madzi a Moyo the last time you made it?	1 1/2 LITER.....01 750 MLS.....02 1 LITER.....03 1 1/2 LITERS.....04 2 LITERS.....05 FOLLOWED PACKAGE INSTRUCTIONS..06 OTHER _____ 07 (SPECIFY) DK.....98	
486	Where can you get Madzi a Moyo packet? PROBE: Anywhere else? RECORD ALL PLACES MENTIONED.	PUBLIC SECTOR GOVERNMENT HOSPITAL.....A GOVERNMENT HEALTH CENTER.....B COMMUNITY HEALTH WORKER.....C MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL/CLINIC.....D MISSION HOSPITAL/CLINIC.....E PHARMACY.....F PRIVATE DOCTOR.....G OTHER PRIVATE SECTOR SHOP.....H TRADITIONAL PRACTICIANER.....I OTHER _____ J (SPECIFY)	
487	CHECK 470 AND 477 (ALL COLUMNS):		
	HOME-MADE FLUID GIVEN TO ANY CHILD <input type="checkbox"/>	HOME-MADE FLUID NOT GIVEN TO ANY CHILD OR 470 AND 477 NOT ASKED <input type="checkbox"/>	501
488	Where did you learn to prepare the home fluid made from sugar, salt and water that was given to (NAME) when he/she had diarrhea?	PUBLIC SECTOR GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTER.....12 COMMUNITY HEALTH WORKER.....13 MEDICAL PRIVATE SECTOR PRIVATE HOSPITAL/CLINIC.....21 MISSION HOSPITAL/CLINIC..... 22 PHARMACY.....23 PRIVATE DOCTOR.....24 OTHER PRIVATE SECTOR SHOP.....31 TRADITIONAL HEALER.....32 OTHER _____ 41 (SPECIFY)	

SECTION 5. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	Have you ever been married or lived with a man?	YES.....1 NO.....2	512
502	Are you now married or living with a man, or are you now widowed, divorced, or no longer living together?	MARRIED.....1 LIVING TOGETHER.....2 WIDOWED.....3 DIVORCED.....4 NO LONGER LIVING TOGETHER.....5	507
503	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER.....1 STAYING ELSEWHERE.....2	
504	Does your husband/partner have any other wives besides yourself?	YES.....1 NO.....2 DK.....8	507 507
505	How many other wives does he have?	NUMBER..... <input type="text"/> <input type="text"/> DK.....98	507
506	Are you the first, second,...wife?	RANK..... <input type="text"/> <input type="text"/>	
507	Have you been married or lived with a man only once, or more than once?	ONCE.....1 MORE THAN ONCE.....2	
508	In what month and year did you start living with your (first) husband/partner?	MONTH..... <input type="text"/> <input type="text"/> DK MONTH.....98 YEAR..... <input type="text"/> <input type="text"/> DK YEAR.....98	
509	How old were you when you started living with him?	AGE..... <input type="text"/> <input type="text"/> DK AGE.....98	

SECTION 6. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
601	<p>CHECK 312:</p> <p>NEITHER STERILIZED <input type="checkbox"/> HE OR SHE STERILIZED <input type="checkbox"/></p>		607
602	<p>CHECK 502:</p> <p>CURRENTLY MARRIED OR LIVING TOGETHER <input type="checkbox"/> NOT MARRIED/NOT LIVING TOGETHER <input type="checkbox"/></p>		614
603	<p>CHECK 223:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children?</p> <p>Now I have some questions about the future. After the child you are expecting, would you like to have another child or would you prefer not to have any more children?</p>	<p>HAVE A (ANOTHER) CHILD.....1</p> <p>NO MORE/NONE.....2</p> <p>SAYS SHE CAN'T GET PREGNANT....3</p> <p>UNDECIDED OR DK.....8</p>	610
604	<p>CHECK 223:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>How long would you like to wait from now before the birth of (a/another) child?</p> <p>How long would you like to wait after the birth of the child you are expecting before the birth of another child?</p>	<p>MONTHS.....1</p> <p>YEARS.....2</p> <p>SOON/NOW.....994</p> <p>SAYS SHE CAN'T GET PREGNANT...995</p> <p>OTHER (SPECIFY) 996</p> <p>DK.....998</p>	610
605	<p>CHECK 216 AND 223:</p> <p>HAS LIVING CHILD(REN) OR PREGNANT? YES <input type="checkbox"/> NO <input type="checkbox"/></p>		610
606	<p>CHECK 223:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>How old would you like your youngest child to be when your next child is born?</p> <p>How old would you like the child you are expecting to be when your next child is born?</p>	<p>AGE OF CHILD YEARS.....</p> <p>DK.....98</p>	610
607	<p>Given your present circumstances, if you had to do it over again, do you think (you/your husband) would make the same decision to have an operation not to have any more children?</p>	<p>YES.....1</p> <p>NO.....2</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO								
608	Do you regret that (you/your husband) had the operation not to have any (more) children?	YES.....1 NO.....2	614								
609	Why do you regret it?	RESPONDENT WANTS ANOTHER CHILD..1 PARTNER WANTS ANOTHER CHILD....2 SIDE EFFECTS.....3 OTHER REASON _____4 (SPECIFY)	614								
610	Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8									
611	How often have you talked to your husband/partner about family planning in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3									
612	Have you and your husband/partner ever discussed the number of children you would like to have?	YES.....1 NO.....2									
613	Do you think your husband/partner wants the <u>same</u> number of children that you want, or does he want <u>more</u> or <u>fewer</u> than you want?	SAME NUMBER.....1 MORE CHILDREN.....2 FEWER CHILDREN.....3 DK.....8									
614	How long should a couple wait before starting sexual intercourse after the birth of a baby?	MONTHS.....1 <table border="1" data-bbox="1240 940 1313 989"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> YEARS.....2 <table border="1" data-bbox="1240 989 1313 1037"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> OTHER _____996 (SPECIFY)									
615	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2									
616	In general, do you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE.....1 DISAPPROVE.....2									
617	CHECK 216: HAS LIVING CHILD(REN) <input type="checkbox"/> NO LIVING CHILDREN <input type="checkbox"/> v 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? v If you could choose exactly the number of children to have in your whole life, how many would that be? RECORD SINGLE NUMBER OR OTHER ANSWER.	NUMBER..... <table border="1" data-bbox="1240 1444 1313 1493"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> OTHER ANSWER _____96 (SPECIFY)									
618	What do you think is the best number of months or years between the birth of one child and the birth of the next child?	MONTHS.....1 <table border="1" data-bbox="1240 1738 1313 1787"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> YEARS.....2 <table border="1" data-bbox="1240 1787 1313 1835"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> OTHER _____996 (SPECIFY)									

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

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701	<p>CHECK 501:</p> <p>EVER MARRIED OR LIVED TOGETHER <input type="checkbox"/></p> <p>NEVER MARRIED/ NEVER LIVED TOGETHER <input type="checkbox"/></p> <p>ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER.</p>		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?	PRIMARY1 SECONDARY.....2 HIGHER.....3 DK.....8	705
704	How many years did he complete at that level? COMMENT _____	YEARS..... <input type="text"/> <input type="text"/> DK.....98	
705	What kind of work does (did) your (last) husband/partner mainly do? _____ _____ _____	<input type="text"/> <input type="text"/> _____ _____ _____	
706	<p>CHECK 705:</p> <p>WORKS (WORKED) IN AGRICULTURE <input type="checkbox"/></p> <p>DOES (DID) NOT WORK IN AGRICULTURE <input type="checkbox"/></p>		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	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
708	Aside from your own housework, are you currently working?	YES.....1 NO.....2	→710
709	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES.....1 NO.....2	→717
710	What is your occupation, that is, what kind of work do you do?	_____ _____ _____	<input type="checkbox"/> <input type="checkbox"/>
711	In your current work, do you work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER.....1 FOR SOMEONE ELSE.....2 SELF-EMPLOYED.....3	
712	Do you earn cash for this work? PROBE: Do you make money for working?	YES.....1 NO.....2	
713	Do you do this work at home or away from home?	HOME.....1 AWAY.....2	
714	CHECK 215/216/218: HAS CHILD BORN SINCE JAN. 1987 AND LIVING AT HOME?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
715	While you are working, do you <u>usually</u> have (NAME OF YOUNGEST CHILD AT HOME) with you, <u>sometimes</u> have him/her with you, or <u>never</u> have him/her with you?	USUALLY.....1 SOMETIMES.....2 NEVER.....3	→717
716	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	HUSBAND/PARTNER.....01 OLDER CHILD(REN).....02 OTHER RELATIVES.....03 NEIGHBORS.....04 FRIENDS.....05 SERVANTS/HIRED HELP.....06 CHILD IS IN SCHOOL.....07 INSTITUTIONAL CHILDCARE.....08 OTHER _____ 09 (SPECIFY)	
717	RECORD THE TIME	HOUR..... <input type="checkbox"/> <input type="checkbox"/> MINUTES..... <input type="checkbox"/> <input type="checkbox"/>	

SECTION 8. AIDS KNOWLEDGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																								
801	Now I have a few questions about a very important topic. Have you heard of an illness called AIDS?	YES.....1 NO.....2	SECT 9																								
802	From which sources of information or persons have you heard about AIDS in the last month? CIRCLE ALL MENTIONED.	RADIO.....A TV.....B NEWSPAPERS.....C HEALTH WORKERS.....D CHURCH.....E FRIENDS/RELATIVES.....F SCHOOLS/TEACHERS.....G SLOGANS/PAMPHLETS/POSTERS.....H COMMUNITY MEETINGS.....I OTHER _____ J (SPECIFY) NONE.....K																									
803	How is the AIDS virus transmitted? CIRCLE ALL MENTIONED.	SEXUAL INTERCOURSE.....A NEEDLES/BLADES/SKIN PUNCTURES...B MOTHER TO CHILD.....C TRANSFUSION OF INFECTED BLOOD...D OTHER _____ E (SPECIFY) DON'T KNOW.....F																									
804	Do you think that you can get AIDS from shaking hands with someone who has AIDS? hugging someone who has AIDS? kissing someone who has AIDS? wearing the clothes of someone who has AIDS? sharing eating utensils with someone who has AIDS? stepping on the urine or stool of someone who has AIDS? mosquito, flea or bedbug bites?	<table border="0"> <tr> <td></td> <td align="right">YES</td> <td align="right">NO</td> </tr> <tr> <td>HANDSHAKING.....</td> <td align="right">1</td> <td align="right">2</td> </tr> <tr> <td>HUGGING.....</td> <td align="right">1</td> <td align="right">2</td> </tr> <tr> <td>KISSING.....</td> <td align="right">1</td> <td align="right">2</td> </tr> <tr> <td>SHARING CLOTHES.....</td> <td align="right">1</td> <td align="right">2</td> </tr> <tr> <td>SHARING EATING UTENSILS....</td> <td align="right">1</td> <td align="right">2</td> </tr> <tr> <td>STEPPING ON URINE/STOOL....</td> <td align="right">1</td> <td align="right">2</td> </tr> <tr> <td>MOSQUITO/FLEA/BEDBUG BITES.</td> <td align="right">1</td> <td align="right">2</td> </tr> </table>		YES	NO	HANDSHAKING.....	1	2	HUGGING.....	1	2	KISSING.....	1	2	SHARING CLOTHES.....	1	2	SHARING EATING UTENSILS....	1	2	STEPPING ON URINE/STOOL....	1	2	MOSQUITO/FLEA/BEDBUG BITES.	1	2	
	YES	NO																									
HANDSHAKING.....	1	2																									
HUGGING.....	1	2																									
KISSING.....	1	2																									
SHARING CLOTHES.....	1	2																									
SHARING EATING UTENSILS....	1	2																									
STEPPING ON URINE/STOOL....	1	2																									
MOSQUITO/FLEA/BEDBUG BITES.	1	2																									
805	Is it possible for a healthy looking person to be carrying the AIDS virus?	YES.....1 NO.....2 DK.....8																									
806	Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus?	YES.....1 NO.....2 DK.....8																									
807	Can AIDS be prevented?	YES.....1 NO.....2 DK.....8	809 809																								
808	How can AIDS be prevented? CIRCLE ALL MENTIONED.	STICK TO ONE PARTNER.....A USE CONDOMS.....B STERILIZE SYRINGES/NEEDLES.....C OTHER _____ D (SPECIFY)																									
809	What do you suggest is the most important thing the government should do for people who have AIDS?	PROVIDE MEDICAL TREATMENT.....1 HELP RELATIVES PROVIDE CARE....2 ISOLATE/QUARANTINE/JAIL.....3 NOT BE INVOLVED.....4 OTHER _____ 5 (SPECIFY)																									
810	If your relative is suffering with AIDS, who would you prefer to care for him/her?	RELATIVES/FRIENDS.....1 GOVERNMENT.....2 RELIGIOUS ORG./MISSION.....3 NOBODY/ABANDON.....4 OTHER _____ 5 (SPECIFY)																									

SECTION 9. HEIGHT AND WEIGHT

901	CHECK 222: ONE OR MORE BIRTHS SINCE JAN. 1987	<input type="checkbox"/> v	NO BIRTHS SINCE JAN. 1987	<input type="checkbox"/> → END
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INTERVIEWER: IN 902 (COLUMNS 2-4) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1987 AND STILL ALIVE. IN 903 AND 904 RECORD THE NAME AND BIRTH DATE FOR THE RESPONDENT AND FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1987. IN 906 AND 908 RECORD HEIGHT AND WEIGHT OF THE RESPONDENT AND THE LIVING CHILDREN. (NOTE: ALL RESPONDENTS WITH ONE OR MORE BIRTHS SINCE JANUARY 1987 SHOULD BE WEIGHED AND MEASURED EVEN IF ALL OF THE CHILDREN HAVE DIED. IF THERE ARE MORE THAN 3 LIVING CHILDREN BORN SINCE JANUARY 1987, USE ADDITIONAL FORMS).

	1 RESPONDENT	2 YOUNGEST LIVING CHILD	3 NEXT-TO- YOUNGEST LIVING CHILD	4 SECOND-TO- YOUNGEST LIVING CHILD
902 LINE NO. FROM Q.212		<input style="width:30px; height:20px;" type="text"/>	<input style="width:30px; height:20px;" type="text"/>	<input style="width:30px; height:20px;" type="text"/>
903 NAME FROM Q.212 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____	(NAME) _____
904 DATE OF BIRTH FROM Q.105 FOR RESPONDENT FROM Q.215 FOR CHILDREN, AND ASK FOR DAY OF BIRTH	MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>
905 BCG SCAR ON LEFT FOREARM		SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2
906 HEIGHT (in centimeters)	<input style="width:30px; height:20px;" type="text"/>			
907 WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?		LYING.....1 STANDING.....2	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
908 WEIGHT (in kilograms)	<input style="width:30px; height:20px;" type="text"/>	0 <input style="width:30px; height:20px;" type="text"/>	0 <input style="width:30px; height:20px;" type="text"/>	0 <input style="width:30px; height:20px;" type="text"/>
909 DATE WEIGHED AND MEASURED	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>	DAY..... <input style="width:20px; height:20px;" type="text"/> MONTH.... <input style="width:20px; height:20px;" type="text"/> YEAR.... <input style="width:20px; height:20px;" type="text"/>
910 RESULT	MEASURED.....1 NOT PRESENT....3 REFUSED.....4 OTHER.....6 _____ (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 _____ (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 _____ (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 _____ (SPECIFY)

911 NAME OF MEASURER: _____ <input style="width:30px; height:20px;" type="text"/>		NAME OF ASSISTANT: _____ <input style="width:30px; height:20px;" type="text"/>
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INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent: _____

Comments on Specific Questions: _____

Any Other Comments: _____

SUPERVISOR'S OBSERVATIONS

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS

