YEMEN

NATIONAL HEALTH AND DEMOGRAPHIC SURVEY

2013

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Republic of Yemen

Yemen
National Health and Demographic Survey

2013

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CONTENTS

TABLES AND FIGURES

PREFACE

It is a pleasure for the CSO (Central Statistics Organization) in cooperation with the MOPHP (Ministry of Public Health and Population) to offer this report which represents the final results of the Yemen National Health and Demographic Survey (YNHDS) 2013. The YNHDS is one of the most important specialized surveys conducted in Yemen. It includes detailed information on many health, social, and economic variables of the country. The YNHDS 2013 sample was designed to provide representative data for every governorate—the first time such data have been available in Yemen. Questionnaires have been adapted to provide information needed by decision makers, policy makers, and all others who must make evidence-based program and policy decisions.

These important survey findings are due to the great efforts of the YNHDS management and technical team and all of the staff who have worked on the survey. These professionals have worked diligently to implement every phase of this survey—sampling, pre-test, intensive interviewer training, fieldwork, and writing the final report—and to complete every phase of work according to the planned timetable.

I would like to extend our thanks to the development partners for supporting the survey. They have played important roles providing both technical expertise and financial support to make the survey happen.

Finally, I would like to extend a sincere thanks to all survey workers and interviewers for their efforts in successfully completing this national mission.

President of CSO
Vice President of YNHDS Steering Committee

ACKNOWLEDGEMENTS

Accurate health information plays a critical role in developing successful economic and social programs. Thus, the MOPHP (Ministry of Public Health and Population) has planned for some time in collaboration with the Central Statistics Organization (CSO) to carry out many surveys on public health and welfare, in particular the Yemen National Health and Demographic Survey 2013. This survey was undertaken with one primary objective: to provide information to assist policy makers and program managers to develop and evaluate programs and strategies for improving health, nutrition, and family planning services in the country. To this end the survey was designed to be representative of the entire country and to reflect the situation of all married women in Yemeni society.

Therefore, it is a pleasure for the MOPHP to offer this final report which provides detailed results for the YNHDS 2013. The survey findings represent the health and demographic situation in Yemen at the national and governorate levels. With this information the MOPHP can accurately assess current policies and programs and make more informed decisions on areas of critical concern to the government such as reducing child mortality and improving maternal health. In addition, researchers, specialists in universities and research centers, and all those interested in health will be able to analyze the survey data sets to achieve a more in-depth understanding of national trends and patterns to further benefit program and policy development.

I would like to extend a sincere thanks to the development partners for the financial and technical support they have provided at every phase of the survey. In addition, I would like to extend sincere thanks as well to all survey personnel for the efforts they have made. The YNHDS is the result of all their hard work. Finally, I would like to thank the survey management team, ICF International, and PAPFAM for their unceasing efforts to publish this unique report.

Minister of Public Health and Population
President of YNHDS Steering Committee

ACRONYMS AND ABBREVIATIONS

AIDS	acquired immune deficiency syndrome
ARI	acute respiratory infection
ART	antiretroviral therapy
ASFRs	age-specific fertility rates
BCG	bacillus Calmette–Guérin (vaccination against tuberculosis)
CBR	crude birth rate
CSO	Central Statistical Organization
DFID	United Kingdom Department for International Development
DHS	Demographic and Health Surveys
DPT	diphtheria, pertussis, tetanus
EA	enumeration areas
EKN	Embassy of the Kingdom of the Netherlands
EPI	Expanded Program on Immunization
GDP	gross domestic product
GFR	general fertility rate
HepB	hepatitis B
Hib	Haemophilus influenzae type B
HIV	human immunodeficiency virus
IYCF	infant and young child feeding
MDG	Millennium Development Goals
MENA	Middle East and North Africa
MICS	Multiple Indicator Cluster Surveys
MOPHP	Ministry of Public Health and Population
ORS	oral rehydration salts
ORT	oral rehydration therapy
PAPCHILD	Pan Arab Project for Child Development
PAPFAM	Pan Arab Program for Family Health
PMTCT	prevention of mother-to-child transmission
PSU	primary sampling unit
RHF	recommended home fluids
STI	sexually transmitted infections
TFR	total fertility rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAD	vitamin A deficiency
WHO	World Health Organization
YDMCHS	Yemen Demographic and Maternal and Child Health Survey
YFHS	Yemen Family Health Survey
YMICS	Yemen Multiple Indicator Cluster Survey
YNHDS	Yemen National Health and Demographic Survey

MAP OF YEMEN

INTRODUCTION

1

1.1 BACKGROUND

The Republic of Yemen is located in the southern part of the Arabian Peninsula and is bordered by the Kingdom of Saudi Arabia to the north, the Arabian Sea and Gulf of Aden to the south, the Sultanate of Oman to the east, and the Red Sea to the west. While there are more than 112 Yemeni Islands in the Red and the Arabian seas, the most strategic one is Bab Al Mandab. The island, located in the middle of a strait that lies off the southwestern tip of the republic, controls passage into and out of the Red Sea.

Yemen is one of the poorest countries in the Middle East and North Africa (MENA) region. The gross domestic product (GDP) per capita was estimated to be US$1,343 in 2013 (CSO, Statistical Yearbook, 2013).

According to the first Population Census conducted in 1994 under the Republic of Yemen, the population was 15,831,757 persons. It has increased by 58 percent in the last 20 years to reach about 25 million in 2013 (CSO, Statistical Yearbook, 2013). The growing population will put more pressure on the country to provide social services and public utilities, as well as expand the labor market.

This report presents results from the 2013 Yemen National Health and Demographic Survey (2013 YNHDS). The first Yemen Demographic and Maternal and Child Health Survey (YDMCHS) was implemented in 1991-92, after the unification of Yemen in 1990, by the Central Statistical Organization (CSO), with the assistance of the Demographic and Health Surveys (DHS) Program and the Pan Arab Project for Child Development (PAPCHILD). The second round of this survey was carried out in 1997 by CSO with the assistance of the DHS Program. In addition to the two YDMCHS surveys, two other nationally representative surveys on population and health were conducted in the last 10 years. The Yemen Family Health Survey (YFHS) was implemented in 2003 by the Ministry of Public Health and Population (MOPHP), in cooperation with CSO and with the financial and technical assistance of PAPCHILD. Also, the Yemen Multiple Indicator Cluster Survey (YMICS) was implemented in 2006 by the MOPHP with the assistance of the Pan Arab Program for Family Health (PAPFAM – formerly PAPCHILD) and UNICEF.

The 2013 YNHDS was implemented by MOPHP in collaboration with CSO. ICF International provided technical assistance through the USAID-funded MEASURE DHS project, which provides support and technical assistance for the implementation of population and health surveys in countries worldwide. PAPFAM also provided technical assistance throughout the implementation of the survey. The survey was funded by the United States Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), the World Bank (WB), the United Kingdom Department for International Development (DFID), the Pan Arab Program for Family Health (PAPFAM), the Embassy of the Kingdom of the Netherlands (EKN), and the Government of Yemen.

The 2013 YNHDS is considered an important benchmark in statistical work since it covers all 20 governorates of the Republic as well as Sana'a City, and it received considerable review and supervision during preparation and set-up, training and testing, and follow-up and implementation. The survey provides information on chronic illness, disability, marriage, fertility and fertility preferences, knowledge and use of family planning methods, child feeding practices, nutritional status of women and children, maternal and childhood mortality, awareness and attitudes regarding HIV/AIDS, female genital cutting, and domestic violence. This information is intended to assist policy makers and program managers in evaluating and designing programs and strategies for improving health, nutrition, and family planning services in the country. In addition, the results from this survey will be used to assess whether Yemen has made gains in

achieving some of the 2015 Millennium Development Goals (MDGs), especially the two indicators that focus on maternal and child health: to reduce child mortality and to improve maternal health.

1.2 SURVEY IMPLEMENTATION

1.2.1 Sample Design

The sample for the 2013 YNHDS was designed to provide population and health indicator estimates at the national and governorate levels. The sample design allowed for specific indicators, such as contraceptive use, to be calculated for each of Yemen's 20 governorates and Sana'a, the capital city. To have enough cases to report on key indicators in each of the 21 reporting domains, the smallest governorates in terms of population were oversampled while the largest were undersampled. The 2004 General Population Housing and Establishment Census was used as the sampling frame.

During the 2004 census, the country was divided into areas convenient for data collection called census enumeration areas (EAs). The primary sampling unit (PSU), referred to as a cluster for the 2013 YNHDS, is defined on the basis of EAs from the 2004 EA census frame. The 2013 YNHDS sample was selected using a stratified two-stage cluster design consisting of 800 clusters, with 213 in urban areas and 587 in rural areas.

A complete listing of households and a mapping exercise were carried out for each cluster from November 10 to November 30, 2012, with the resulting lists of households serving as the sampling frame for the selection of households in the second stage. All households were listed. In each rural cluster, one household was randomly selected. This household and the next 24 households on the list together constituted the household sample for each of the 587 rural clusters; in urban clusters, the 25 households were randomly selected. The total of 800 clusters was estimated to yield a sample of 20,000 households at the national level. However, for security reasons, ten clusters were not listed.

All ever-married and never-married women age 15-49 in each selected household were eligible to be interviewed. In addition, in one-third of selected households, all women age 15-49 as well as children age 6-59 months were eligible to be tested for anemia.

The sample design is described in detail in Appendix A, and sampling errors are presented in Appendix B.

1.2.2 Questionnaires

For the main survey, four questionnaires were used in the 2013 YNHDS: a household questionnaire, two individual questionnaires (one for ever-married women and an abbreviated version for never-married women), and a maternal mortality questionnaire.

The questionnaires were adapted from model survey instruments developed for the MEASURE DHS project to reflect the population and health issues relevant to Yemen. These issues were identified in consultation with a broad spectrum of government ministries and agencies, nongovernmental organizations, and international donors.

The **Household Questionnaire** was used to list all the usual members of and visitors to selected households. Basic information was collected on the characteristics of each person listed, including age, sex, marital status, education, and relationship to the head of the household. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor of the dwelling, and ownership of various durable goods. The questionnaire was further used to record height and weight measurements for children age 0-59 months and women age 15-49 years, results of the hemoglobin testing for children age 6-59 months and women age 15-49 years, and results of an iodine test of household cooking salt. The data on the sex, age, and marital

status of household members interviewed with the Household Questionnaire were used to identify the women eligible for the ever-married and never-married individual interview.

Several modules or sets of questions were also added to the Household Questionnaire:

- A module on child discipline, developed by UNICEF
- Modules on chronic diseases, disability, and injuries and accidents, developed by PAPFAM
- Questions on food security

An **Individual Questionnaire**, based on the standard MEASURE DHS Woman's Questionnaire, was used to collect information from all ever-married women age 15-49. It includes questions on the following topics:

- Background characteristics (age, marital status, education, media exposure, etc.)
- Birth history with information on all live and dead children
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Women's work and husband's background characteristics
- Awareness, attitudes, and behavior regarding AIDS and other sexually transmitted infections (STIs)
- Other health issues

Several modules were also added to the Individual Questionnaire:

- The DHS modules on fistula and female genital cutting
- A simplified version of the DHS module on domestic violence
- A module on prevalence of tumors, developed by PAPFAM

A simplified version of the ever-married woman's Individual Questionnaire was used for the never-married women. It includes questions on the following topics:

- Background characteristics (age, education, media exposure, etc.)
- Awareness, attitudes, and behavior regarding AIDS
- Other health issues, including prevalence of tumors
- Female genital cutting
- Domestic violence

The Maternal Mortality Questionnaire is discussed in section 1.2.4.

1.2.3 Anthropometry and Anemia

The 2013 YNHDS incorporated biomarkers in anthropometry and hemoglobin testing.

Anthropometry. In all households, height and weight measurements were recorded for children age 0-59 months and women age 15-49 years. In addition, mid-upper-arm circumference was also measured among women age 15-49.

Hemoglobin testing. Hemoglobin testing is the primary method for anemia diagnosis. The 2013 YNHDS included hemoglobin testing for children age 6-59 months and all women age 15-49 years in one-third of the selected households. Only women who voluntarily consented and children for whom voluntary consent was given were tested. Hemoglobin analysis was carried out on site using a battery-operated portable

AVIE™ Total HB analyzer. A drop of blood taken from a finger prick (or a heel prick in the case of young children with small fingers) was collected in a microcuvette, which was then placed in the analyzer. The AVIE™ Total HB analyzer took about a minute to display the hemoglobin level in the blood. Results were recorded on the questionnaire and explained verbally. Persons whose hemoglobin level was lower than the recommended cutoff point for severe anemia were advised to visit a health facility for follow-up with a health professional.

1.2.4 Maternal Mortality

The 2013 YNHDS did not use the Maternal Mortality module developed by MEASURE DHS (which is based on the sisterhood method). Instead it used a methodology previously used by PAPFAM in the 2003 YFHS. The Maternal Mortality component of the YNHDS was implemented in two phases.

Household listing. The household listing identified 113,463 households in the YNHDS selected clusters. Two types of key information were recorded in each household listed: the number of births and the number of deaths of women age 12-49 over the past two years. All households with a woman's death in the past two years were selected to be interviewed during the main survey. It should be noted that these households were not necessarily the same as those randomly selected for the main survey.

Maternal mortality data collection. During the data collection, all households identified during the listing phase with a woman's death in the past two years (whether or not selected for the main survey) were interviewed using the Maternal Mortality Questionnaire to identify maternal deaths and collect additional information on the deceased women.

1.2.5 Training of Field Staff

All aspects of data collection were pre-tested from November 20 to December 12, 2012. Twenty-four participants (16 females and 8 males) attended the two-week training in the administration of the YNHDS survey instruments, anthropometric measurement, and hemoglobin testing. Pre-test fieldwork was carried out over four days in urban and rural clusters in and around Sana'a. A total of 124 household interviews (70 in urban and 54 in rural areas) were conducted, in which 161 eligible women were located and interviewed. Following field practice, a debriefing session was held with the pre-test field staff, and modifications to the questionnaires were made based on lessons drawn from the exercise. Unfortunately, the main survey was delayed, and the training for the main survey only took place eight months later.

The four-week main training that took place from August 18 to September 12, 2013, was conducted by MOPHP and CSO staff, and ICF and PAPFAM consultants. In addition, MOPHP nutritionists participated in the biomarker training. The training started with 278 field staff. Due to the very large number of trainees, training was carried out simultaneously in two classrooms. The training included lectures, role playing, mock interviews, and field practices. Several role playing and mock interview sessions were held so that the interviewers got plenty of practice. The training on biomarker collection was held concurrently with the training on questionnaire administration, two one-day field practices took place during the training. The purpose of field practice was to train interviewers on questionnaire delivery as well as height and weight measurement and hemoglobin testing. Overall, the practice sessions were successful, with interviewers generally performing better during the second round. By the end of each field practice, many interviewers had completed two households; in total, all teams completed 228 household questionnaires, 228 ever-married woman questionnaires, 173 never-married woman questionnaires, 445 height and weight measurement sessions, and 400 hemoglobin tests.

1.2.6 Fieldwork

Fieldwork was launched simultaneously in all governorates immediately upon the conclusion of field staff training. Forty interviewing teams carried out data collection for the 2013 YNHDS. Each team consisted of one male team supervisor, one male field editor, four female interviewers, and one driver. Fieldwork supervision was conducted by MOPHP, CSO, ICF, PAPFAM, and a technical team through regular visits to teams to review their work and monitor data quality. Data collection took place over a two-month period, from September 14 through November 23, 2013, with a two-week interruption (October 10-25) due to Adhah Eid. Questionnaires were regularly delivered to MOPHP headquarters.

1.2.7 Data Processing

The processing of the YNHDS data with the CSPro software began as soon as questionnaires were received from the field. Completed questionnaires were returned from the field to MOPHP headquarters, where they were entered and edited by data processing personnel who were specially trained for this task and who had also attended questionnaire training. Data processing was to be concurrent with data collection to allow for regular monitoring of team performance and data quality. However, data entry was slow during the first few weeks, and the "field check" tables that were supposed to be regularly generated to check various data quality parameters were not produced early enough to provide feedback to the data collection teams during the first weeks of fieldwork. Coding was completed on January 15, 2014, and data entry, which included 100 percent double entry to minimize keying error and data editing, was completed on February 15, 2014. Data cleaning was completed on March 15, 2014. Secondary editing, imputation, and calculation of survey weights were completed by mid-April 2014.

1.2.8 Response Rates

Among the 800 clusters initially selected, ten were not listed and, at the time of data collection, nine additional clusters had not been visited for security reasons. Consequently, the results of the 2013 YNHDS are based on 781 clusters that were actually visited during the data collection phase.

The household and individual response rates are shown in Table 1.1. A total of 19,517 households were selected for inclusion in the YNHDS, and of these, 18,027 were occupied. Of the 18,027 occupied households, 17,351 were successfully interviewed, yielding a response rate of 96 percent (97 percent in rural areas compared with 95 percent in urban areas).

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Yemen 2013

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	5,300	14,217	19,517
Households occupied	4,957	13,070	18,027
Households interviewed	4,693	12,658	17,351
Household response rate[1]	94.7	96.8	96.3
Interviews with ever-married women age 15-49			
Number of eligible ever-married women	4,723	12,595	17,318
Number of eligible ever-married women interviewed	4,548	12,108	16,656
Eligible women response rate[2]	96.3	96.1	96.2
Interviews with never married women age 15-49			
Number of eligible never married women	2,903	6,585	9,488
Number of eligible never married women interviewed	2,720	6,058	8,778
Eligible never married women response rate[2]	93.7	92.0	92.5

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

In the interviewed households, a total of 17,318 ever-married women were identified to be eligible for the individual interview, and 96 percent of them (16,656) were successfully interviewed. For never-married women, 9,488 were identified as eligible for interview, and 93 percent of them (8,778) were successfully interviewed.

HOUSING CHARACTERISTICS AND HOUSEHOLD POPULATION

2

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Key Findings

- Fifty-nine percent of households in Yemen use an improved source of drinking water.
- Less than half of households use improved toilets that are not shared with other households; 25 percent of households have no toilet at all.
- Three-quarters of households have electricity.
- Ownership of telephones has risen dramatically; in 1997, only 8 percent of households owned a telephone of any kind, compared with 80 percent of households owning a mobile phone in 2013.
- Less than one-third of children under age 5 have had their birth registered.
- Only 4 percent of children under age 18 are orphaned (that is, one or both parents are not living).
- Forty-three percent of females and 21 percent of males age 6 and older have never attended school.
- Physical punishment is a common form of child discipline; 42 percent of children age 2-14 received severe physical punishment in the month before the survey.

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This chapter presents information on demographic and socioeconomic characteristics of the household population such as age, sex, education, and place of residence. The environmental profile of households in the 2013 Yemen National Health and Demographic Survey (YNHDS) sample is also examined. Taken together, these descriptive data provide context for the interpretation of demographic and health indices and can furnish an approximate indication of the representativeness of the survey. The chapter also includes information about how children in Yemen are disciplined.

In the 2013 YNHDS, a household was defined as a person or group of related and unrelated persons who live together in the same dwelling unit and who share the same housekeeping arrangements. Information was collected from all the usual residents of each selected household and visitors who had stayed in the selected household the night before the interview. Those persons who stayed in the selected household the night before the interview (whether usual residents or visitors) represent the de facto population; usual residents alone constitute the de jure population. All tables in this report refer to the de facto population unless otherwise specified.

2.1 HOUSEHOLD CHARACTERISTICS

The physical characteristics of households and the availability and accessibility of basic household facilities are important in assessing the general welfare and socioeconomic condition of the population. The 2013 YNHDS collected information on a range of housing characteristics, including source of drinking water; time taken to fetch water; type of sanitation facility; access to electricity; type of materials used for flooring, roofing, and walls; and number of rooms used for sleeping. Questions were also asked about sources of energy for cooking fuel and lighting and whether cooking is done in the house or outside. These data are presented for households and are further disaggregated by urban-rural residence.

2.1.1 Drinking Water

Increasing access to improved drinking water is one of the Millennium Development Goals that Yemen along with other nations worldwide has adopted (United Nations General Assembly, 2002). Table 2.1 includes a number of indicators that are useful in monitoring household access to improved drinking water (WHO and UNICEF, 2012a). The source of the drinking water is an indicator of suitability for drinking. Sources that are more likely to provide water suitable for drinking are identified in Table 2.1 as improved sources. These include piped water, tube well or borehole, rainwater, and bottled water.[1] Lack of ready access to a water source may limit the quantity of suitable drinking water that is available to a household. Even if the water is obtained from an improved source, if it is fetched from a source that is not immediately accessible to the household, it may be contaminated during transport or storage. Finally, home water treatment can be effective in improving the quality of household drinking water.

Table 2.1 Household drinking water

Percent distribution of households and de jure population by source of drinking water, time to obtain drinking water, and treatment of drinking water, according to residence, Yemen 2013

Characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source	78.7	49.7	58.8	76.0	50.1	58.0
Piped government network	40.0	10.5	19.7	40.1	10.8	19.8
Piped local network	1.7	14.1	10.3	1.8	13.9	10.2
Tube well or borehole	2.1	19.2	13.9	2.3	20.0	14.6
Rain water	0.3	4.9	3.4	0.3	4.5	3.2
Bottled water	34.7	1.0	11.5	31.5	0.9	10.3
Nonimproved source	20.6	48.5	39.8	23.2	48.3	40.6
Well	0.5	18.8	13.1	0.5	18.0	12.6
Spring	0.2	14.2	9.9	0.3	13.9	9.7
Tanker truck	19.8	9.4	12.7	22.3	10.4	14.1
Surface water protected	0.1	3.2	2.2	0.1	3.1	2.2
Surface water unprotected	0.0	2.8	2.0	0.0	2.9	2.0
Other	0.5	1.7	1.3	0.6	1.6	1.3
Missing	0.1	0.1	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Time to obtain drinking water (round trip)						
Water on premises	95.1	84.5	87.8	94.7	84.1	87.3
Less than 30 minutes	0.3	1.3	1.0	0.2	1.3	1.0
30 minutes or longer	3.9	13.4	10.4	4.4	13.9	10.9
Don't know/missing	0.7	0.8	0.8	0.7	0.8	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Water treatment prior to drinking[1]						
Boiled	1.0	1.3	1.2	0.8	1.2	1.1
Bleach/chlorine added	0.2	0.1	0.1	0.2	0.1	0.1
Strained through cloth	0.9	3.3	2.6	1.0	3.3	2.6
Water filter	7.8	2.7	4.3	8.6	3.1	4.8
Treated at the source	0.2	0.6	0.5	0.3	0.6	0.5
Let it stand and settle	1.5	0.6	0.9	1.3	0.6	0.8
Other	0.1	0.1	0.1	0.1	0.1	0.1
No treatment	88.1	91.3	90.3	87.6	90.8	89.9
Percentage using an appropriate treatment method[2]	8.9	4.0	5.5	9.5	4.4	5.9
Number	5,413	11,938	17,351	35,523	80,220	115,743

[1] Respondents may report multiple treatment methods so the sum of treatment may exceed 100 percent.
[2] Appropriate water treatment methods include boiling, bleaching, and filtering.

The source of drinking water is important because waterborne diseases, including diarrhea and dysentery, are prevalent in Yemen. Sources of water expected to be relatively free of the agents responsible for these diseases are piped water, tube wells or boreholes, rainwater, and bottled water. Other sources

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[1] The categorization into improved and nonimproved categories is based on that proposed by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (WHO and UNICEF, 2012b).

such as regular wells, surface water, and water delivered in trucks are more likely to carry disease-causing agents. Table 2.1 indicates that a majority of Yemeni households (59 percent) utilize improved water sources: 30 percent from piped water (either from a government or local network), 14 percent from tube well or borehole, 3 percent from rainwater, and 12 percent from bottled water. Households in urban areas (76 percent) are more likely than those in rural areas (50 percent) to have access to an improved source of water. According to the 2006 UNICEF Multiple Indicator Cluster Survey (YMICS), 59 percent of the household population used improved sources of water, almost identical to the 58 percent found in the 2013 YNHDS (Ministry of Public Health and Population and UNICEF 2008).

For 88 percent of households in Yemen, the source of drinking water is on their premises; 95 percent of urban households and 85 percent of rural households have water on their premises. Ten percent of households in Yemen take 30 minutes or longer to obtain drinking water.

Only 6 percent of households appropriately treat their drinking water, mostly by filtering the water or by straining it through a cloth. The findings are comparable to those reported in the 2006 YMICS survey, in which 5 percent of the household population used an appropriate method to treat their drinking water.

2.1.2   Sanitation Facilities and Waste Disposal

Ensuring adequate sanitation facilities is another Millennium Development Goal that Yemen shares with other countries. A household is classified as having an improved toilet if the toilet is used only by members of one household (i.e., it is not shared) and if the facility used by the household separates the waste from human contact (WHO and UNICEF, 2012a). In this survey, the types of facilities considered improved are toilets that flush or pour flush into a piped sewer system or septic tank.

Table 2.2 shows that only 45 percent of households in Yemen use improved toilet facilities that are not shared with other households, and 4 percent of households use facilities that would be considered improved if they were not shared. Eighty-three percent of households in urban areas have improved toilet facilities that are not shared compared with 27 percent in rural areas.

Table 2.2 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities, according to residence, Yemen 2013

Type of toilet/latrine facility	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Improved, not shared facility						
Flush/pour to piped sewer system	63.4	4.8	23.1	61.4	5.4	22.6
Flush/pour to septic tank	20.1	22.4	21.7	21.5	25.1	24.0
Total	83.4	27.2	44.8	82.8	30.5	46.6
Shared facility[1]						
Flush/pour flush to piped sewer system	2.9	0.7	1.4	3.1	0.7	1.4
Flush/pour flush to septic tank	1.2	3.4	2.7	1.2	3.1	2.5
Total	4.1	4.1	4.1	4.2	3.8	3.9
Nonimproved facility						
Pit	6.9	20.9	16.5	7.1	20.3	16.3
Bucket	2.2	10.1	7.6	2.3	9.8	7.5
Latrine	0.8	1.4	1.2	0.9	1.5	1.3
Other	0.2	0.4	0.3	0.2	0.4	0.3
Missing	0.1	0.3	0.2	0.0	0.4	0.3
No facility/bush/field	2.3	35.7	25.3	2.4	33.3	23.8
Total	12.4	68.7	51.2	12.9	65.7	49.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	5,413	11,938	17,351	35,523	80,220	115,743

[1] Facilities that would be considered improved if they were not shared by two or more households.

Over half of Yemeni households (51 percent) have nonimproved toilet facilities. Overall, about one in five households uses either a pit or a latrine, and another 8 percent use buckets. One in four households has no toilet facility at all. There are large differences in sanitation facilities by urban-rural residence; 12 percent of urban households have nonimproved toilet facilities, compared with 69 percent of rural households. Although the questions and coding categories differed between surveys, the results from the 2013 YNHDS show that 47 percent of the household population use improved toilet facilities, which is similar to the 52 percent found in the 2006 YMICS survey.

2.1.3 Housing Characteristics

Table 2.3 presents information on characteristics of the dwelling in which households live. In addition to reflecting the household's socioeconomic situation, these characteristics show environmental conditions in which the household lives. For example, use of biomass fuels exposes the household members to indoor pollution, which has a direct bearing on their health and welfare.

The type of material used to build a dwelling is a basic indicator of socioeconomic status. One-third of Yemeni households have earthen floors (made of dirt or clay), while 42 percent have cement floors and 17 percent have tile floors. Large differences exist between rural and urban households; earth flooring is most common in rural areas (45 percent of households), while tile floors are most common in urban areas (42 percent of households).

The vast majority of households have roofs made with wood. One-third have roofs made of wood and dirt, while another one-third have roofs made of wood and cement, and 10 percent have

Table 2.3 Household characteristics

Percent distribution of households by housing characteristics, according to residence, Yemen 2013

Housing characteristic	Residence		Total
	Urban	Rural	
Flooring material			
Dirt, clay	6.2	44.9	32.9
Cement	37.8	44.1	42.1
Plain tile	41.6	5.4	16.7
Plaster	1.7	2.6	2.3
Stone	2.3	1.8	2.0
Marble	10.3	1.0	3.9
Missing	0.0	0.2	0.1
Total	100.0	100.0	100.0
Main roof material			
Wood and cement	37.9	28.9	31.7
Wood and dirt	13.8	40.9	32.5
Wood	7.8	10.4	9.6
Straw, cane	0.8	6.0	4.4
Cane and mud	1.0	4.5	3.4
Metal plates	0.8	0.7	0.7
Metal plates and mud	0.2	0.5	0.4
Concrete roof, cement	37.6	7.7	17.0
Other	0.1	0.3	0.2
Missing	0.1	0.1	0.1
Total	100.0	100.0	100.0
Main wall material			
Straw, cane	0.5	2.7	2.0
Cloth, wool	0.0	0.3	0.2
Dirt	6.0	13.2	11.0
Carved stone	17.2	11.5	13.3
Plain stone	16.7	44.4	35.7
Cement blocks	55.9	25.5	35.0
Local adobe	2.4	0.6	1.2
Covered adobe	1.0	1.2	1.1
Other	0.3	0.6	0.5
Missing	0.1	0.1	0.1
Source of light			
Electricity	**98.5**	**65.2**	**75.6**
Public electric network	95.3	45.9	61.3
Coop. electric network	0.7	2.4	1.9
Private electric network	1.6	9.9	7.3
Special generator	0.8	6.1	4.5
Solar energy	0.1	0.8	0.5
Other	**1.5**	**33.6**	**23.6**
Gas (Kerosene)	1.4	28.9	20.3
Other	0.1	4.6	3.2
No source of light	0.0	1.1	0.8
Missing	0.0	0.1	0.1
Total	100.0	100.0	100.0
Rooms used for sleeping			
None	0.0	0.2	0.2
One	27.6	42.4	37.8
Two	36.7	31.1	32.9
Three or more	35.2	25.9	28.8
Missing	0.4	0.4	0.4
Total	100.0	100.0	100.0
Place for cooking			
In the house	92.1	60.2	70.1
In a separate building	3.7	25.2	18.5
Other	3.8	14.1	10.9
Missing	0.4	0.6	0.5
Total	100.0	100.0	100.0
Cooking fuel			
Electricity	1.0	0.3	0.5
LPG/natural gas/biogas	92.5	43.1	58.5
Kerosene	3.0	4.7	4.2
Charcoal	0.1	0.3	0.2
Wood	2.3	49.3	34.7
Animal dung	0.0	0.2	0.1
No food cooked in household	0.3	1.2	0.9
Missing	0.7	0.8	0.8
Total	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	2.4	49.8	35.0
Number	5,412.5	11,938.5	17,351.0

LPG = Liquefied petroleum gas
[1] Includes charcoal, wood, and animal dung

roofs of wood alone. Seventeen percent of households have cement or concrete roofs. Urban households are much more likely to have cement or concrete roofs than rural households.

Most households in Yemen live in dwellings with substantial walls. Over one-third of households have walls made of plain stone, and more than one-third have walls made of cement blocks. Thirteen percent of households have walls made of carved stone. Only 13 percent of Yemeni households have walls made from dirt, straw, or cane. The main difference by residence is that urban households are more likely to have walls made from cement blocks or carved stone, while rural households are more likely to have walls made of plain stone.

Use of electricity usually goes hand in hand with improved housing structures and a better standard of living. In Yemen, just over three-quarters of households have electricity, mostly supplied through the public network. Households with no electricity mainly rely on kerosene gas for lighting. There is a large difference in access to electricity between urban and rural households (99 percent in urban areas compared with 65 percent in rural areas).

The number of rooms used for sleeping indicates the extent of crowding. Overcrowding increases the risk of contracting diseases. Overall, 38 percent of Yemeni households use one room for sleeping, 33 percent use two rooms, and 29 percent use three or more rooms for sleeping. Urban households generally have more rooms for sleeping than rural households.

Cooking and heating with solid fuels can lead to high levels of indoor smoke, a complex mix of health-damaging pollutants that could increase the risk of contracting diseases (WHO, 2011a). Solid fuels include fire coal/charcoal and wood. In the 2013 YNHDS, households were asked about their primary source of fuel for cooking. The results show that only 35 percent of households use solid fuel (wood) for cooking, with the majority of households (59 percent) using liquefied petroleum gas (LPG) or natural gas/biogas. There are large differentials in cooking fuel between urban and rural areas. Although 49 percent of households in the rural areas use wood for cooking, only 2 percent of urban households do so. By far, the main source of cooking fuel in the urban areas is LPG/natural gas/biogas (93 percent).

The potential for exposure to harmful effects of smoke from using solid fuels for cooking increases if cooking occurs within the home itself rather than outdoors or in a separate building. Seventy percent of households in Yemen cook in the house, and 19 percent cook in a separate building. Ninety-two percent of urban households cook in the house, compared with 60 percent of rural households.

2.1.4 Household Possessions

The availability of durable goods is an indicator of a household's socioeconomic status. Moreover, each particular item has specific benefits. For instance, having access to a radio or a television exposes household members to innovative ideas; a refrigerator prolongs the wholesomeness of foods; and a means of transport allows greater access to services away from the local area. Table 2.4 shows the ownership of selected household possessions by residence.

The most common items to be owned by households are a mobile telephone (80 percent), and a television (67 percent). Additionally, 40 percent of households own a radio, 40 percent own a refrigerator, 35 percent own a washer; 25 percent own a fan; 17 percent own a nonmobile telephone, 17 percent own a generator; 14 percent own a water heater; and 12 percent own an air conditioner. Urban households are more likely than rural households to own each of the items. For many of these items, ownership has increased substantially over time. For example, in 1997, only 8 percent of households owned a telephone of any kind, compared with 80 percent of households owning a mobile phone in 2013. Similarly, the proportion of households owning a washing machine has doubled, growing from 16 percent in 1997 to 35 percent in 2013, and the proportion owning a refrigerator has also doubled, increasing from 20 percent in 1997 to 40 percent in 2013 (CSO and MI, 1998).

With regard to means of transportation, 21 percent of households own a car or truck, 13 percent own a motorcycle or scooter, 11 percent own a bicycle, and 1 percent each owns an animal-drawn cart or a boat. Ownership of cars and trucks has increased from 13 percent of households in 1997 to 21 percent in 2013; in 1997, only 2 percent of households owned a motorcycle or scooter.

Ownership of property is common in Yemen, with 63 percent of households owning real estate and 42 percent owning agricultural land. Only 3 percent of households have commercial or industrial property. More than half of households (52 percent) own farm animals. As might be expected, ownership of agricultural land, real estate, and farm animals is considerably higher among rural households than urban households.

2.2 HOUSEHOLD WEALTH

Information on household assets was used to create an index that is used throughout this report to represent the wealth of the households interviewed in the 2013 YNHDS. This method for calculating a country-specific wealth index was developed and tested in a large number of countries in relation to inequalities in household income, use of health services, and health outcomes (Rutstein and Johnson, 2004). It has been shown to be consistent with expenditure and income measures.

Table 2.4 Household possessions

Percentage of households possessing various household effects, means of transportation, agricultural land and livestock/farm animals by residence, Yemen 2013

Possession	Residence		
	Urban	Rural	Total
Household effects			
Radio	41.2	39.4	39.9
Television	93.9	54.5	66.8
Mobile telephone	93.5	74.0	80.0
Non-mobile telephone	37.0	7.8	16.9
Refrigerator	77.3	22.7	39.7
Washer	74.7	17.6	35.4
Air conditioner	28.4	4.9	12.2
Fan	49.2	13.7	24.7
Generator	23.2	13.9	16.8
Water heater	31.6	6.4	14.3
Means of transport			
Bicycle	18.1	7.0	10.5
Animal drawn cart	0.7	1.6	1.3
Motorcycle/scooter	13.2	12.4	12.7
Car/truck	28.5	17.4	20.9
Boat with a motor	0.7	0.8	0.8
Ownership of fixed assets			
Agricultural land	15.5	54.1	42.0
Real state	51.9	68.5	63.3
Commercial or industrial property	5.4	2.4	3.3
Ownership of farm animals[1]	12.3	69.3	51.5
Number	5,413	11,938	17,351

[1] Cattle, cows, horses, donkeys, mules, camels, goats, sheep, or chickens

The wealth index is constructed using household asset data, including ownership of consumer items ranging from a television to a bicycle or car, as well as dwelling characteristics, such as source of drinking water, sanitation facilities, and type of building materials. In its current form, which takes account urban-rural differences in these items and their characteristics, the wealth index is created in three steps. In the first step, a subset of indicators common to urban and rural areas is used to create wealth scores for households in both areas. For purposes of creating scores, categorical variables are transformed into separate dichotomous (0-1) indicators. These indicators and those that are continuous are then examined using principal components analysis to produce a common factor score for each household. In the second step, separate factor scores are produced for households in urban and rural areas using area-specific indicators (Rutstein, 2008). The third step combines the separate area-specific factor scores to produce a nationally applicable combined wealth index by adjusting area-specific scores through a regression on the common factor scores. The resulting combined wealth index has a mean of zero and a standard deviation of one. Once the index is computed, national-level wealth quintiles (from lowest to highest) are formed by assigning the household score to each de jure household member, ranking each person in the population by that score, and then dividing the ranking into five equal categories, each comprising 20 percent of the population. Thus, throughout this report, wealth quintiles are expressed in terms of quintiles of individuals in the overall population rather than quintiles of individuals at risk for any one health or population indicator. For example, quintile rates for infant mortality refer to infant mortality rates per 1,000 live births among all people in the population quintile concerned, as distinct from quintiles of live births or newly born infants, who constitute the only members of the population at risk of mortality during infancy.

Table 2.5 presents wealth quintiles by residence and governorate. Also included in the table is the Gini Coefficient for each residence and governorate, which indicates the level of concentration of wealth, with zero being an equal distribution and one a totally unequal distribution.

Table 2.5 Wealth quintiles

Percent distribution of the de jure population by wealth quintiles, and the Gini Coefficient, according to residence and governorate, Yemen 2013

Residence/ Governorate	Wealth quintile					Total	Number of persons	Gini coefficient
	Lowest	Second	Middle	Fourth	Highest			
Residence								
Urban	1.1	1.5	5.6	36.5	55.3	100.0	35,523	0.11
Rural	28.4	28.2	26.4	12.7	4.4	100.0	80,220	0.20
Governorate								
Ibb	15.7	26.7	28.0	17.5	12.1	100.0	12,687	0.25
Abyan	6.4	13.0	30.3	36.6	13.6	100.0	2,463	0.18
Sana'a City	0.0	0.1	0.2	26.1	73.6	100.0	10,256	0.12
Al-Baidha	10.9	13.9	22.4	31.4	21.4	100.0	4,600	0.22
Taiz	21.3	19.6	24.0	14.0	21.1	100.0	15,012	0.26
Al-Jawf	26.4	39.2	29.6	4.8	0.0	100.0	937	0.25
Hajjah	49.9	21.6	14.7	10.1	3.6	100.0	7,072	0.29
Al-Hodiedah	32.8	24.5	14.0	14.6	14.1	100.0	14,252	0.26
Hadramout	3.8	7.6	11.9	45.3	31.4	100.0	6,541	0.15
Dhamar	25.6	29.3	27.5	11.7	5.9	100.0	8,300	0.28
Shabwah	3.3	5.6	23.5	42.2	25.5	100.0	2,443	0.12
Sadah	11.0	37.7	42.7	8.4	0.3	100.0	3,638	0.14
Sana'a	19.0	27.0	25.9	24.0	4.1	100.0	6,038	0.24
Aden	0.0	0.5	2.4	25.1	72.0	100.0	3,727	0.11
Lahj	19.8	19.6	25.2	26.0	9.5	100.0	3,223	0.27
Mareb	17.6	19.3	20.3	27.4	15.3	100.0	838	0.22
Al-Mhweit	31.1	29.9	23.6	11.2	4.2	100.0	3,071	0.25
Al-Mhrah	6.2	2.4	10.6	46.9	33.9	100.0	450	0.13
Amran	27.0	24.3	25.8	19.6	3.3	100.0	4,515	0.26
Aldhalae	10.4	23.3	29.3	26.2	10.8	100.0	3,001	0.22
Reimah	57.8	32.1	8.8	0.8	0.5	100.0	2,680	0.24
Total	20.0	20.0	20.0	20.0	20.0	100.0	115,743	0.23

Although by definition, 20 percent of the population falls into each of the five categories of the index, there are large differentials across residence and governorate. More than 9 in 10 urban residents fall in the fourth and highest quintiles, whereas more than half of the rural population (57 percent) falls in the lowest two quintiles. Similarly, the more urbanized governorates of Sana'a City and Aden have the largest proportions of households in the highest wealth quintile (74 percent and 72 percent, respectively). Reimah has the largest proportion in the lowest wealth quintile (58 percent).

2.3   HAND WASHING

Hand washing with soap and water is ideal. However, hand washing with a nonsoap cleansing agent such as ash or sand is preferred over not using any cleansing agent.

To obtain hand-washing information, interviewers asked to see the place where members of the household most often washed their hands; information on the availability of water, cleansing agents, or both was recorded only for households where the hand washing place was observed. As shown in Table 2.6, interviewers observed the place most often used for hand washing in 72 percent of households.

Among those households where the hand washing place was observed, 62 percent had soap and water, 22 percent had only water, 5 percent had soap but no water, and 8 percent had no water, soap, or any other cleansing agent at the place for hand washing. The proportion of households with soap and water is higher in urban than rural areas and ranges from a low of 31 percent in Hajjah Governorate to a high of 88 percent in Aden Governorate. The proportion with soap and water increases steadily as wealth increases.

Table 2.6 Hand washing

Percentage of households in which the place most often used for washing hands was observed, and among households in which the place for hand washing was observed, percent distribution by availability of water, soap, and other cleansing agents, Yemen 2013

Background characteristic	Percentage of households where place for washing hands was observed	Number of house-holds	Among households where place for hand washing was observed, percentage with:								Number of households with place for hand washing observed
			Soap and water[1]	Water and cleansing agent[2] other than soap only	Water only	Soap but no water[3]	Cleansing agent other than soap only[2]	No water, no soap, no other cleansing agent	Missing	Total	
Residence											
Urban	87.5	5,413	76.7	0.1	13.1	4.9	0.1	3.3	1.8	100.0	4,735
Rural	64.8	11,938	52.8	0.2	27.2	4.9	0.1	10.8	4.1	100.0	7,740
Governorate											
Ibb	63.2	1,827	49.1	0.0	33.6	4.3	0.2	12.2	0.5	100.0	1,154
Abyan	57.5	374	74.9	0.4	15.5	1.7	0.0	4.7	2.7	100.0	215
Sana'a City	93.5	1,640	70.7	0.0	16.7	6.5	0.0	4.9	1.1	100.0	1,534
Al-Baidha	82.7	533	68.0	0.1	22.1	1.1	0.0	8.5	0.2	100.0	441
Taiz	62.0	2,306	84.6	0.0	7.4	6.5	0.0	1.0	0.5	100.0	1,429
Al-Jawf	67.6	142	73.7	2.0	21.3	0.6	0.0	2.1	0.2	100.0	96
Hajjah	77.8	1,094	31.4	0.2	19.0	6.0	0.0	15.7	27.7	100.0	851
Al-Hodiedah	86.1	2,487	59.9	0.3	31.5	3.9	0.0	3.5	1.0	100.0	2,141
Hadramout	43.5	822	85.4	0.0	10.7	0.6	0.0	1.0	2.3	100.0	357
Dhamar	82.1	1,246	35.3	0.4	32.5	2.9	0.0	26.2	2.7	100.0	1,023
Shabwah	39.1	271	65.2	0.0	8.3	0.4	0.0	2.7	23.4	100.0	106
Sadah	61.4	493	58.4	0.5	19.0	10.1	2.1	9.3	0.6	100.0	302
Sana'a	62.5	779	46.5	0.0	40.4	7.8	0.0	3.9	1.4	100.0	487
Aden	89.5	620	87.9	0.3	9.1	1.0	0.0	0.3	1.3	100.0	555
Lahj	60.0	601	73.4	0.0	9.1	7.3	0.3	8.4	1.3	100.0	360
Mareb	32.8	103	33.7	0.0	24.0	1.7	0.0	10.7	29.9	100.0	34
Al-Mhweit	42.6	488	41.1	0.0	29.3	5.2	0.0	23.0	1.4	100.0	208
Al-Mhrah	80.8	85	86.8	0.0	6.0	2.5	1.1	0.1	3.4	100.0	68
Amran	83.9	622	52.0	0.0	25.4	9.3	0.1	12.0	1.1	100.0	522
Aldhalae	95.0	397	81.0	0.0	8.2	7.5	0.0	2.6	0.7	100.0	377
Reimah	50.8	423	70.6	0.6	16.6	2.2	0.0	9.4	0.6	100.0	215
Wealth quintile											
Lowest	59.0	3,849	30.8	0.4	33.7	6.1	0.2	19.9	9.0	100.0	2,270
Second	63.5	3,493	47.9	0.4	31.5	6.2	0.1	11.4	2.5	100.0	2,219
Middle	68.2	3,286	65.2	0.1	23.8	3.9	0.0	5.4	1.5	100.0	2,242
Fourth	79.1	3,220	70.5	0.0	17.9	4.1	0.1	4.5	2.9	100.0	2,548
Highest	91.3	3,503	84.4	0.0	8.5	4.6	0.0	1.5	1.0	100.0	3,197
Total	71.9	17,351	61.9	0.2	21.8	4.9	0.1	7.9	3.2	100.0	12,475

[1] Soap includes soap or detergent in bar, liquid, powder, or paste form. This column includes households with soap and water only as well as those that had soap and water and another cleansing agent.
[2] Cleansing agents other than soap include locally available materials such as ash, mud, or sand.
[3] Includes households with soap only as well as those with soap and another cleansing agent

2.4   HOUSEHOLD POPULATION BY AGE, SEX, AND RESIDENCE

Age and sex are important demographic variables that are the primary basis for demographic classification in vital statistics, censuses, and surveys. They are also very important variables in the study of mortality, fertility, and marriage. The distribution of the de facto household population in the 2013 YNHDS is shown in Table 2.7 by five-year age groups, according to sex and residence. A total of 109,215 individuals resided in the 17,351 households successfully interviewed; the female population (56,593) exceeds that of males (52,621).

Table 2.7 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Yemen 2013

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	12.9	11.6	12.3	15.9	14.0	14.9	15.0	13.3	14.1
5-9	12.8	12.8	12.8	17.1	15.2	16.1	15.7	14.5	15.1
10-14	14.8	12.8	13.7	16.6	14.5	15.5	16.0	13.9	14.9
15-19	11.4	11.7	11.5	11.6	11.8	11.7	11.5	11.8	11.6
20-24	10.0	10.6	10.3	7.3	9.0	8.2	8.1	9.5	8.9
25-29	8.0	9.8	8.9	5.7	7.9	6.9	6.5	8.5	7.5
30-34	6.5	7.1	6.8	4.5	5.4	5.0	5.2	5.9	5.6
35-39	5.1	5.6	5.4	4.0	4.8	4.4	4.4	5.0	4.7
40-44	4.3	3.5	3.9	3.0	3.2	3.1	3.4	3.3	3.3
45-49	3.0	3.0	3.0	2.5	2.5	2.5	2.6	2.7	2.7
50-54	3.1	4.5	3.8	2.5	3.9	3.3	2.7	4.1	3.4
55-59	2.1	2.3	2.2	1.8	2.2	2.0	1.9	2.2	2.1
60-64	2.1	1.7	1.9	2.4	1.8	2.1	2.3	1.7	2.0
65-69	1.2	0.8	1.0	1.3	1.0	1.2	1.3	1.0	1.1
70-74	1.4	1.0	1.2	1.6	1.0	1.3	1.5	1.0	1.3
75-79	0.5	0.5	0.5	0.8	0.6	0.7	0.7	0.5	0.6
80 +	0.8	0.9	0.9	1.3	1.2	1.2	1.2	1.1	1.1
Don't know/missing	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	16,976	17,461	34,437	35,646	39,132	74,778	52,621	56,593	109,215

The age-sex structure of the population is shown in the population pyramid in Figure 2.1. The broad base of the pyramid indicates that Yemen's population is young, a scenario typical of countries with high fertility rates. The proportion of persons under age 15 is 44 percent, while the proportion of individuals age 65 and older is 4 percent. This pattern is similar to the one observed in the 1997 YDMCHS, although the proportion under age 15 has declined from 49 percent to 44 percent. There appears to be some displacement of women age 45-49 to age 50-54; interviewers may have intentionally overestimated the respondents' ages as older than the age cut-off of 49 so as to make them ineligible for the individual interview.

Figure 2.1 **Population pyramid**

YNHDS 2013
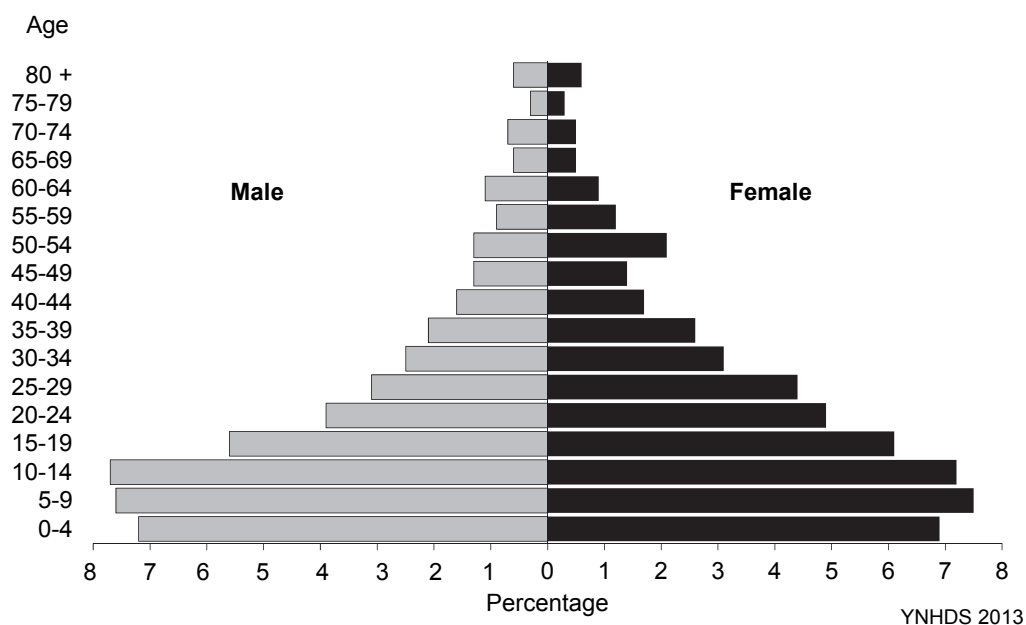
2.5 HOUSEHOLD COMPOSITION

Information on the composition of households, including the sex of the head of the household and the size of the household, is presented in Table 2.8. These characteristics are important because they are associated with the welfare of the household. Female-headed households are, for example, typically poorer than male-headed households. In larger households, economic resources are often more limited. Moreover, where the household size is large, crowding can lead to health problems.

Table 2.8 shows that 92 percent of the households in Yemen are headed by men. This proportion is almost identical to the 91 percent found in the 1997 YDMCHS. Households in Yemen are large, with almost one-quarter consisting of 9 or more members. The overall average household size of 6.7 is only slightly lower than that reported in the 1997 YDMCHS (7.0). Variation in household size by residence is small. The mean size of households in urban areas is 6.6, which compares with 6.7 in rural areas.

Information was also collected on the living arrangements of all children under age 18 residing in households and on the survival status of their parents. These data can be used to assess the extent to which households face a need to care for orphaned or foster children. Orphans include children whose mother or father has died (single orphans) as well as children who have lost both parents (double orphans). In the case of foster children, both parents are alive but the children are living in a household where neither their natural mother nor their natural father resides. Overall, 9 percent of households in Yemen are caring for foster or orphaned children, or both.

Table 2.8 Household composition

Percent distribution of households by sex of head of household and by household size; mean size of household, and percentage of households with orphans and foster children under age 18, according to residence, Yemen 2013

| Characteristic | Residence | | |
	Urban	Rural	Total
Household headship			
Male	91.4	92.6	92.2
Female	8.6	7.4	7.8
Total	100.0	100.0	100.0
Number of usual members			
1	1.2	2.2	1.9
2	5.6	7.3	6.8
3	7.8	7.9	7.9
4	13.4	10.2	11.2
5	14.1	11.8	12.5
6	14.5	12.8	13.3
7	11.9	12.1	12.0
8	9.8	10.2	10.1
9+	21.8	25.5	24.4
Total	100.0	100.0	100.0
Mean size of households	6.6	6.7	6.7
Percentage of households with orphans and foster children under 18 years of age			
Foster children[1]	4.2	4.2	4.2
Double orphans	0.2	0.2	0.2
Single orphans[2]	4.8	5.3	5.1
Foster and/or orphan children	8.5	8.6	8.6
Number of households	5,413	11,938	17,351

Note: Table is based on de jure household members, i.e., usual residents.
[1] Foster children are those under age 18 living in households with neither their mother nor their father present.
[2] Includes children with one dead parent and an unknown survival status of the other parent.

2.6 BIRTH REGISTRATION

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

Information on the registration of births was collected in the household interview. Respondents were asked whether children under age 5 residing in the household had a birth certificate. If not, interviewers asked if the child's birth had ever been registered with the civil authority. Table 2.9 shows the percentage of de jure children under age 5 whose births were registered at the time of the survey.

Table 2.9 Birth registration of children under age 5

Percentage of de jure children under age 5 whose births are registered with the civil authorities, according to background characteristics, Yemen 2013

| Background characteristic | Children whose births are registered | | | Number of children |
	Percentage who had a birth certificate	Percentage who did not have birth certificate	Percentage registered	
Age				
<2	13.4	15.5	28.9	6,340
2-4	17.0	14.9	31.9	9,260
Sex				
Male	15.8	15.2	31.1	7,980
Female	15.3	15.0	30.3	7,620
Residence				
Urban	36.0	12.2	48.2	4,267
Rural	7.9	16.2	24.1	11,332
Governorate				
Ibb	10.6	8.4	19.0	1,665
Abyan	40.5	11.8	52.4	315
Sana'a City	39.6	5.5	45.1	1,259
Al-Baidha	20.0	5.1	25.1	651
Taiz	12.0	20.0	32.0	1,907
Al-Jawf	6.1	6.1	12.2	143
Hajjah	3.1	26.9	29.9	1,022
Al-Hodiedah	7.3	26.2	33.6	2,008
Hadramout	47.0	12.0	59.0	733
Dhamar	6.9	11.2	18.2	1,283
Shabwah	17.3	25.4	42.7	298
Sadah	3.0	10.5	13.6	462
Sana'a	7.9	7.8	15.7	898
Aden	65.4	7.3	72.7	391
Lahj	16.0	22.5	38.4	403
Mareb	7.5	41.1	48.6	118
Al-Mhweit	8.1	10.2	18.3	506
Al-Mhrah	28.6	25.3	53.9	61
Amran	3.1	21.5	24.6	667
Aldhalae	19.6	4.5	24.0	390
Reimah	6.2	15.9	22.1	420
Wealth quintile				
Lowest	1.9	14.9	16.7	3,507
Second	4.5	15.6	20.2	3,302
Middle	9.4	17.4	26.9	3,189
Fourth	24.2	16.3	40.6	2,907
Highest	44.8	10.9	55.7	2,694
Total	15.6	15.1	30.7	15,600

Survey results show that the births of less than one-third of Yemeni children under age 5 have been registered. Of these, roughly half (16 percent of all children) have a birth certificate, while the other half (15 percent) do not have a certificate, but the birth was registered. There is little variation by age or sex in the proportion of children registered. Births of children in urban households are more likely to have been registered than those of children in rural households (48 percent and 24 percent, respectively). By governorate, the proportion of children with registered births is highest in Aden (73 percent) and lowest in Al-Jawf (12 percent) and Sadah (14 percent) governorates. The percentage of children whose births are registered correlates positively with wealth, ranging from 17 percent of children in the lowest wealth quintile to 56 percent of children in the highest wealth quintile. A comparison of the 2013 YNHDS with the 2006 YMICS reveals that the percentage of children under 5 with registered births has increased from 22 percent in 2006 to 31 percent in 2013 (MOHP and UNICEF, 2008).

2.7 CHILDREN'S LIVING ARRANGEMENTS AND PARENTAL SURVIVAL

Information was collected on the living arrangements and survival status of parents of all children under age 18 residing in the YNHDS sample households to assess the potential burden on households of the need to provide for orphaned or foster children. These data were also used to assess the situation from the perspective of the children themselves. Table 2.10 presents the proportion of children under age 18 who are not living with one or both parents, either because the parent(s) died or for other reasons.

Table 2.10 Children's living arrangements and orphanhood

Percent distribution of de jure children under age 18 by living arrangements and survival status of parents, the percentage of children not living with a biological parent, and the percentage of children with one or both parents dead, according to background characteristics, Yemen 2013

Background characteristic	Living with both parents	Living with mother but not with father		Living with father but not with mother		Not living with either parent				Missing information on father/mother	Total	Percentage not living with a biological parent	Percentage with one or both parents dead[1]	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead					
Age														
0-4	93.5	4.6	1.0	0.4	0.2	0.3	0.0	0.1	0.0	0.1	100.0	0.4	1.2	15,600
<2	93.9	5.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.1	100.0	0.1	0.6	6,340
2-4	93.2	4.3	1.2	0.4	0.2	0.4	0.0	0.1	0.0	0.0	100.0	0.6	1.6	9,260
5-9	90.6	4.6	2.2	1.1	0.5	0.6	0.1	0.1	0.0	0.1	100.0	0.9	3.0	16,708
10-14	87.3	4.0	4.0	1.5	1.2	1.2	0.1	0.2	0.2	0.3	100.0	1.7	5.7	16,565
15-17	80.9	3.8	5.7	1.4	1.8	3.6	0.2	0.5	0.2	1.9	100.0	4.5	8.4	8,086
Sex														
Male	89.6	4.1	2.9	1.1	0.8	0.7	0.1	0.2	0.1	0.2	100.0	1.1	4.1	29,065
Female	88.4	4.5	2.8	1.0	0.7	1.5	0.1	0.2	0.1	0.6	100.0	1.9	4.0	27,893
Residence														
Urban	88.5	4.4	3.1	1.2	0.8	1.3	0.1	0.1	0.1	0.4	100.0	1.6	4.2	15,947
Rural	89.3	4.3	2.8	1.0	0.8	1.0	0.1	0.3	0.1	0.4	100.0	1.5	4.0	41,012
Governorate														
Ibb	86.0	7.0	3.0	0.7	0.8	1.7	0.0	0.2	0.2	0.4	100.0	2.1	4.2	6,310
Abyan	88.3	3.6	4.1	0.8	1.0	1.5	0.0	0.1	0.0	0.8	100.0	1.6	5.2	1,052
Sana'a City	91.7	3.2	1.5	1.6	0.6	0.8	0.1	0.0	0.1	0.4	100.0	1.1	2.4	4,611
Al-Baidha	82.9	9.8	4.8	0.5	0.4	1.1	0.0	0.3	0.1	0.1	100.0	1.5	5.6	2,281
Taiz	86.4	6.2	2.5	1.4	0.4	2.2	0.2	0.3	0.0	0.5	100.0	2.7	3.4	7,059
Al-Jawf	84.1	5.9	4.9	1.9	1.0	1.4	0.3	0.2	0.1	0.3	100.0	1.9	6.5	493
Hajjah	94.1	0.8	2.6	0.6	1.3	0.4	0.1	0.1	0.0	0.1	100.0	0.6	4.0	3,870
Al-Hodiedah	88.8	4.7	2.9	0.9	1.2	0.7	0.2	0.0	0.0	0.5	100.0	0.9	4.4	6,981
Hadramout	90.6	3.8	2.6	1.3	0.4	0.6	0.0	0.1	0.0	0.6	100.0	0.7	3.2	3,035
Dhamar	88.5	3.7	3.6	1.0	0.6	1.4	0.0	0.5	0.2	0.6	100.0	2.1	4.8	4,574
Shabwah	92.8	1.6	3.6	0.5	0.4	0.4	0.0	0.3	0.1	0.3	100.0	0.9	4.4	1,178
Sadah	91.3	1.3	3.8	0.9	0.6	0.8	0.0	0.6	0.1	0.6	100.0	1.5	5.1	1,887
Sana'a	91.4	1.4	3.0	1.5	1.1	0.7	0.1	0.4	0.1	0.4	100.0	1.3	4.7	3,027
Aden	85.9	6.5	2.8	1.2	1.9	1.1	0.0	0.0	0.3	0.2	100.0	1.5	5.1	1,474
Lahj	90.3	5.1	1.7	0.8	0.4	0.9	0.1	0.1	0.0	0.5	100.0	1.1	2.3	1,474
Mareb	88.0	3.1	4.8	1.0	0.6	1.0	0.1	0.4	0.3	0.7	100.0	1.7	6.2	429
Al-Mhweit	90.7	3.6	1.9	1.0	1.0	1.0	0.1	0.4	0.1	0.2	100.0	1.6	3.5	1,627
Al-Mhrah	93.6	2.6	1.8	0.1	0.7	0.4	0.2	0.1	0.0	0.7	100.0	0.6	2.7	216
Amran	91.8	1.5	2.9	1.6	1.0	0.7	0.1	0.1	0.1	0.3	100.0	1.0	4.2	2,390
Aldhalae	88.1	4.9	2.7	1.3	0.8	1.4	0.1	0.1	0.2	0.3	100.0	1.8	3.9	1,521
Reimah	90.8	3.0	2.2	1.2	0.8	1.2	0.3	0.2	0.2	0.2	100.0	1.8	3.7	1,471

Continued…

Table 2.10—*Continued*

Background characteristic	Living with both parents	Living with mother but not with father		Living with father but not with mother		Not living with either parent				Missing information on father/mother	Total	Percentage not living with a biological parent	Percentage with one or both parents dead[1]	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead					
Wealth quintile														
Lowest	91.0	2.5	3.1	1.1	0.8	0.6	0.2	0.2	0.1	0.4	100.0	1.1	4.4	12,388
Second	88.7	4.1	3.3	0.8	0.9	1.1	0.2	0.3	0.2	0.4	100.0	1.7	4.8	11,846
Middle	87.8	5.5	2.4	1.3	0.8	1.4	0.0	0.3	0.0	0.4	100.0	1.7	3.5	11,649
Fourth	88.9	4.8	2.6	0.8	0.8	1.3	0.1	0.1	0.1	0.3	100.0	1.6	3.8	10,986
Highest	88.7	4.7	2.8	1.4	0.6	1.2	0.1	0.1	0.1	0.5	100.0	1.4	3.6	10,089
Total <15	90.4	4.4	2.4	1.0	0.6	0.7	0.1	0.1	0.1	0.2	100.0	1.0	3.3	48,872
Total <18	89.1	4.3	2.9	1.1	0.8	1.1	0.1	0.2	0.1	0.4	100.0	1.5	4.1	56,958

Note: Table is based on de jure members, i.e., usual residents.
[1] Includes children with father dead, mother dead, both dead and one parent dead but missing information on survival status of the other parent.

Almost 90 percent of children under 18 in Yemen are living with both their natural parents (89 percent). Seven percent of children are living with their mothers but not their fathers, and 2 percent are living with their fathers but not their mothers. Only 2 percent of children are not living with either parent. Four percent of children under age 18 are orphaned, that is, one or both parents are dead.

The percentage of orphaned children increases rapidly with age, from 1 percent of children under 5 to 8 percent of children age 15-17. Differences in orphanhood by other characteristics are not large.

2.8   EDUCATION OF THE HOUSEHOLD POPULATION

The educational level of household members is among the most important characteristics of the household because it is associated with many factors that have a significant impact on health-seeking behavior, reproductive behavior, use of contraception, and the health of children. Under the current Yemeni school system, there are 9 years of Fundamental school (grades 1-9) for children age 6-14, after which students receive a school certificate. In the previous school system, "Fundamental" corresponded to a combination of either Primary (grades 1-6) and Preparatory (grades 1-3) or Unified (grades 1-8).

The category of "Fundamental" used in this report corresponds to the current Fundamental, the two previous levels, and "diploma before secondary." There are three years of secondary education for children age 15-17. In the report, the category of higher education includes university and higher levels, as well as diploma after secondary.

2.8.1   Educational Attainment

Tables 2.11.1 and 2.11.2 show the distribution of female and male household members age 6 and above by the highest level of schooling ever attended (even if they did not complete that level) according to age, residence, governorate, and wealth quintile. A comparison of the two tables reveals that there is a substantial gap in educational attainment between women and men. Although a majority of the household population age 6 and older has some education, 43 percent of females have never attended school; this compares with only 21 percent of males. At the other end of the education spectrum, only 12 percent of females age 6 and above have reached secondary school or higher, compared with 23 percent of males.

As expected, the proportion of those who have never been to school is higher among older women and men than among those who are younger. For example, the proportion with no education decreases steadily from 96 percent of women age 65 and over to only 14 percent of girls age 10-14. Rural females and males are about twice as likely as their urban counterparts to have no education. Educational attainment also differs markedly among governorates. For example, the largest proportion of the household population age 6 and over that has never been to school is found in Hajjah for both females (61 percent) and males (39 percent). The governorates with the lowest proportions of household members who have never attended school are Aden (23 percent) and Sana'a City (24 percent) for females and Sana'a City (11 percent) and Shabwah (12 percent) for males. For both sexes, the percentage with no education decreases steadily as wealth quintile rises.

Comparison of data from the 2013 YNHDS with the 1997 YDMCHS shows some improvement in educational attainment. For example, between 1997 and 2013 the proportion of those age 6 and over with no education declined from 67 percent to 43 percent for females and from 33 percent to 21 percent for males (CSO and MI, 1998).

Table 2.11.1 Educational attainment of the female household population

Percent distribution of the de facto female household population age six and over by highest level of schooling attended, according to background characteristics, Yemen 2013

Background characteristic	No education	Fundamental[1]	Secondary	Higher	Don't know/ missing	Total	Number
Age							
6-9	30.7	68.0	0.0	0.0	1.3	100.0	6,931
10-14	13.9	85.1	0.8	0.0	0.2	100.0	7,893
15-19	18.0	55.7	24.9	1.3	0.1	100.0	6,651
20-24	30.3	39.7	20.2	9.6	0.2	100.0	5,390
25-29	43.4	33.2	13.0	10.2	0.3	100.0	4,801
30-34	52.2	28.8	9.7	9.2	0.1	100.0	3,342
35-39	63.2	26.3	4.2	6.1	0.3	100.0	2,837
40-44	73.6	19.4	3.6	3.2	0.2	100.0	1,853
45-49	79.1	16.1	2.6	2.0	0.1	100.0	1,512
50-54	87.9	8.6	1.6	1.1	0.7	100.0	2,324
55-59	94.5	3.1	1.0	0.9	0.4	100.0	1,273
60-64	95.9	2.0	0.2	0.4	1.6	100.0	982
65+	96.1	0.7	0.1	0.0	3.0	100.0	2,042
Don't know/missing	*	*	*	*	*	100.0	6
Residence							
Urban	26.2	48.7	15.5	9.1	0.5	100.0	15,099
Rural	50.2	43.0	5.2	1.0	0.6	100.0	32,737
Governorate							
Ibb	40.0	51.5	7.0	1.2	0.3	100.0	5,328
Abyan	36.6	50.4	7.7	4.9	0.4	100.0	1,010
Sana'a City	24.0	46.1	17.5	12.0	0.4	100.0	4,420
Al-Baidha	35.9	57.3	5.9	0.7	0.2	100.0	1,872
Taiz	37.4	43.7	13.3	5.4	0.1	100.0	6,313
Al-Jawf	42.7	44.7	10.2	1.2	1.3	100.0	357
Hajjah	60.9	32.1	5.2	1.0	0.9	100.0	2,883
Al-Hodiedah	48.7	40.6	6.8	3.3	0.6	100.0	5,970
Hadramout	36.9	52.3	7.8	2.5	0.4	100.0	2,671
Dhamar	54.5	40.4	3.4	1.1	0.6	100.0	3,315
Shabwah	40.5	52.9	4.3	0.5	1.8	100.0	982
Sadah	56.1	39.7	2.2	0.3	1.6	100.0	1,531
Sana'a	50.1	43.4	5.6	0.4	0.5	100.0	2,401
Aden	22.6	47.4	16.3	13.2	0.6	100.0	1,601
Lahj	42.0	43.3	9.1	4.8	0.7	100.0	1,337
Mareb	36.4	50.0	10.2	2.7	0.8	100.0	338
Al-Mhweit	49.5	42.3	6.3	1.3	0.6	100.0	1,215
Al-Mhrah	35.4	52.0	9.2	1.2	2.2	100.0	181
Amran	53.1	40.4	4.9	1.1	0.5	100.0	1,807
Aldhalae	40.3	49.7	7.8	1.5	0.6	100.0	1,251
Reimah	52.4	43.0	3.7	0.2	0.8	100.0	1,055
Wealth quintile							
Lowest	69.4	28.6	1.6	0.0	0.4	100.0	9,409
Second	51.0	44.1	4.0	0.3	0.6	100.0	9,450
Middle	40.7	50.0	7.5	1.3	0.6	100.0	9,397
Fourth	32.0	52.9	10.7	3.7	0.7	100.0	9,545
Highest	21.5	48.4	17.8	11.9	0.4	100.0	10,035
Total	42.6	44.8	8.4	3.6	0.5	100.0	47,836

[1] Fundamental includes Primary, Unified, Preparatory, and Diploma before secondary

Table 2.11.2 Educational attainment of the male household population

Percent distribution of the de facto male household population age 6 and over by highest level of schooling attended, according to background characteristics, Yemen 2013

Background characteristic	No education	Fundamental[1]	Secondary	Higher	Don't know/ missing	Total	Number
Age							
6-9	24.7	74.3	0.0	0.0	1.0	100.0	6,975
10-14	5.0	93.9	1.0	0.0	0.1	100.0	8,404
15-19	5.1	59.3	33.7	1.7	0.2	100.0	6,070
20-24	6.3	42.2	32.3	19.1	0.2	100.0	4,287
25-29	9.5	42.8	29.4	17.9	0.4	100.0	3,398
30-34	11.2	40.5	26.8	21.2	0.3	100.0	2,729
35-39	14.2	41.4	21.0	22.8	0.5	100.0	2,291
40-44	20.6	36.5	17.9	24.5	0.5	100.0	1,802
45-49	31.8	36.9	13.3	17.0	0.9	100.0	1,394
50-54	51.6	27.3	9.3	11.4	0.4	100.0	1,419
55-59	63.0	20.8	7.1	8.3	0.9	100.0	1,015
60-64	75.9	14.0	4.3	4.8	1.0	100.0	1,204
65+	89.5	5.9	1.8	1.6	1.2	100.0	2,455
Don't know/missing	*	*	*	*	*	100.0	11
Residence							
Urban	12.5	52.8	19.7	14.6	0.4	100.0	14,425
Rural	24.7	56.7	12.7	5.4	0.5	100.0	29,028
Governorate							
Ibb	20.1	59.2	15.1	5.3	0.2	100.0	4,534
Abyan	14.4	56.1	22.0	7.3	0.2	100.0	966
Sana'a City	10.5	46.3	22.5	20.5	0.2	100.0	4,221
Al-Baidha	19.5	59.2	16.0	5.2	0.1	100.0	1,668
Taiz	18.3	56.3	15.5	9.5	0.3	100.0	5,033
Al-Jawf	18.1	54.5	18.0	8.6	0.9	100.0	353
Hajjah	39.0	47.6	9.1	4.0	0.3	100.0	2,765
Al-Hodiedah	28.3	56.5	9.7	5.1	0.4	100.0	5,406
Hadramout	13.4	61.6	15.6	8.9	0.5	100.0	2,680
Dhamar	24.4	56.9	12.3	5.8	0.6	100.0	3,030
Shabwah	12.3	60.9	19.9	5.1	1.9	100.0	919
Sadah	28.7	54.0	11.0	5.0	1.3	100.0	1,517
Sana'a	18.9	55.6	15.8	8.8	1.0	100.0	2,297
Aden	12.7	49.8	20.1	16.7	0.6	100.0	1,546
Lahj	18.3	53.7	17.6	9.7	0.6	100.0	1,243
Mareb	14.4	56.3	19.1	9.3	1.0	100.0	301
Al-Mhweit	23.2	56.6	11.7	7.9	0.5	100.0	1,017
Al-Mhrah	20.0	63.3	11.8	3.0	2.0	100.0	175
Amran	21.8	58.0	13.6	6.5	0.1	100.0	1,656
Aldhalae	15.2	53.5	20.6	10.2	0.6	100.0	1,195
Reimah	21.6	63.0	10.3	4.5	0.6	100.0	931
Wealth quintile							
Lowest	39.0	52.9	5.9	1.7	0.4	100.0	8,280
Second	24.5	58.7	12.1	4.1	0.7	100.0	8,259
Middle	17.7	58.7	16.3	6.8	0.5	100.0	8,558
Fourth	15.1	58.1	17.6	8.7	0.5	100.0	9,107
Highest	9.0	49.0	22.1	19.5	0.4	100.0	9,250
Total	20.7	55.4	15.0	8.4	0.5	100.0	43,453

[1] Fundamental includes Primary, Unified, Preparatory, and Diploma before secondary

2.8.2   School Attendance Rates

Age-specific attendance rates (ASARs) for the population age 5 to 24—i.e., the percentage of a given age cohort that attends school, regardless of the level attended—are shown in Figure 2.2. Attendance rates peak at 85 percent for girls age 9 and at 93 percent for boys age 11. Whereas the percentage of girls in school is slightly higher than boys at age 5, from then on, the percentage of boys in school greatly exceeds girls at every age.

Figure 2.2 Age-specific attendance rates of the de facto population 5 to 24 years

Percentage

■ Male □ Female

YNHDS 2013
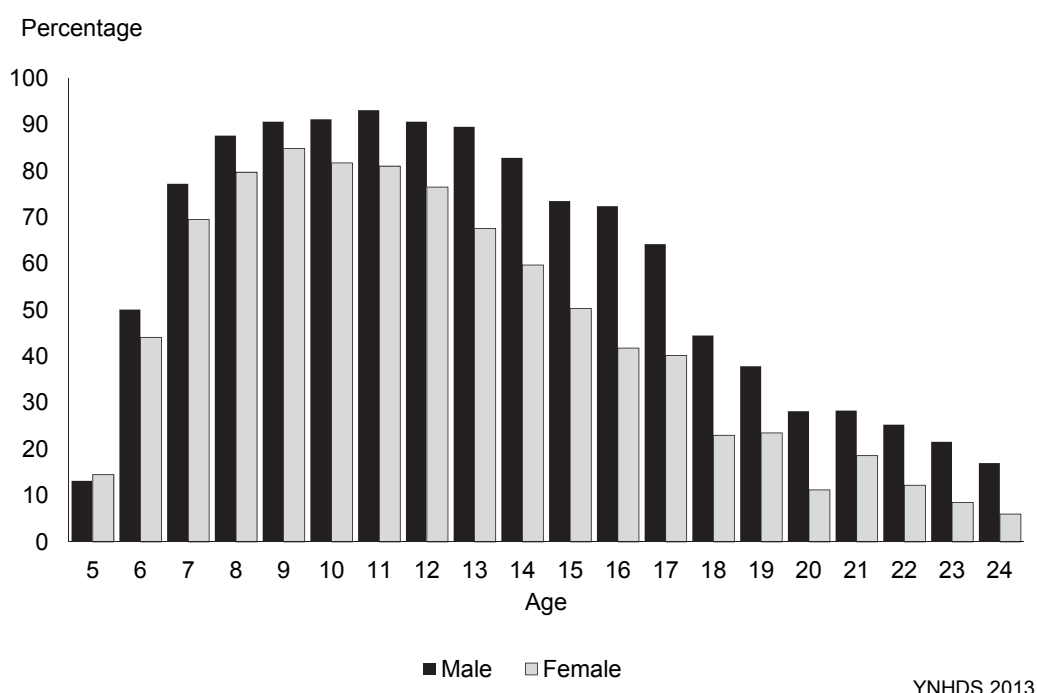
2.9   CHILD DISCIPLINE

The manner in which parents and caretakers discipline children can have long-term consequences on their physical and psychological development and well-being. In an effort to identify the types of child discipline methods used in Yemen, the 2013 YNHDS included questions on this topic. The questions were aimed at only one randomly selected child age 2-14 in the household. Interviewers were instructed how to use the "Kish" grid in the Household Questionnaire to randomly select one child in households with two or more eligible children. Interviewers then posed questions to the child's mother/caretaker about whether the respondent or anyone else in the household used any of a list of methods to discipline the child in the previous month. Responses were weighted to properly represent all children 2-14 living in households. Responses were grouped into three categories: (1) only non-violent discipline (e.g., taking away privileges, explaining to the child why his/her behavior is wrong); (2) any physical punishment (hitting the child either with or without a tool); and (3) severe physical punishment (e.g., hitting the child on the face or head, hitting the child very hard with a tool).

Data in Table 2.12 show that a large majority of children age 2-14 in Yemen received some sort of physical punishment in the month before the survey (79 percent); 42 percent of children received severe physical punishment in the previous month. Sixteen percent of children received only non-violent discipline such as taking away privileges or explaining why something the child did was wrong.

Differences in the use of the various types of child discipline by the sex and age of the child and by education of the head of the household are not large. However, the use of severe physical discipline is more common among rural than urban children and declines steadily as wealth quintile increases. It is also more common in Amran Governorate, where over two-thirds of children 2-14 were severely disciplined in the month before the survey.

Despite some differences in the wording of questions, the 2006 YMICS survey found almost identical results to the 2013 YNHDS, with 83 percent of children 2-14 having received any physical punishment in the month before the survey (compared with 79 in 2013) and 41 percent receiving severe physical punishment (compared with 42 percent in 2013) (MOHP and UNICEF, 2008).

Table 2.12 Child discipline

Percentage of children age 2-14 by child discipline methods experienced during the last one month, Yemen 2013

Background characteristic	Percentage of children age 2-14 years who experienced:			Number of children age 2-14 years[4]
	Only non-violent discipline[1]	Physical punishment		
		Any[2]	Severe[3]	
Child's sex				
Male	14.2	81.2	44.6	6,923
Female	18.2	77.1	39.6	6,689
Age				
2	18.1	73.5	35.1	1,036
3-4	14.0	81.8	40.8	1,956
5-9	12.1	84.4	46.2	5,193
10-14	20.5	74.2	40.0	5,427
Residence				
Urban	19.7	76.4	33.9	3,805
Rural	14.8	80.2	45.3	9,807
Governorate				
Ibb	17.3	78.1	41.8	1,520
Abyan	32.1	63.5	33.8	241
Sana'a City	18.1	78.4	39.7	1,102
Al-Baidha	16.3	81.5	44.4	547
Taiz	13.8	82.5	47.3	1,668
Al-Jawf	15.5	80.8	36.4	120
Hajjah	11.5	84.1	58.7	965
Al-Hodiedah	17.1	76.5	25.5	1,675
Hadramout	28.7	62.5	12.8	722
Dhamar	9.1	85.3	51.9	1,068
Shabwah	9.5	77.8	34.4	274
Sadah	14.1	80.3	50.9	456
Sana'a	12.8	84.9	58.4	710
Aden	14.5	82.7	36.7	351
Lahj	23.0	71.8	28.7	346
Mareb	15.1	77.6	51.3	104
Al-Mhweit	14.2	83.3	55.7	388
Al-Mhrah	26.7	66.3	21.1	50
Amran	12.5	84.8	67.1	588
Aldhalae	29.1	68.8	13.5	360
Reimah	13.7	81.8	48.0	356
Education of the head of household				
No education	16.0	78.9	45.9	5,404
Fundamental	15.1	80.1	42.7	4,486
Secondary	16.6	80.0	39.6	1,902
Higher	19.0	77.0	31.8	1,738
Missing	19.2	75.5	41.2	82
Wealth quintile				
Lowest	13.2	81.6	49.8	3,042
Second	12.0	84.2	48.4	2,829
Middle	15.8	79.2	43.8	2,742
Fourth	19.5	75.9	35.9	2,613
Highest	21.8	73.6	29.7	2,386
Total	16.2	79.2	42.1	13,612

Note: Random selection of one child age 2-14 years per household is carried out during fieldwork. Household sample weight is multiplied by the total number of children age 2-14 in each household to take the random selection into account. Child disciplining methods in this table should be considered as lower bounds of the actual discipline methods used by the household members, since children who may have been separated from the household members (e.g. at boarding school) during the past month are considered not to have been subjected to any disciplining method.

[1] Only non-violent discipline: "taking away privileges" or "explaining to the child that his/her behavior is wrong" and no other form of discipline.

[2] Any physical punishment: "hitting the child on the shoulder or spanking on the rear" or "hitting on the rear or at any other place of the child's body using something such as a belt, hair brush, a stick or something solid" or "hitting the child in the face or head or ear" or "hitting the child's hand, arm, or leg" or "punishing the child by using a tool and then continued to hit the child very hard."

[3] Severe physical punishments: "hitting the child in the face or head or ear" or "punishing the child by using a tool and then continued to hit the child very hard."

[4] Columns 1-3 are based on children age 2-14 years selected for the child discipline module, weighted by the total number of children age 2-14 years in each household where at least one child in this age range is currently living.

Table 2.13 shows that almost four in ten mothers/caretakers of children believe that children must be physically punished in order to be raised in an appropriate way. Belief in physical punishment is more prevalent among respondents in rural areas and in Dhamar Governorate. It declines with increasing education of the household head and increasing wealth.

Table 2.13 Attitudes toward physical punishment

Percentage of respondents to the child discipline module who believe that physical punishment is needed to bring up, raise, or educate a child properly, by background characteristics, Yemen 2013

Background characteristic	Respondent believes that a child needs to be physically punished	Number of respondents to the child discipline module
Sex of the respondent		
Male	31.1	286
Female	39.3	13,311
Missing	18.4	15
Age		
< 25	42.0	1,217
25-39	39.2	8,325
40-59	38.3	3,823
60+	38.5	232
Don't know, missing, inconsistent	18.4	15
Residence		
Urban	26.9	3,805
Rural	43.9	9,807
Governorate		
Ibb	45.5	1,520
Abyan	31.7	241
Sana'a City	30.3	1,102
Al-Baidha	23.3	547
Taiz	45.7	1,668
Al-Jawf	30.9	120
Hajjah	42.1	965
Al-Hodiedah	33.8	1,675
Hadramout	16.6	722
Dhamar	66.7	1,068
Shabwah	33.5	274
Sadah	41.3	456
Sana'a	42.4	710
Aden	18.2	351
Lahj	29.7	346
Mareb	38.5	104
Al-Mhweit	48.4	388
Al-Mhrah	12.8	50
Amran	39.8	588
Aldhalae	24.4	360
Reimah	53.7	356
Education of the head of household		
No education	42.6	5,404
Fundamental	40.7	4,486
Secondary	35.1	1,902
Higher	29.3	1,738
Missing	32.1	82
Wealth quintile		
Lowest	51.6	3,042
Second	48.5	2,829
Middle	38.8	2,742
Fourth	28.8	2,613
Highest	23.9	2,386
Total[1]	39.2	13,612

Note: The question is asked to a single respondent in all households where a child age 2-14 was randomly selected for the child discipline module. The respondent is not necessarily a parent or caretaker of such a child and may not necessarily have responded to the child discipline module about his/her own child.
[1] Total includes 15 cases with inconsistent/missing information on sex and age of the respondent in the child discipline module.

CHARACTERISTICS OF RESPONDENTS

3

Key Findings

- A total of 25,434 women age 15-49 were interviewed as part of the 2013 YNHDS—16,656 ever-married women and 8,778 never-married women.
- Forty-two percent of all women age 15-49 have no education, and only 21 percent have attended secondary school.
- Female literacy rates are low; just over half of all women are literate.
- Twenty percent of all women read a newspaper at least once a week, while 73 percent watch television and 28 percent listen to the radio at least once a week.
- Only 10 percent of ever-married women age 15-49 are currently employed.
- Among ever-married women who were employed in the past 12 months, half worked in agriculture.

This chapter presents information on demographic and socioeconomic characteristics of the survey respondents such as age, education, place of residence, marital status, employment, and wealth status. This information is useful for understanding the factors that affect use of reproductive health services, contraceptive use, and other health behaviors, as they provide a context for the interpretation of demographic and health indices.

3.1 CHARACTERISTICS OF SURVEY RESPONDENTS

Information on background characteristics of the 25,434 women age 15-49 interviewed in the 2013 YNHDS is presented in Table 3.1. The distribution is presented separately for ever-married women and never-married women, as well as for both combined.

For all women, the proportion in each age group declines with increasing age, as expected. Of course, among never-married women, the proportion declines with age, as women marry. Among ever-married women, the proportion in each age group rises with age until age 25-29, after which it declines.

Just over one-third of all women have never married, while 61 percent are currently married, and 4 percent are either divorced or widowed. About one-third of all women live in urban areas and two-thirds live in rural areas. By contrast, according to the 1997 YDMCHS, only one-quarter of female respondents resided in urban areas; however, by 2006, 31 percent of ever-married women were living in urban areas (CSO and MI, 1998; MOHP and UNICEF, 2008), almost identical to the 32 percent found in the 2013 YNHDS. The largest proportions of women live in Taiz Governorate, followed by Al-Hodiedah and Ibb Governorates. The smallest proportions live in Al-Mhrah, Mareb, and Al-Jawf Governorates.

Education influences an individual's attitude and outlook on life. Generally, educational attainment in Yemen is low; only 21 percent of all women age 15-49 have attended at least some secondary school. Thirty-seven percent of women have attended only Fundamental school, and 42 percent have no education. Because never-married women are generally younger than all women, a higher proportion of never-married women have been to school and have reached secondary school.

Table 3.1 Background characteristics of respondents

Percent distribution of ever-married women, never-married women, and all women age 15-49 by selected background characteristics, Yemen 2013

Background characteristic	Ever-married women			Never-married women			All women		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age									
15-19	6.7	1,112	1,112	59.0	5,231	5,303	24.9	6,342	6,415
20-24	18.7	3,099	3,096	23.6	2,098	2,049	20.4	5,197	5,145
25-29	22.5	3,731	3,724	10.2	903	842	18.2	4,634	4,566
30-34	17.0	2,824	2,816	4.5	401	345	12.7	3,225	3,161
35-39	15.8	2,612	2,611	1.7	149	149	10.9	2,761	2,760
40-44	10.5	1,744	1,755	0.7	63	66	7.1	1,807	1,821
45-49	8.7	1,442	1,542	0.3	26	24	5.8	1,468	1,566
Marital status									
Never married	0.0	0	0	100.0	8,870	8,778	34.9	8,870	8,778
Married	94.0	15,566	15,649	0.0	0	0	61.2	15,566	15,649
Divorced	3.5	577	584	0.0	0	0	2.3	577	584
Widowed	2.5	421	423	0.0	0	0	1.7	421	423
Residence									
Urban	32.1	5,322	4,548	37.2	3,297	2,720	33.9	8,619	7,268
Rural	67.9	11,242	12,108	62.8	5,573	6,058	66.1	16,815	18,166
Governorate									
Ibb	10.8	1,791	977	10.7	948	517	10.8	2,739	1,494
Abyan	2.1	345	741	2.3	206	428	2.2	551	1,169
Sana'a City	9.6	1,587	989	10.2	901	589	9.8	2,487	1,578
Al-Baidha	4.6	768	1,099	3.8	333	486	4.3	1,101	1,585
Taiz	13.3	2,196	983	14.8	1,316	578	13.8	3,512	1,561
Al-Jawf	0.9	141	492	0.5	40	162	0.7	181	654
Hajjah	5.4	895	814	5.4	479	422	5.4	1,374	1,236
Al-Hodiedah	12.2	2,023	845	14.0	1,238	521	12.8	3,261	1,366
Hadramout	5.8	958	863	5.3	468	420	5.6	1,427	1,283
Dhamar	7.2	1,188	887	5.4	482	360	6.6	1,670	1,247
Shabwah	1.9	315	816	2.4	213	549	2.1	528	1,365
Sadah	3.2	532	764	3.3	291	426	3.2	823	1,190
Sana'a	5.2	867	943	4.5	398	426	5.0	1,265	1,369
Aden	3.2	534	655	4.4	387	490	3.6	921	1,145
Lahj	2.6	425	587	2.9	253	361	2.7	678	948
Mareb	0.7	123	672	0.7	59	334	0.7	183	1,006
Al-Mhweit	2.7	445	770	2.0	178	309	2.5	623	1,079
Al-Mhrah	0.4	62	372	0.4	33	198	0.4	95	570
Amran	3.7	614	838	2.7	238	326	3.4	852	1,164
Aldhalae	2.4	404	824	2.7	237	504	2.5	641	1,328
Reimah	2.1	350	725	1.9	170	372	2.0	520	1,097
Education									
No education	53.7	8,887	9,109	20.5	1,817	1,819	42.1	10,705	10,928
Fundamental[1]	32.7	5,416	5,470	44.2	3,923	4,145	36.7	9,339	9,615
Secondary	9.4	1,564	1,497	24.8	2,204	2,065	14.8	3,767	3,562
Higher	4.2	697	580	10.4	926	749	6.4	1,623	1,329
Wealth quintile									
Lowest	18.2	3,010	2,969	16.1	1,424	1,297	17.4	4,435	4,266
Second	19.6	3,248	3,368	17.6	1,561	1,582	18.9	4,808	4,950
Middle	20.1	3,330	3,625	19.3	1,716	1,951	19.8	5,046	5,576
Fourth	20.5	3,394	3,654	21.7	1,927	2,062	20.9	5,320	5,716
Highest	21.6	3,582	3,040	25.3	2,243	1,886	22.9	5,825	4,926
Total 15-49	100.0	16,564	16,656	100.0	8,870	8,778	100.0	25,434	25,434

[1] Fundamental includes Primary, Unified, Preparatory, and Diploma before secondary
Note: Education categories refer to the highest level of education attended, whether or not that level was completed.
na = Not applicable

3.2 EDUCATIONAL ATTAINMENT BY BACKGROUND CHARACTERISTICS

Table 3.2 presents an overview of female respondents' educational attainment, according to background demographic characteristics. As mentioned, a low level of education exists in Yemen among women, with 42 percent never having attended school at all.

Table 3.2 Educational attainment

Percent distribution of all women age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Yemen 2013

Background characteristic	No education	Funda-mental[1]	Secondary	More than secondary	Total	Number of women
Age						
15-24	23.4	48.2	23.0	5.5	100.0	11,539
15-19	17.3	55.2	25.8	1.7	100.0	6,342
20-24	30.8	39.6	19.5	10.1	100.0	5,197
25-29	43.8	33.6	12.8	9.8	100.0	4,634
30-34	52.4	28.9	9.7	9.0	100.0	3,225
35-39	64.2	26.1	4.0	5.7	100.0	2,761
40-44	74.4	18.7	3.6	3.3	100.0	1,807
45-49	79.8	15.6	2.5	2.0	100.0	1,468
Residence						
Urban	20.5	39.5	24.8	15.2	100.0	8,619
Rural	53.2	35.3	9.7	1.9	100.0	16,815
Governorate						
Ibb	41.1	43.4	12.8	2.7	100.0	2,739
Abyan	28.8	49.0	13.5	8.6	100.0	551
Sana'a City	18.6	33.2	28.4	19.8	100.0	2,487
Al-Baidha	34.0	55.5	9.4	1.2	100.0	1,101
Taiz	34.0	33.9	22.6	9.5	100.0	3,512
Al-Jawf	44.0	33.8	19.7	2.4	100.0	181
Hajjah	67.1	20.8	10.4	1.7	100.0	1,374
Al-Hodiedah	50.1	32.3	11.5	6.1	100.0	3,261
Hadramout	30.8	51.3	13.1	4.8	100.0	1,427
Dhamar	60.1	32.3	5.8	1.9	100.0	1,670
Shabwah	37.1	54.3	7.4	1.1	100.0	528
Sadah	64.5	31.0	4.0	0.5	100.0	823
Sana'a	50.2	39.2	10.0	0.6	100.0	1,265
Aden	14.6	39.4	25.5	20.6	100.0	921
Lahj	38.5	33.1	18.9	9.4	100.0	678
Mareb	37.1	38.9	19.3	4.7	100.0	183
Al-Mhweit	53.7	31.9	11.8	2.6	100.0	623
Al-Mhrah	33.8	48.5	15.7	2.0	100.0	95
Amran	58.5	29.5	10.0	2.1	100.0	852
Aldhalae	44.9	37.6	14.8	2.7	100.0	641
Reimah	64.4	28.4	6.9	0.3	100.0	520
Wealth quintile						
Lowest	76.6	20.0	3.2	0.1	100.0	4,435
Second	57.6	34.2	7.5	0.6	100.0	4,808
Middle	42.6	41.8	13.4	2.3	100.0	5,046
Fourth	28.3	47.2	18.0	6.5	100.0	5,320
Highest	15.2	37.5	27.9	19.3	100.0	5,825
Total	42.1	36.7	14.8	6.4	100.0	25,434

[1] Fundamental includes Primary, Unified, Preparatory, and Diploma before secondary.

Results imply a huge improvement in education coverage over time, since younger women are far more likely than older women to have attended school. For example, the proportion of women with no education drops from 80 percent of those age 45-49 to only 17 percent among women age 15-19.

Rural respondents generally have attained less education than their urban counterparts; 53 percent of all rural women have no education compared with 21 percent of urban women. Of the 20 governorates and Sana'a City, attainment of more than secondary education is concentrated in only two areas: Aden Governorate (21 percent) and Sana'a City (20 percent). In Hajjah, Sadah, and Reimah Governorates, about two-thirds of all women age 15-49 have never been to school.

Wealth status is associated with educational attainment. The proportion of women with no education is five times higher among those in the lowest wealth quintile (77 percent) than among those in the highest

wealth quintile (15 percent), and the proportion of women who have attended more than secondary school varies from less than 1 percent in the lowest two wealth quintiles to 19 percent in the highest quintile.

3.3 LITERACY

The ability to read and write is an important personal asset, allowing individuals increased opportunities in life. Knowing the distribution of the literate population can help program managers, especially for health programs, know how to reach women and men with their messages. In the 2013 YNHDS, the literacy status of respondents who had not attended school or had attended only primary school was determined by their ability to read all or part of a sentence. Those with grades 6-9, diploma before secondary, or secondary education or higher were assumed to be literate.

Table 3.3 shows the percent distribution of all women age 15-49 by level of schooling attended and level of literacy, along with the percentage of respondents who are literate, according to background characteristics. Female literacy rates in Yemen are low; overall, just over half of women (53 percent) are literate. Literacy correlates inversely with age; 73 percent of women age 15-19 are literate compared with only 20 percent of women age 45-49.

Table 3.3 Literacy

Percent distribution of all women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Yemen 2013

Background characteristic	Secondary school or higher	Grades 6-9, diploma before secondary	No schooling, primary school (less than grade 6)					Total	Percentage literate[1]	Number of women
			Can read a whole sentence	Can read part of a sentence	Cannot read at all	Blind/ visually impaired	Missing			
Age										
15-24	28.4	17.3	9.7	13.0	29.0	0.0	2.6	100.0	68.4	11,539
15-19	27.5	21.8	10.4	13.7	23.9	0.0	2.7	100.0	73.4	6,342
20-24	29.6	11.8	8.9	12.2	35.2	0.0	2.4	100.0	62.4	5,197
25-29	22.5	7.6	8.2	12.9	46.6	0.0	2.2	100.0	51.2	4,634
30-34	18.8	6.2	7.7	12.2	53.6	0.0	1.6	100.0	44.8	3,225
35-39	9.7	6.0	7.2	12.0	64.0	0.1	1.0	100.0	34.9	2,761
40-44	6.9	4.6	5.7	9.8	72.6	0.1	0.3	100.0	27.0	1,807
45-49	4.5	3.9	4.2	7.6	78.6	0.2	0.9	100.0	20.3	1,468
Residence										
Urban	40.0	15.6	8.7	11.8	21.4	0.0	2.5	100.0	76.1	8,619
Rural	11.6	9.0	8.0	12.5	57.2	0.0	1.7	100.0	41.1	16,815
Governorate										
Ibb	15.5	10.9	12.9	14.5	45.5	0.0	0.6	100.0	53.9	2,739
Abyan	22.1	15.4	8.9	16.4	35.0	0.1	2.2	100.0	62.7	551
Sana'a City	48.2	11.1	6.6	14.7	17.0	0.0	2.4	100.0	80.6	2,487
Al-Baidha	10.5	13.1	20.0	15.2	37.8	0.0	3.4	100.0	58.8	1,101
Taiz	32.1	12.4	8.0	6.6	40.3	0.1	0.5	100.0	59.1	3,512
Al-Jawf	22.1	11.8	3.6	13.6	44.2	0.0	4.7	100.0	51.1	181
Hajjah	12.1	6.7	4.0	6.2	68.6	0.0	2.5	100.0	28.9	1,374
Al-Hodiedah	17.7	8.4	3.6	12.2	57.4	0.0	0.8	100.0	41.8	3,261
Hadramout	17.9	25.2	6.4	16.0	30.4	0.0	4.2	100.0	65.4	1,427
Dhamar	7.6	5.3	7.9	14.1	62.9	0.0	2.1	100.0	35.0	1,670
Shabwah	8.6	12.5	18.8	22.9	34.8	0.1	2.3	100.0	62.8	528
Sadah	4.5	5.8	9.6	13.6	62.8	0.0	3.7	100.0	33.5	823
Sana'a	10.6	12.0	13.4	12.4	50.3	0.3	1.0	100.0	48.4	1,265
Aden	46.1	17.9	7.8	8.2	17.9	0.1	2.0	100.0	80.0	921
Lahj	28.3	11.1	6.2	9.0	42.3	0.1	3.1	100.0	54.5	678
Mareb	24.0	10.7	12.6	12.2	37.8	0.0	2.6	100.0	59.6	183
Al-Mhweit	14.4	7.5	5.0	12.2	54.0	0.0	6.9	100.0	39.2	623
Al-Mhrah	17.7	19.6	2.7	14.1	36.3	0.0	9.5	100.0	54.2	95
Amran	12.0	8.6	5.4	13.0	58.5	0.0	2.5	100.0	39.0	852
Aldhalae	17.6	12.4	8.2	13.3	46.6	0.2	1.8	100.0	51.5	641
Reimah	7.2	7.7	3.8	10.7	69.8	0.0	0.8	100.0	29.4	520
Wealth quintile										
Lowest	3.3	3.8	2.8	6.6	82.6	0.1	0.7	100.0	16.6	4,435
Second	8.2	7.3	5.9	12.8	64.1	0.0	1.8	100.0	34.2	4,808
Middle	15.6	11.6	10.1	15.7	45.1	0.0	1.9	100.0	53.0	5,046
Fourth	24.5	16.3	12.2	14.4	30.0	0.0	2.5	100.0	67.4	5,320
Highest	47.3	15.2	9.3	11.1	14.5	0.0	2.6	100.0	82.9	5,825
Total	21.2	11.2	8.3	12.2	45.1	0.0	1.9	100.0	52.9	25,434

[1] Refers to women who attended grades 6-9, diploma before secondary, secondary school or higher and women who can read a whole sentence or part of a sentence

Women in urban areas have much higher literacy rates (76 percent) than their rural counterparts (41 percent). Sana'a City and Aden Governorate have the highest literacy rates (81 percent and 80 percent, respectively), while Hajjah Governorate has the lowest (29 percent). Literacy closely correlates with increasing wealth quintile, rising from 17 percent in the lowest quintile to 83 percent in the highest quintile.

3.4 EXPOSURE TO MASS MEDIA

The 2013 YNHDS collected information on respondents' exposure to common print and electronic media. Respondents were asked how often they read a newspaper, watch television, or listen to the radio. This information indicates the extent to which women are regularly exposed to mass media, often used to convey messages on family planning, health education, sanitation, and other health topics.

Table 3.4 shows the percentages of women who were exposed to different types of mass media by age, residence, governorate, level of education, and wealth quintile. Twenty percent of women read a newspaper at least once a week, 73 percent watch television at least once a week, and 28 percent listen to the radio at least once a week. Overall, only 7 percent of women are exposed to all three media at least once per week; 19 percent are not exposed to any of the three media on a regular basis.

Table 3.4 Exposure to mass media

Percentage of all women age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Yemen 2013

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Accesses all three media at least once a week	Accesses none of the three media at least once a week	Number of women
Age						
15-19	28.4	76.3	31.1	10.0	15.0	6,342
20-24	24.6	74.3	28.5	9.0	17.2	5,197
25-29	19.2	71.1	27.0	7.4	21.8	4,634
30-34	16.3	72.8	25.4	5.6	20.3	3,225
35-39	11.8	69.3	24.8	3.8	22.5	2,761
40-44	10.0	72.1	25.8	3.7	21.8	1,807
45-49	6.1	70.6	22.8	2.1	22.7	1,468
Residence						
Urban	32.7	94.4	26.5	11.9	3.5	8,619
Rural	13.5	62.2	28.1	4.8	27.1	16,815
Governorate						
Ibb	26.9	80.1	19.5	5.4	14.1	2,739
Abyan	33.4	77.1	24.5	11.4	17.3	551
Sana'a City	45.0	96.8	39.6	23.1	1.7	2,487
Al-Baidha	16.0	75.3	23.0	7.1	21.1	1,101
Taiz	14.5	72.4	19.0	3.6	21.4	3,512
Al-Jawf	20.0	47.2	21.9	3.9	36.9	181
Hajjah	9.8	43.4	40.5	5.9	41.1	1,374
Al-Hodiedah	8.4	64.7	29.2	2.9	23.0	3,261
Hadramout	17.5	80.8	30.2	9.1	14.5	1,427
Dhamar	14.5	59.9	41.9	6.2	24.1	1,670
Shabwah	31.5	89.9	13.6	3.6	7.5	528
Sadah	7.8	73.0	15.1	3.1	24.4	823
Sana'a	23.0	73.9	46.9	14.2	15.6	1,265
Aden	33.6	97.4	8.5	3.6	1.8	921
Lahj	28.0	63.1	24.2	8.0	26.1	678
Mareb	31.8	74.3	26.5	8.0	14.1	183
Al-Mhweit	10.5	68.8	30.1	4.7	23.3	623
Al-Mhrah	14.6	73.0	8.5	1.7	24.3	95
Amran	14.8	64.6	23.5	3.7	25.4	852
Aldhalae	16.0	77.0	15.4	3.9	18.9	641
Reimah	6.8	45.2	34.2	1.5	38.0	520
Education						
No education	1.3	55.5	23.9	0.3	34.0	10,705
Fundamental	25.4	81.9	29.8	8.8	11.1	9,339
Secondary	44.2	91.8	30.9	16.3	3.9	3,767
Higher	56.0	95.3	30.6	21.8	2.2	1,623
Wealth quintile						
Lowest	3.7	17.5	28.1	0.8	60.5	4,435
Second	10.3	60.4	29.3	3.3	27.1	4,808
Middle	17.1	86.1	26.5	6.1	9.8	5,046
Fourth	26.3	93.2	27.7	9.8	4.4	5,320
Highest	37.2	96.3	26.5	13.8	2.4	5,825
Total	20.0	73.1	27.6	7.2	19.1	25,434

Younger women are more likely to access all three media than older women, though the differences by age are largest for reading newspapers. Urban women are more likely to read newspapers and watch television than rural women; however, the proportions of urban and rural women who listen to the radio at least once a week are almost identical. Women in Sana'a City are more likely to read newspapers than women who live elsewhere, while women in Aden and Sana'a City are most likely to watch television, and women in Sana'a Governorate are most likely to listen to the radio. Women in Reimah Governorate are the least likely to access all three media and the most likely to report having no exposure to any of the three media.

Not surprisingly, media exposure is related to education. For example, 34 percent of women with no education report that they are not exposed to any media on at least a weekly basis, compared with 2 percent of women with higher than secondary education. Media exposure also relates to wealth status. For example, 37 percent of women in the highest wealth quintile read a newspaper at least once a week, compared with 4 percent of women in the lowest wealth quintile. Ninety-six percent of women in the highest wealth quintile watch television at least once a week, in contrast with 18 percent of those in the lowest wealth quintile.

3.5   EMPLOYMENT STATUS

The 2013 YNHDS asked ever-married women several questions about their current employment status and continuity of employment in the 12 months prior to the survey. Table 3.5 presents the proportion of ever-married women who were currently employed (i.e., who were working in the seven days preceding the survey), the proportion who were not currently employed but had been employed at some time during the 12 months before the survey, and the proportion who had not been employed at any time during the 12-month period. Overall, only 10 percent of ever-married women reported that they were currently employed. An additional 1 percent were not currently employed but had worked in the 12 months preceding the survey.

The proportion of women in the 15-19 and 20-24 age groups who are currently employed is lower than in older age groups, a finding that may be partially due to the fact that some in this age cohort are students. Women who are divorced or widowed are more likely to be currently employed (20 percent) than women who are currently married (9 percent). Differences in current employment levels by number of living children and urban-rural residence are small.

By governorate, there are substantial differentials in women's employment status. Ever-married women in Sana'a Governorate are most likely to be currently employed (32 percent), while those in Ibb Governorate are the least likely (3 percent).

Ever-married women with higher education are far more likely to be currently employed (43 percent) than women who have less education (7-9 percent). Interestingly, women's employment status does not vary very much by wealth quintile.

Table 3.5 Employment status

Percent distribution of ever-married women age 15-49 by employment status, according to background characteristics, Yemen 2013

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Missing/don't know	Total	Number of women
	Currently employed[1]	Not currently employed				
Age						
15-19	4.2	1.0	94.8	0.0	100.0	1,112
20-24	5.5	0.7	93.6	0.1	100.0	3,099
25-29	8.9	1.3	89.7	0.1	100.0	3,731
30-34	11.0	1.9	86.9	0.1	100.0	2,824
35-39	12.0	1.0	86.9	0.1	100.0	2,612
40-44	12.6	1.9	85.4	0.2	100.0	1,744
45-49	13.8	1.1	85.0	0.0	100.0	1,442
Marital status						
Married	8.9	1.2	89.7	0.1	100.0	15,566
Divorced/widowed	20.2	2.3	77.4	0.1	100.0	998
Number of living children						
0	7.3	1.7	90.9	0.0	100.0	2,075
1-2	9.4	1.0	89.6	0.1	100.0	4,890
3-4	10.9	1.1	87.9	0.1	100.0	4,145
5+	9.8	1.5	88.6	0.1	100.0	5,454
Residence						
Urban	9.9	0.8	89.2	0.1	100.0	5,322
Rural	9.5	1.5	88.9	0.1	100.0	11,242
Governorate						
Ibb	2.5	0.2	97.0	0.3	100.0	1,791
Abyan	17.5	2.2	80.3	0.0	100.0	345
Sana'a City	8.7	0.7	90.6	0.0	100.0	1,587
Al-Baidha	14.7	1.2	83.9	0.1	100.0	768
Taiz	9.9	4.4	85.6	0.1	100.0	2,196
Al-Jawf	13.6	0.5	85.9	0.0	100.0	141
Hajjah	5.7	0.3	93.9	0.0	100.0	895
Al-Hodiedah	6.5	0.8	92.6	0.1	100.0	2,023
Hadramout	6.5	0.2	93.2	0.1	100.0	958
Dhamar	8.0	0.1	91.8	0.1	100.0	1,188
Shabwah	6.1	0.6	93.1	0.1	100.0	315
Sadah	6.1	0.0	93.9	0.0	100.0	532
Sana'a	31.8	2.9	65.3	0.0	100.0	867
Aden	16.2	1.3	82.5	0.0	100.0	534
Lahj	16.0	1.3	82.5	0.2	100.0	425
Mareb	10.8	1.5	87.7	0.0	100.0	123
Al-Mhweit	3.7	0.7	95.6	0.0	100.0	445
Al-Mhrah	7.6	1.2	91.2	0.0	100.0	62
Amran	15.1	2.2	82.5	0.2	100.0	614
Aldhalae	6.5	0.4	92.9	0.2	100.0	404
Reimah	6.9	0.3	92.8	0.0	100.0	350
Education						
No education	8.4	1.2	90.3	0.1	100.0	8,887
Fundamental	7.4	1.3	91.2	0.2	100.0	5,416
Secondary	9.4	1.9	88.7	0.0	100.0	1,564
Higher	42.7	1.2	56.1	0.0	100.0	697
Wealth quintile						
Lowest	9.2	1.0	89.9	0.0	100.0	3,010
Second	9.1	1.6	89.1	0.3	100.0	3,248
Middle	8.6	1.8	89.5	0.1	100.0	3,330
Fourth	9.7	1.3	88.9	0.1	100.0	3,394
Highest	11.4	0.8	87.8	0.0	100.0	3,582
Total	9.6	1.3	89.0	0.1	100.0	16,564

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

3.6 OCCUPATION

Ever-married women who were currently employed or who had worked in the 12 months preceding the survey were asked to specify their occupation. Information on the current occupation of employed women is shown in Table 3.6. Women are most likely to be employed in agriculture (50 percent), followed by professional, technical, and managerial positions (21 percent), and skilled manual jobs (13 percent).

Table 3.6 Occupation

Percent distribution of ever-married women age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Yemen 2013

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agriculture	Missing	Total	Number of women
Age									
15-19	8.9	0.0	0.0	17.5	1.6	70.6	1.5	100.0	58
20-24	10.8	1.0	2.5	16.0	6.3	62.7	0.8	100.0	194
25-29	19.4	1.5	7.1	14.2	6.1	50.9	0.8	100.0	381
30-34	28.4	4.3	7.4	12.6	4.4	42.3	0.6	100.0	367
35-39	29.5	1.3	10.3	13.7	4.4	40.4	0.5	100.0	340
40-44	17.0	4.0	10.5	6.0	3.6	58.6	0.2	100.0	251
45-49	15.1	5.8	9.2	11.5	8.7	49.7	0.0	100.0	216
Marital status									
Married	21.3	2.5	7.0	12.1	5.3	51.2	0.6	100.0	1,582
Divorced/widowed	19.1	4.6	13.1	16.3	5.2	41.3	0.4	100.0	225
Number of living children									
0	28.9	7.1	5.6	11.2	2.1	44.7	0.3	100.0	188
1-2	28.1	5.1	5.2	12.9	6.5	41.8	0.3	100.0	508
3-4	25.5	0.8	11.3	12.0	4.3	45.7	0.4	100.0	496
5+	9.1	1.2	7.6	13.3	6.0	61.9	0.9	100.0	614
Residence									
Urban	48.6	8.4	13.7	17.8	7.8	2.9	0.8	100.0	572
Rural	8.2	0.2	5.0	10.2	4.1	71.8	0.4	100.0	1,234
Governorate									
Ibb	(17.1)	(0.0)	(16.8)	(14.7)	(10.7)	(36.3)	(4.4)	100.0	49
Abyan	13.8	3.4	9.6	9.3	3.3	60.0	0.7	100.0	68
Sana'a City	55.5	5.1	9.4	23.4	5.2	1.4	0.0	100.0	150
Al-Baidha	9.4	0.0	6.5	9.7	0.5	73.9	0.0	100.0	122
Taiz	32.7	2.5	8.9	5.5	4.9	45.5	0.0	100.0	313
Al-Jawf	10.2	1.0	4.8	13.4	0.0	70.5	0.0	100.0	20
Hajjah	9.1	0.0	3.1	0.0	0.0	87.8	0.0	100.0	54
Al-Hodiedah	29.0	5.0	16.3	10.2	7.8	31.7	0.0	100.0	148
Hadramout	53.0	3.4	6.2	7.3	4.4	24.6	1.3	100.0	64
Dhamar	1.4	1.5	7.7	33.5	1.5	54.5	0.0	100.0	97
Shabwah	18.4	2.3	11.7	54.6	3.7	6.5	2.8	100.0	21
Sadah	(8.9)	(0.0)	(3.4)	(40.9)	(3.9)	(43.0)	(0.0)	100.0	33
Sana'a	0.6	0.0	0.6	10.6	4.7	83.2	0.3	100.0	301
Aden	36.3	18.7	15.7	11.1	16.8	0.0	1.5	100.0	93
Lahj	16.8	1.7	8.7	4.1	7.1	61.6	0.0	100.0	74
Mareb	28.5	0.0	8.5	49.4	2.8	10.8	0.0	100.0	15
Al-Mhweit	(17.9)	(2.7)	(14.9)	(16.1)	(3.2)	(45.2)	(0.0)	100.0	19
Al-Mhrah	(20.2)	(8.7)	(3.1)	(6.7)	(19.0)	(42.3)	(0.0)	100.0	6
Amran	9.0	0.7	1.5	9.3	6.6	71.1	1.8	100.0	107
Aldhalae	17.6	0.0	12.0	12.4	2.8	49.0	6.2	100.0	28
Reimah	5.6	0.9	6.0	4.5	6.1	76.8	0.0	100.0	25
Education									
No education	1.0	0.2	6.2	10.6	7.0	74.3	0.8	100.0	853
Fundamental	10.8	1.9	10.2	20.5	7.1	49.1	0.4	100.0	470
Secondary	36.5	6.2	15.2	18.9	1.1	21.4	0.7	100.0	177
Higher	83.5	9.4	4.0	2.6	0.2	0.2	0.0	100.0	306
Wealth quintile									
Lowest	0.5	0.7	5.0	7.2	5.9	80.8	0.0	100.0	305
Second	3.6	0.4	4.5	9.2	4.5	76.9	0.8	100.0	346
Middle	6.8	0.1	6.3	11.1	4.8	69.8	1.1	100.0	346
Fourth	23.0	2.6	9.4	20.0	8.5	35.8	0.7	100.0	372
Highest	58.6	8.4	12.0	13.9	3.1	3.8	0.2	100.0	438
Total	21.0	2.8	7.8	12.6	5.3	50.0	0.5	100.0	1,806

Almost half of the ever-married urban women who are employed have professional, technical, or managerial jobs, while 72 percent of working women in rural areas are employed in the agricultural sector. There are similar patterns by education and wealth of the woman. For example, among ever-married women who are employed, the proportion in professional, technical, and managerial jobs varies from 1 percent of those with no education to 84 percent of those with higher education and the proportion in agricultural jobs varies from 74 percent of those with no education to less than 1 percent of those with higher education. Similarly, employed women in the lowest wealth quintile are concentrated in agricultural occupations (81 percent), while 59 percent of those in the highest wealth quintile are employed in professional, technical, or managerial positions.

3.7   TYPE OF EMPLOYMENT

Table 3.7 shows the percent distribution of ever-married women employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural). Half of working women are paid in cash only, while 4 percent are paid in cash and in kind, another 4 percent are paid only in kind, and 42 percent are not paid at all. As expected, unpaid work is far more common in agricultural occupations; three-quarters of women working in agriculture are not paid.

Table 3.7 Type of employment

Percent distribution of ever-married women age 15-49 employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural), Yemen 2013

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	11.7	88.5	49.9
Cash and in-kind	4.4	3.4	3.9
In-kind only	7.8	1.0	4.4
Not paid	75.9	6.7	41.5
Missing	0.2	0.3	0.3
Total	100.0	100.0	100.0
Type of employer			
Employed by family member	66.4	22.6	44.7
Employed by nonfamily member	14.3	20.1	17.1
Self-employed	18.0	54.7	36.2
Other	1.0	2.3	1.6
Missing	0.4	0.3	0.3
Total	100.0	100.0	100.0
Continuity of employment			
All year	32.1	63.0	47.4
Seasonal	55.6	14.7	35.2
Occasional	12.2	22.0	17.2
Missing	0.1	0.3	0.2
Total	100.0	100.0	100.0
Number of women employed during the last 12 months	903	893	1,806

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

Overall, 45 percent of working women are employed by a family member, while 36 percent are self-employed and 17 percent work for a non-family member. Those employed in agricultural occupations are far more likely to be employed by a family member than those employed in nonagricultural occupations, more than half of whom are self-employed.

Less than half of employed women work throughout the year. As expected, women working in agriculture are more likely than average to be employed seasonally (56 percent), while women in non-agricultural occupations are far more likely to be employed all year (63 percent).

MARRIAGE

4

Key Findings

- Sixty-one percent of women age 15-49 are currently married.
- Most women in Yemen are married by the time they reach age 18. Among women age 25-49, the median age at first marriage is 18.2 years
- There has been a trend towards later marriage for women. For example, in 1997, the median age at marriage for women was 16.0.
- Polygyny is not common in Yemen; only 6 percent of currently married women say their husbands have other wives.

M arriage is a primary indication of the exposure of women to the risk of pregnancy and therefore is important to the understanding of fertility. Populations in which women marry at a young age tend to initiate childbearing early and have high fertility.

4.1 MARITAL STATUS

Table 4.1 presents the percent distribution of women age 15-49 by current marital status. The proportion of women who have never married declines sharply with age, from 83 percent of women age 15-19 to 2 percent of women age 45-49 (Figure 4.1). Marriage is thus nearly universal in Yemen.

Sixty-one percent of women age 15-49 are currently married. Two percent of women age 15-49 are divorced and 2 percent are widowed. As expected the proportions currently married, divorced, and widowed all increase with age.

Table 4.1 Current marital status

Percent distribution of all women age 15-49 by current marital status, according to age, Yemen 2013

| Age | Marital status | | | | Total | Number of respondents |
	Never married	Married	Divorced	Widowed		
15-19	82.5	17.1	0.4	0.0	100.0	6,342
20-24	40.4	57.1	2.2	0.3	100.0	5,197
25-29	19.5	77.1	2.6	0.8	100.0	4,634
30-34	12.4	83.0	2.8	1.8	100.0	3,225
35-39	5.4	87.2	3.8	3.5	100.0	2,761
40-44	3.5	87.4	3.7	5.4	100.0	1,807
45-49	1.8	87.0	3.7	7.6	100.0	1,468
Total 15-49	34.9	61.2	2.3	1.7	100.0	25,434

Figure 4.1 Percent distribution of women age 15-49 by current marital status

YNHDS 2013
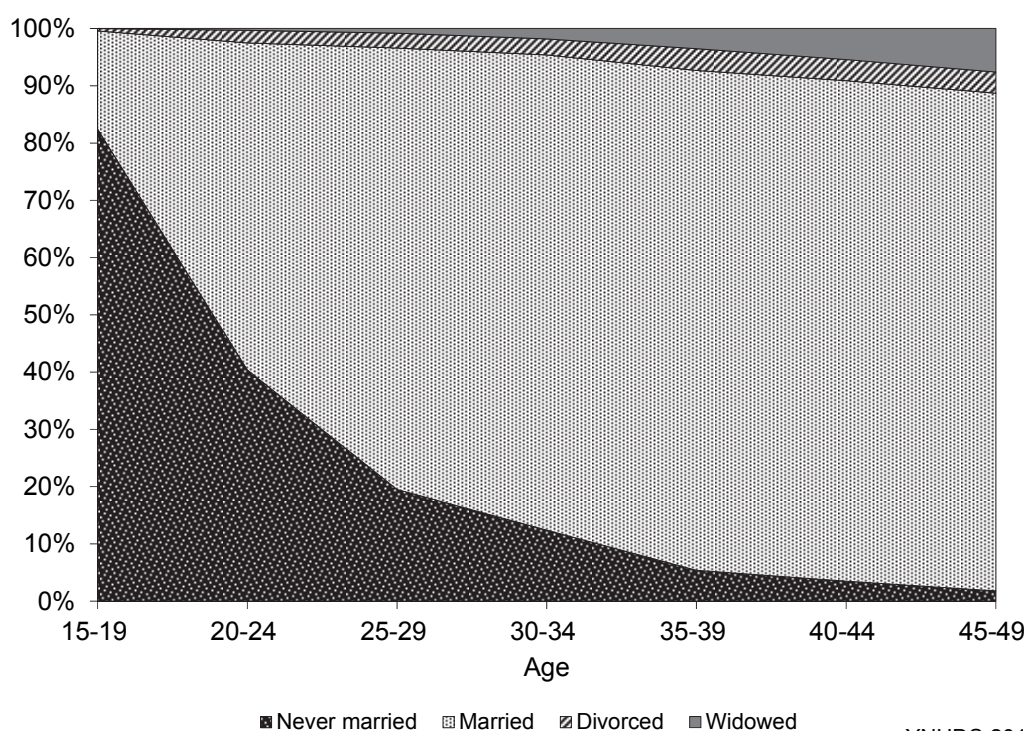
4.2 POLYGYNY

Polygyny (the practice of having more than one wife) has implications for the frequency of exposure to the risk of pregnancy and, therefore, fertility. The extent of polygyny in Yemen was measured by asking all currently married women the question: "Does your husband have other wives?" If the answer was yes, the woman was asked: "Including yourself, in total, how many wives does he have?"

Table 4.2 shows the distribution of currently married women by the number of co-wives, according to selected background characteristics. A large majority of married women report their husbands have no other wives (93 percent). Six percent of women report their husbands have other wives, mostly only one other wife. This percentage is almost identical to the 7 percent reported in 1997 and the 6 percent reported in 2003 (CSO and MI, 1998; MOPHP, CSO, and PAPFAM, 2004).

The proportion of women in polygynous marriages increases with age, from 2 percent among married women age 15-19 to 13 percent among women age 40-44 and 11 percent among women age 45-49. The proportions of women who report having co-wives is lowest in Hadramout Governorate (3 percent) and highest in Al-Jawf Governorate (16 percent). There is no consistent relationship between polygyny and either education or wealth quintile.

Table 4.2 Number of women's co-wives

Percent distribution of currently married women age 15-49 by number of co-wives, according to background characteristics, Yemen 2013

Background characteristic	Number of co-wives				Total	Number of women
	0	1	2+	Don't know, missing		
Age						
15-19	98.1	1.6	0.0	0.4	100.0	1,084
20-24	97.0	2.3	0.4	0.3	100.0	2,968
25-29	95.0	4.0	0.5	0.5	100.0	3,574
30-34	93.0	5.9	0.6	0.5	100.0	2,675
35-39	91.0	7.6	0.9	0.5	100.0	2,409
40-44	86.8	10.9	1.7	0.6	100.0	1,579
45-49	88.8	8.9	1.9	0.4	100.0	1,277
Residence						
Urban	92.9	5.9	0.8	0.4	100.0	4,949
Rural	93.5	5.3	0.7	0.5	100.0	10,617
Governorate						
Ibb	92.8	5.6	0.9	0.6	100.0	1,678
Abyan	96.2	3.4	0.1	0.3	100.0	326
Sana'a City	93.2	5.6	1.0	0.2	100.0	1,510
Al-Baidha	90.6	8.0	1.1	0.2	100.0	702
Taiz	93.6	5.1	1.1	0.1	100.0	2,053
Al-Jawf	81.7	13.4	2.9	2.0	100.0	124
Hajjah	92.3	6.3	0.8	0.6	100.0	867
Al-Hodiedah	93.6	5.6	0.5	0.3	100.0	1,891
Hadramout	97.1	2.3	0.2	0.3	100.0	884
Dhamar	95.6	3.7	0.2	0.6	100.0	1,106
Shabwah	93.3	5.7	0.2	0.8	100.0	293
Sadah	88.6	9.7	0.7	0.9	100.0	504
Sana'a	94.2	4.7	0.8	0.4	100.0	831
Aden	96.2	3.6	0.0	0.2	100.0	487
Lahj	93.7	4.2	0.4	1.6	100.0	405
Mareb	88.8	8.9	1.7	0.5	100.0	111
Al-Mhweit	91.9	7.0	1.0	0.1	100.0	425
Al-Mhrah	91.2	6.7	1.5	0.7	100.0	61
Amran	93.4	5.6	0.3	0.8	100.0	595
Aldhalae	89.3	8.5	1.4	0.8	100.0	384
Reimah	92.4	5.6	1.4	0.6	100.0	330
Education						
No education	91.8	6.7	1.0	0.5	100.0	8,336
Fundamental	94.8	4.3	0.4	0.4	100.0	5,090
Secondary	96.5	2.9	0.3	0.3	100.0	1,511
Higher	92.7	5.8	1.1	0.5	100.0	629
Wealth quintile						
Lowest	94.0	4.9	0.6	0.5	100.0	2,840
Second	93.8	5.1	0.6	0.4	100.0	3,076
Middle	93.0	5.7	0.9	0.5	100.0	3,141
Fourth	92.5	6.5	0.5	0.5	100.0	3,147
Highest	93.4	5.2	1.1	0.3	100.0	3,362
Total	93.3	5.5	0.7	0.5	100.0	15,566

4.3   AGE AT FIRST MARRIAGE

For most societies, marriage marks the point in a woman's life when childbearing first becomes socially acceptable. Women who marry early will, on average, have longer exposure to pregnancy and a greater number of lifetime births. Information on age at first marriage was obtained by asking all ever-married women the month and year they started living together with their first husband.

Table 4.3 presents the percentages of all women age 15-49 who first married by specific exact ages and their median age at first marriage. Overall, almost half of women age 25-49 married by the time they were 18, and six in ten married by age 20. The median age at marriage is 18.2. There is evidence that age at first marriage has been increasing among women in Yemen. The median age at marriage among women has risen by about two years, from 17.0 years among women age 5-49 to 19.0 years among women age 25-29. The proportion of women married by age 15 declined from 27 percent among those age 45-49 to 3 percent among women age 15-19. Additional evidence comes from prior surveys. For example, the median age at first marriage among women age 25-49 has increased from 16.0 in 1997 to 18.2 in 2013 (CSO and MI, 1998).

Table 4.3 Age at first marriage

Percentage of women age 15-49 who were first married by specific exact ages and median age at first marriage, according to current age, Yemen 2013

	Percentage first married by exact age:					Percentage never married	Number of women	Median age at first marriage
Current age	15	18	20	22	25			
15-19	3.3	na	na	na	na	82.5	6,342	a
20-24	9.4	31.9	48.1	na	na	40.4	5,197	a
25-29	14.0	41.6	56.5	68.5	77.8	19.5	4,634	19.0
30-34	17.2	46.9	61.4	71.4	80.7	12.4	3,225	18.4
35-39	19.3	51.7	68.3	79.7	87.5	5.4	2,761	17.8
40-44	20.8	53.5	68.4	80.6	88.3	3.5	1,807	17.6
45-49	26.7	58.0	70.5	79.5	86.1	1.8	1,468	17.0
20-49	15.7	43.7	59.0	na	na	19.1	19,092	18.7
25-49	18.0	48.1	63.0	74.1	82.6	11.1	13,895	18.2

Note: The age at first marriage is defined as the age at which the woman began living with her first husband.
na = Not applicable due to censoring
a = Omitted because less than 50 percent of the women began living with their husband for the first time before reaching the beginning of the age group

Table 4.4 presents the median age at first marriage among women by background characteristics. Among women age 25-49, the median age at marriage is one year older among urban women (18.9) than among rural women (17.9). The lowest median ages at marriage are observed in Al-Jawf (16.6) and Al-Baidha (16.8) Governorates, while the highest is seen in Aden Governorate (21.7).

There is a marked relationship among women's level of education and median age at marriage. The median age at first marriage among women age 25-49 with no formal education is 17.4 years, and it rises to 20.5 years among those with at least some secondary education. There is a generally positive correlation between wealth and age at marriage.

Table 4.4 Median age at first marriage by background characteristics

Median age at first marriage among women age 20-49 and age 25-49, according to background characteristics, Yemen 2013

Background characteristic	Women age	
	20-49	25-49
Residence		
Urban	19.6	18.9
Rural	18.3	17.9
Governorate		
Ibb	17.9	17.0
Abyan	a	21.1
Sana'a City	19.4	18.7
Al-Baidha	17.6	16.8
Taiz	19.1	18.6
Al-Jawf	17.0	16.6
Hajjah	18.7	18.0
Al-Hodiedah	18.9	18.5
Hadramout	18.8	18.5
Dhamar	17.6	17.4
Shabwah	18.6	17.9
Sadah	18.2	17.6
Sana'a	18.4	17.9
Aden	a	21.7
Lahj	a	20.4
Mareb	18.2	17.4
Al-Mhweit	17.5	17.0
Al-Mhrah	18.3	17.9
Amran	18.5	18.3
Aldhalae	18.0	17.5
Reimah	17.6	17.1
Education		
No education	17.6	17.4
Fundamental	18.6	18.1
Secondary	a	20.5
Wealth quintile		
Lowest	18.3	17.9
Second	18.3	17.9
Middle	18.2	17.7
Fourth	18.8	18.3
Highest	19.9	19.1
Total	18.7	18.2

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

FERTILITY

5

> **Key Findings**
>
> - The total fertility rate for Yemen is 4.4 children per woman, a large decrease since 1997, when the rate was 6.5 children per woman.
> - Fertility among urban women (3.2 children per woman) is markedly lower than among rural women (5.1 children per woman).
> - Births in Yemen are too closely spaced; 30 percent occur within 24 months after a previous birth.
> - The median age at first birth among women age 25-49 is 20.8.
> - Only 11 percent of girls age 15-19 have either given birth or are pregnant with their first child.

In the 2013 YNHDS, data were collected on current and completed fertility. The birth histories of ever-married women interviewed in the survey are used in this chapter to provide a description of levels and differentials in current fertility. Trends in fertility are explored, including examination of age-specific fertility rates for periods 15 to 20 years before the survey. Measures of several proximate determinants of fertility that influence exposure to the risk of pregnancy are also presented, including duration of postpartum amenorrhea and menopause. The chapter also gives information on the age of women at their first birth and on patterns of teenage childbearing.

The fertility indicators presented in this chapter are based on reports of reproductive histories provided by ever-married women age 15-49. To obtain the total number of live births, each woman was asked to provide information on the total number of sons and daughters to whom she had given birth and who were living with her, the number living elsewhere, and the number who had died. In the birth history, women reported the details of each live birth separately, including such information as the child's name and month and year of birth, in addition to sex and survival status. For children who had died, age at death was recorded.

5.1 CURRENT FERTILITY

Measures of current fertility include age-specific fertility rates (ASFRs), the total fertility rate (TFR), the general fertility rate (GFR), and the crude birth rate (CBR). These rates are presented for the three-year period preceding the survey, a period that corresponds roughly to calendar years 2011-2013. The three-year period (rather than a longer or a shorter period) was chosen as a balance among providing the most current information, reducing sampling errors, and avoiding potential problems with displacement of births occurring four to five years before the survey.

Age-specific fertility rates are expressed as the number of births per 1,000 women in a certain age group. They are useful in understanding the age pattern of fertility. Numerators of ASFRs are calculated by identifying live births that occurred in the period 1 to 36 months preceding the survey (determined from the date of interview and date of birth of the child); they are then classified by the age of the mother (in five-year groups) at the time of the child's birth. The denominators of these rates are the number of woman-years lived by the survey respondents in each of the five-year age groups during the specified period. Although in the YNHDS, only women who had ever married were asked about their births, the denominators of the rates were based on all women, including those who never married. Never-married women are presumed not to have given birth.

The TFR is a common measure of current fertility and is defined 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 current age-specific fertility rates. The GFR represents the number of live births per 1,000 women of reproductive age. The CBR is the number of live births per 1,000 population. The latter two measures are based on birth history data for the three-year period before the survey and on the age-sex distribution of the household population.

Despite efforts to ensure accurate reporting, data from the YNHDS are subject to the same types of errors that are inherent in all retrospective sample surveys: the possibility of omitting some births (especially births of children who died at a very young age) and the difficulty of accurately determining each child's date of birth. These errors can bias estimates of fertility trends, which therefore have to be interpreted within the context of data quality and sample sizes. A summary of the quality of the YNHDS data appears in the tables in Appendix C.

Table 5.1 shows the age-specific and aggregate fertility measures calculated from the 2013 YNHDS. The total fertility rate for Yemen is 4.4 children per woman. Childbearing peaks during age 25-29 and drops sharply after age 39. Fertility among urban women is markedly lower (3.2 children per woman) than among rural women (5.1 children per woman). This pattern of lower fertility in urban areas is evident in every age group.

Table 5.1 Current fertility

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Yemen 2013

	Residence		
Age group	Urban	Rural	Total
15-19	51	75	67
20-24	145	216	191
25-29	162	232	208
30-34	135	202	177
35-39	104	162	142
40-44	35	90	71
45-49	8	41	29
TFR(15-49)	3.2	5.1	4.4
GFR	111	163	146
CBR	27.4	36.2	33.4

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.
TFR: Total fertility rate expressed per woman
GFR: General fertility rate expressed per 1,000 women age 15-44
CBR: Crude birth rate, expressed per 1,000 population

5.2   FERTILITY BY BACKGROUND CHARACTERISTICS

Table 5.2 shows differentials in fertility by residence, governorate, level of education, and wealth quintile. As mentioned, women in urban areas have a distinctly lower TFR (3.2) than those in rural areas (5.1). The TFR ranges from a low of 2.9 children per woman in Aden Governorate to a high of 6.2 in Dhamar Governorate.

Education and wealth are closely linked to a woman's fertility. The TFRs decrease uniformly as education increases, from 5.3 for women with no formal education to 2.2 for women who have higher education. The TFR also decreases with each increase in wealth quintile, ranging from 6.1 children per woman in the lowest wealth quintile to 2.9 children per woman in the highest wealth quintile.

Table 5.2 also allows for a general assessment of differential trends in fertility over time among population subgroups. The mean number of children ever born to women age 40-49 is a measure of past fertility. The mean number of children ever born to older women who are nearing the end of their reproductive period is an indicator of average completed fertility of women who began childbearing during the three decades preceding the survey. If fertility were to remain constant over time, and the reported data on children ever born and births during the three years preceding the survey were reasonably accurate, the TFR and the mean number of children ever born for women age 40-49 would be similar. If fertility levels have fallen, the TFR will be substantially lower than the mean number of children ever born among women age 40-49. Overall, a comparison of past (completed) and current (TFR) fertility indicators suggests a decline from 6.7 to 4.4 children per woman. There have been substantial but variable declines in both urban and rural areas, and across education levels and wealth quintiles. The largest declines have occurred among women in urban areas, women with no education or fundamental education, and women in the three highest wealth quintiles.

Table 5.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49, by background characteristics, Yemen 2013

Background characteristic	Total fertility rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	3.2	6.2	5.8
Rural	5.1	9.5	7.1
Governorate			
Ibb	4.8	8.8	7.7
Abyan	4.0	6.1	4.8
Sana'a City	3.1	6.6	6.2
Al-Baidha	3.9	8.4	6.8
Taiz	4.0	7.8	6.5
Al-Jawf	5.8	8.2	7.3
Hajjah	5.5	9.3	7.3
Al-Hodiedah	4.4	8.2	6.8
Hadramout	3.4	6.9	5.5
Dhamar	6.2	10.1	8.0
Shabwah	4.0	7.8	6.8
Sadah	4.0	9.9	6.8
Sana'a	4.9	9.3	7.0
Aden	2.9	5.6	4.1
Lahj	4.5	6.4	5.4
Mareb	4.7	8.6	7.8
Al-Mhweit	5.8	11.0	7.5
Al-Mhrah	4.3	8.3	6.8
Amran	6.1	12.3	7.7
Aldhalae	4.5	8.3	7.2
Reimah	5.9	11.2	8.2
Education			
No education	5.3	9.9	7.2
Fundamental	4.1	8.1	5.6
Secondary	3.1	5.8	4.0
Higher	2.2	5.5	2.8
Wealth quintile			
Lowest	6.1	10.5	7.3
Second	5.3	10.0	7.1
Middle	4.5	9.5	7.1
Fourth	3.8	7.1	6.8
Highest	2.9	5.5	5.4
Total	4.4	8.4	6.7

Note: Total fertility rates are for the period 1-36 months prior to interview.

At the time of the survey, 8 percent of women reported that they were pregnant. This percentage is an underestimate because many women will not yet know for sure that they are pregnant, and other women may not want to declare that they are pregnant.

5.3 FERTILITY TRENDS

The data in Table 5.3.1 provide evidence of fluctuations in fertility in Yemen over the past 20 years. The table uses information from the retrospective birth histories obtained from YNHDS respondents to examine trends in age-specific fertility rates for successive five-year periods before the survey. To calculate these rates, births were classified according to the period of time in which the birth occurred and the mother's age at the time of birth. Because women age 50 and above were not interviewed in the survey, the rates are successively truncated for periods more distant from the survey date. For example, rates cannot be calculated for women age 35-39 for the period

Table 5.3.1 Trends in age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Yemen 2013

Mother's age at birth	Number of years preceding survey			
	0-4	5-9	10-14	15-19
15-19	70	116	147	157
20-24	194	242	285	312
25-29	209	261	322	324
30-34	185	234	296	328
35-39	140	177	272	*
40-44	75	114	*	*
45-49	31	*	*	*

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

15 to 19 years before the survey because these women would have been over the age of 50 at the time of the 2013 YNHDS and not interviewed.

Fertility has fallen steadily among women in all age groups over the past two decades. Substantial declines in age-specific fertility rates were observed from the period 10 to 14 years before the survey to the period 5-9 years before the survey and also from 5-9 to 0 to 4 years before the survey.

Table 5.3.2 and Figure 5.1 show trends in current fertility rates based on previous surveys in Yemen. Overall, the TFR declined by just over 2 births between the 1997 and 2013 surveys. The decline in TFR has been consistent across surveys: 6.5 children per woman in 1997, 6.2 children per woman in 2003, 5.2 children per woman in 2006, and 4.4 children per woman in 2013.

Table 5.3.2 Trends in age-specific and total fertility rates

Age-specific and total fertility rates (TFR) for several surveys, Yemen

Mother's age at birth	YDMCHS 1997	YFHS 2003	YMICS 2006	YNHDS 2013
15-19	105	83	80	67
20-24	279	245	211	191
25-29	301	286	247	208
30-34	258	255	221	177
35-39	196	182	156	142
40-44	105	111	78	71
45-49	54	69	39	29
TFR 15-49	6.5	6.2	5.2	4.4

Note: Age-specific fertility rates are per 1,000 women. Rates refer to the three-year period preceding each survey except for the 2003 YFHS, which utilized a five-year period.

Figure 5.1 **Trends in fertility**
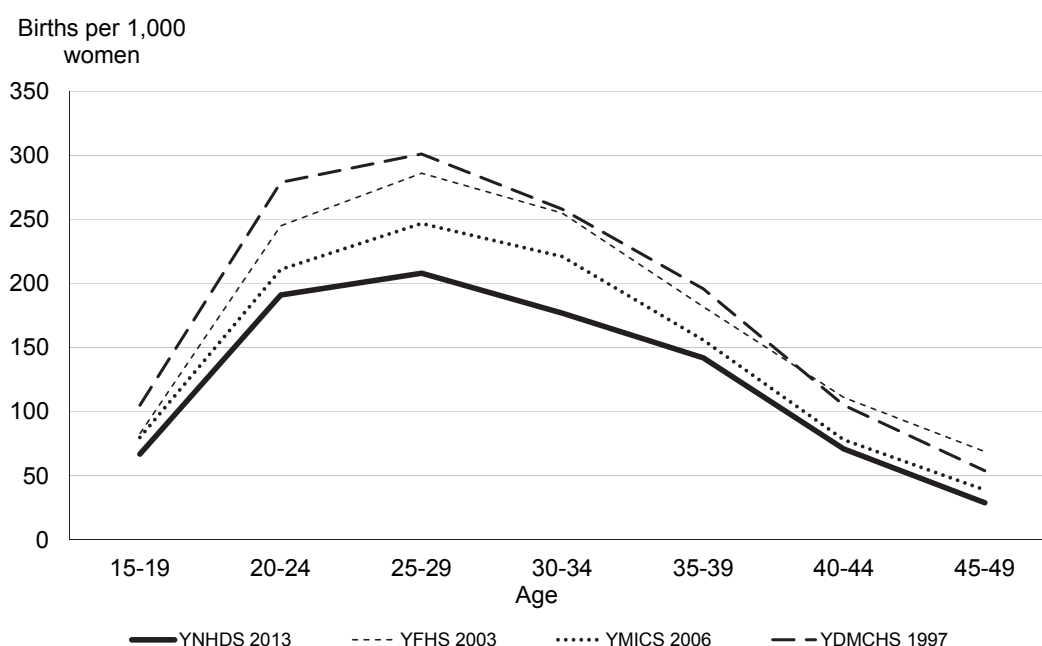
5.4   CHILDREN EVER BORN AND LIVING

The distribution of women by the number of children ever born is presented in Table 5.4 for all women and for currently married women. The table also shows the mean number of children ever born to women in each five-year age group. These distributions reflect the accumulation of births among YNHDS respondents over the past 30 years and, therefore, their relevance to the current situation is limited. However, the information on children ever born is useful for observing how average family size varies across age groups and for observing the level of primary infertility. On average, women in their late twenties have given birth to more than two children, women in their late thirties have had more than five children, and women at the end of their childbearing years have had more than seven children. Of the 7.2 children ever born to women age 45-49, 6.4 survived to the time of the survey.

Table 5.4 Children ever born and living

Percent distribution of all women and currently married women age 15-49 by number of children ever born, mean number of children ever born and mean number of living children, according to age group, Yemen 2013

Age	Number of children ever born											Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
Age															
15-19	91.9	6.2	1.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	100.0	6,342	0.10	0.10
20-24	53.5	19.5	15.7	7.6	2.6	0.8	0.3	0.0	0.0	0.0	0.0	100.0	5,197	0.90	0.84
25-29	26.6	10.4	19.0	17.5	14.3	6.9	3.5	1.2	0.4	0.2	0.0	100.0	4,634	2.27	2.12
30-34	17.2	5.6	10.2	15.3	15.5	12.8	11.0	6.6	3.6	1.4	0.7	100.0	3,225	3.60	3.38
35-39	9.0	3.5	4.6	8.3	10.9	15.3	15.0	11.9	9.6	5.2	6.8	100.0	2,761	5.26	4.82
40-44	7.2	3.3	3.4	5.5	7.1	12.9	12.8	12.0	10.4	9.5	16.0	100.0	1,807	6.26	5.65
45-49	4.2	2.2	2.8	4.8	6.3	8.7	12.0	11.3	11.6	11.3	24.7	100.0	1,468	7.20	6.36
Total	42.6	8.9	9.3	8.3	7.2	6.1	5.3	3.9	3.0	2.1	3.4	100.0	25,434	2.51	2.30
CURRENTLY MARRIED WOMEN															
Age															
15-19	53.1	35.8	9.6	1.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	100.0	1,084	0.60	0.56
20-24	21.1	32.4	27.0	13.2	4.5	1.3	0.4	0.1	0.0	0.0	0.0	100.0	2,968	1.54	1.44
25-29	7.9	12.4	23.5	22.3	18.2	8.9	4.5	1.5	0.5	0.2	0.0	100.0	3,574	2.88	2.69
30-34	4.7	5.3	11.7	17.6	18.1	15.1	13.0	7.7	4.3	1.6	0.9	100.0	2,675	4.20	3.95
35-39	3.2	2.6	4.1	8.3	11.6	16.3	16.4	13.3	10.9	5.8	7.7	100.0	2,409	5.76	5.28
40-44	3.5	2.2	2.7	5.0	7.0	12.7	13.9	13.1	11.6	10.4	17.9	100.0	1,579	6.74	6.09
45-49	2.0	1.8	2.7	4.1	6.3	8.5	12.2	11.1	12.4	12.0	27.0	100.0	1,277	7.54	6.65
Total	11.4	13.2	14.3	12.9	11.2	9.4	8.3	6.0	4.8	3.3	5.4	100.0	15,566	3.91	3.59

Note: Questions on reproduction were not asked to never-married women. Children ever born to these women is assumed to be 0 for this table.

Results at younger ages for currently married women differ from those for all women because of the large number of unmarried women who have not given birth. Differences at older ages generally reflect the impact of marital dissolution (either divorce or widowhood). Only 2 percent of currently married women age 45-49 have never had a child. If the desire for children is universal in Yemen, this percentage represents a rough measure of primary infertility or the inability to bear children.

Another indication of the decline in fertility in Yemen is the fact that the mean number of children ever born to older women has declined. For example, in 1997, women age 45-49 had given birth to an average of 8.8 children, compared with 7.2 in 2013 (CSO and MI, 1998).

5.5   BIRTH INTERVALS

Information on the length of birth intervals provides insight into birth spacing patterns, which affect fertility as well as infant and child mortality. Research has shown that children born too soon after a previous birth are at increased risk of poor health, particularly when the interval is less than 24 months. Table 5.5 shows the distribution of births in the five years before the survey by the interval since the preceding birth, according to various background and demographic characteristics.

Table 5.5 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Yemen 2013

Background characteristic	Months since preceding birth						Total	Number of nonfirst births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48-59	60+			
Age									
15-19	34.5	23.9	32.5	7.5	1.6	0.0	100.0	137	22.1
20-29	18.1	18.8	30.8	17.0	8.4	6.9	100.0	5,899	27.9
30-39	11.0	13.6	28.3	18.4	10.6	18.1	100.0	5,241	35.0
40-49	5.5	11.8	23.7	18.5	12.2	28.3	100.0	1,320	41.1
Sex of preceding birth									
Male	13.6	16.0	28.6	17.6	9.6	14.7	100.0	6,472	32.3
Female	14.5	15.9	29.5	17.7	9.7	12.7	100.0	6,125	31.3
Survival of preceding birth									
Living	12.9	15.8	29.2	18.2	9.8	14.2	100.0	11,879	32.5
Dead	32.8	18.4	26.4	8.9	7.3	6.1	100.0	719	23.6
Birth order									
2-3	17.2	17.8	28.0	17.4	9.3	10.3	100.0	5,374	29.5
4-6	12.3	13.6	30.2	17.3	9.7	16.9	100.0	4,594	33.3
7+	10.6	16.3	29.0	18.8	10.3	15.0	100.0	2,629	33.5
Residence									
Urban	11.8	13.5	25.3	18.3	11.2	19.9	100.0	3,266	35.7
Rural	14.8	16.8	30.3	17.4	9.1	11.5	100.0	9,332	30.6
Governorate									
Ibb	13.5	13.8	27.9	20.0	10.0	14.9	100.0	1,387	33.2
Abyan	11.2	13.3	30.2	18.4	13.1	13.8	100.0	226	33.2
Sana'a City	12.2	12.2	25.4	18.5	11.7	20.0	100.0	966	36.1
Al-Baidha	12.9	15.2	23.7	22.6	12.0	13.6	100.0	474	35.1
Taiz	16.7	15.8	28.2	16.5	9.1	13.6	100.0	1,572	30.3
Al-Jawf	11.5	20.9	29.8	18.3	9.5	10.0	100.0	111	31.6
Hajjah	12.2	19.6	32.8	15.6	8.9	10.9	100.0	880	30.7
Al-Hodiedah	14.5	20.8	30.9	16.6	7.6	9.7	100.0	1,640	28.2
Hadramout	7.4	12.4	28.2	19.9	12.4	19.7	100.0	578	37.2
Dhamar	16.9	17.1	31.5	15.5	8.8	10.2	100.0	1,078	28.9
Shabwah	8.9	13.6	25.8	20.6	13.6	17.5	100.0	221	36.6
Sadah	15.7	13.4	32.9	16.8	7.4	13.9	100.0	382	31.9
Sana'a	17.9	16.4	24.7	15.6	9.5	15.9	100.0	695	30.7
Aden	10.8	9.1	27.8	18.3	9.7	24.4	100.0	280	37.2
Lahj	12.9	16.5	26.2	16.8	11.1	16.5	100.0	322	33.6
Mareb	13.6	20.8	28.1	14.1	8.0	15.4	100.0	96	29.8
Al-Mhweit	17.2	17.2	33.6	16.5	7.5	8.1	100.0	422	28.7
Al-Mhrah	9.4	14.8	29.9	23.3	12.1	10.4	100.0	51	33.4
Amran	11.2	14.1	29.5	20.9	10.1	14.2	100.0	541	33.9
Aldhalae	13.2	12.2	29.4	18.5	12.8	13.9	100.0	317	34.5
Reimah	18.1	19.0	32.2	15.7	6.8	8.3	100.0	358	28.0
Education									
No education	14.2	16.3	29.9	17.6	9.3	12.8	100.0	7,605	31.2
Fundamental	14.2	16.5	26.7	17.6	9.9	15.1	100.0	3,684	32.4
Secondary	13.8	12.6	32.2	17.9	10.6	12.9	100.0	947	32.6
Higher	10.4	13.3	25.5	18.3	11.8	20.7	100.0	361	36.5
Wealth quintile									
Lowest	14.8	19.1	32.2	17.7	8.0	8.2	100.0	3,046	28.8
Second	18.1	16.5	30.3	17.0	8.3	9.9	100.0	2,763	29.0
Middle	13.8	16.9	28.4	16.9	10.3	13.7	100.0	2,498	32.1
Fourth	12.1	13.6	29.4	16.9	10.0	18.0	100.0	2,276	33.4
Highest	9.9	11.9	22.8	20.3	12.6	22.5	100.0	2,015	39.2
Total	14.0	16.0	29.0	17.6	9.6	13.7	100.0	12,597	31.8

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.

The data show that 30 percent of children in Yemen are born after too short an interval (less than 24 months after a preceding birth). This proportion is particularly high for children of young mothers age 15-19, 58 percent of whom are born less than 24 months after a prior birth.

The median birth interval in Yemen is 32 months. The median interval is shorter among births to women under age 30 than among births to older mothers. The length of the birth interval varies by survival status of the previous birth. For births whose prior sibling survived, the median birth interval is 33 months; for those with a non-surviving previous birth, the birth interval is 24 months. The difference is likely due to the absence of the fertility-inhibiting effects of breastfeeding as well as a desire to replace a dead child as soon as possible.

The median birth interval in urban areas (36 months) is slightly higher than in rural areas (31 months). Women with higher education have a longer median birth interval (37 months) than women with no education (31 months). Median birth interval increases with each wealth quintile, ranging from 29 months in the lowest quintile to 39 months in the highest quintile. Comparison with the 1997 YDMCHS shows that the median birth interval has increased slightly, from 28 to 32 months (CSO and MI, 1998).

5.6 POSTPARTUM AMENORRHEA

Postpartum amenorrhea refers to the interval between childbirth and the return of menstruation. During this period, the risk of pregnancy is greatly reduced. The duration of this protection from conception after childbirth depends on the duration and intensity of breastfeeding. In the 2013 YNHDS, women who gave birth in the five years prior to the survey were asked if their menstrual period had returned. Table 5.6 shows results for births in the three years before the survey according to time since the birth.

As expected, the proportion of births for which the mother is still amenorrheic declines rapidly from 88 percent for births occurring in the two months before the survey to 14 percent and less for births occurring 12 months or more before the survey. The median duration of amenorrhea is less than 4 months, while the mean duration is 7 months.

Table 5.6 Postpartum amenorrhea

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, by number of months since birth, and median and mean durations, Yemen 2013

Months since birth	Percentage of births for which the mother is amenorrheic	Number of births
< 2	88.1	464
2-3	51.6	662
4-5	38.6	579
6-7	34.6	521
8-9	26.6	636
10-11	20.8	447
12-13	14.0	620
14-15	11.0	706
16-17	10.4	525
18-19	5.4	441
20-21	5.7	457
22-23	5.7	392
24-25	3.2	652
26-27	2.2	693
28-29	2.2	529
30-31	2.7	451
32-33	3.3	429
34-35	1.4	406
Total	18.6	9,609
Median	3.5	na
Mean	6.9	na

Note: Estimates are based on status at the time of the survey.
na = Not applicable

5.7 MENOPAUSE

Fecundity refers to the ability to have children. The risk of pregnancy declines with age as increasing proportions of women become infecund. Although the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a population. Table 5.7 presents data on menopause, an indicator of decreasing exposure to the risk of pregnancy for women age 30 and older.

The percentage of women who have reached menopause refers to the population of women who are neither pregnant nor postpartum amenorrheic and have not had a menstrual period in the six months preceding the survey, or women who report being menopausal. Table 5.7 shows that overall, 6 percent of women age 30-49 are menopausal. The proportion of menopausal women increases with age, from 2 percent among women age 30-34 to 23 percent among women age 48-49.

Table 5.7 Menopause

Percentage of ever-married women age 30-49 who are menopausal, by age, Yemen 2013

Age	Percentage menopausal[1]	Number of women
30-34	2.3	2,824
35-39	2.7	2,612
40-41	5.8	911
42-43	5.7	662
44-45	12.8	754
46-47	14.7	387
48-49	22.5	471
Total	5.6	8,622

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

5.8 AGE AT FIRST BIRTH

The age at which childbearing begins has an impact on the health and welfare of a mother and her children. In many countries, the postponement of first births has contributed to an overall fertility decline. Table 5.8 shows the distribution of women by age at first birth, according to their current age. The median age at first birth in Yemen is around 21 for most age groups, with no clear trend by age. The median age at first birth for women age 25-49 (20.8) is higher than that of 19.5 found in the 1997 YDMCHS (CSO and MI, 1998).

Table 5.8 Age at first birth

Percentage of women age 15-49 who gave birth by exact ages, percentage who have never given birth, percentage never married, and median age at first birth, according to current age, Yemen 2013

| Current age | Percentage who gave birth by exact age | | | | | Percentage who have never given birth | Number of women | Median age at first birth |
	15	18	20	22	25			
15-19	0.7	na	na	na	na	91.9	6,342	a
20-24	3.1	16.9	31.3	na	na	53.5	5,197	a
25-29	4.3	22.6	40.2	54.6	68.6	26.6	4,634	21.4
30-34	6.6	27.2	45.5	58.1	71.3	17.2	3,225	20.7
35-39	6.3	29.0	45.5	62.2	77.8	9.0	2,761	20.4
40-44	6.7	28.9	45.7	60.8	77.9	7.2	1,807	20.6
45-49	9.3	27.2	42.7	57.5	73.0	4.2	1,468	20.9
20-49	5.3	23.7	40.2	na	na	na	19,092	a
25-49	6.1	26.3	43.5	58.0	72.7	16.0	13,895	20.8

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

5.9 MEDIAN AGE AT FIRST BIRTH BY BACKGROUND CHARACTERISTICS

Table 5.9 summarizes the median age at first birth for women age 25-49 across residential, educational, and wealth status subgroups. The results show that median age at first birth does not vary much by these background characteristics, being only slightly higher in urban areas than in rural areas (21.1 versus 20.7 years) and among women with secondary education (22.5) than among women with less education. Childbearing appears to start later among women in Abyan and Aden governorates than for women in other areas.

5.10 TEENAGE PREGNANCY AND MOTHERHOOD

The issue of adolescent fertility is important for both health and social reasons. Children born to very young mothers are at increased risk of sickness and death. Teenage mothers are more likely to experience adverse pregnancy outcomes and are also more constrained in their ability to pursue educational opportunities than young women who delay childbearing.

Table 5.10 shows the percentage of women age 15-19 who have given birth or were pregnant with their first child at the time of the survey, according to selected background characteristics. Overall, only 11 percent of women age 15-19 have begun childbearing, a sizeable drop from the 16 percent reported in 1997 (CSO and MI, 1998), but an increase from the 9 percent reported in 2003 (MOPHP, CSO, and PAPFAM 2004). The proportion of teenagers who have started childbearing rises rapidly with age, increasing from less than 1 percent at age 15 to 25 percent at age 19 (Figure 5.2). Teenagers with no education tend to start childbearing earlier than their better educated peers.

Table 5.9 Median age at first birth

Median age at first birth among women age 25-49 years, according to background characteristics, Yemen 2013

Background characteristic	Women age 25-49
Residence	
Urban	21.1
Rural	20.7
Governorates	
Ibb	19.7
Abyan	24.3
Sana'a City	20.8
Al-Baidha	19.7
Taiz	21.2
Al-Jawf	20.8
Hajjah	21.1
Al-Hodiedah	21.4
Hadramout	21.0
Dhamar	20.4
Shabwah	20.8
Sadah	20.4
Sana'a	19.8
Aden	23.8
Lahj	23.4
Mareb	20.2
Al-Mhweit	19.9
Al-Mhrah	20.6
Amran	20.7
Aldhalae	20.0
Reimah	20.3
Education	
No education	20.3
Fundamental	20.3
Secondary	22.5
Higher	a
Wealth quintile	
Lowest	20.9
Second	20.9
Middle	20.5
Fourth	20.6
Highest	21.1
Total	20.8

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

Table 5.10 Teenage pregnancy and motherhood

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and percentage who have begun childbearing, by background characteristics, Yemen 2013

Background characteristic	Percentage of women age 15-19 who:			Percentage never married	Number of women
	Have had a live birth	Are pregnant with first child	Have begun childbearing		
Age					
15	0.3	0.2	0.5	97.4	1,345
16	2.6	1.9	4.4	91.0	1,218
17	6.1	2.7	8.7	84.3	1,208
18	10.9	5.0	15.9	73.7	1,452
19	22.3	3.1	25.4	64.7	1,119
Residence					
Urban	7.2	1.3	8.5	86.2	1,977
Rural	8.6	3.2	11.8	80.8	4,365
Governorate					
Ibb	10.8	3.9	14.7	77.8	762
Abyan	6.8	3.8	10.5	77.9	115
Sana'a City	7.1	1.1	8.2	84.5	512
Al-Baidha	12.7	2.6	15.3	79.4	299
Taiz	6.4	2.9	9.4	83.3	900
Al-Jawf	11.1	1.0	12.2	75.0	40
Hajjah	4.8	1.8	6.6	89.8	322
Al-Hodiedah	7.2	1.8	9.0	83.5	795
Hadramout	5.6	3.0	8.6	85.2	334
Dhamar	9.6	3.8	13.4	76.8	447
Shabwah	5.6	1.5	7.1	87.9	161
Sadah	9.9	4.8	14.7	80.8	217
Sana'a	10.3	2.9	13.1	82.4	329
Aden	9.0	1.8	10.8	86.9	201
Lahj	7.6	1.0	8.6	86.0	158
Mareb	6.6	1.5	8.1	85.1	47
Al-Mhweit	8.8	2.4	11.2	79.8	154
Al-Mhrah	9.2	0.8	10.0	83.6	23
Amran	7.4	2.1	9.5	82.6	219
Aldhalae	7.3	1.8	9.0	85.3	167
Reimah	10.4	2.7	13.1	81.2	139
Education					
No education	13.9	3.8	17.7	73.2	1,100
Fundamental	8.4	2.9	11.3	81.3	3,500
Secondary	4.1	1.4	5.5	90.6	1,636
Higher	1.1	0.5	1.6	91.5	108
Wealth quintile					
Lowest	8.4	2.3	10.7	82.6	1,080
Second	8.9	4.2	13.1	77.9	1,255
Middle	9.7	2.9	12.7	80.3	1,372
Fourth	7.5	1.9	9.5	85.6	1,313
Highest	6.2	1.6	7.8	85.8	1,322
Total	8.1	2.6	10.7	82.5	6,342

Figure 5.2 **Percentage of women age 15-19 who have begun childbearing**

Percentage

Age

■YFHS 2003   ■YNHDS 2013

FERTILITY PREFERENCES

<div style="text-align: right;">6</div>
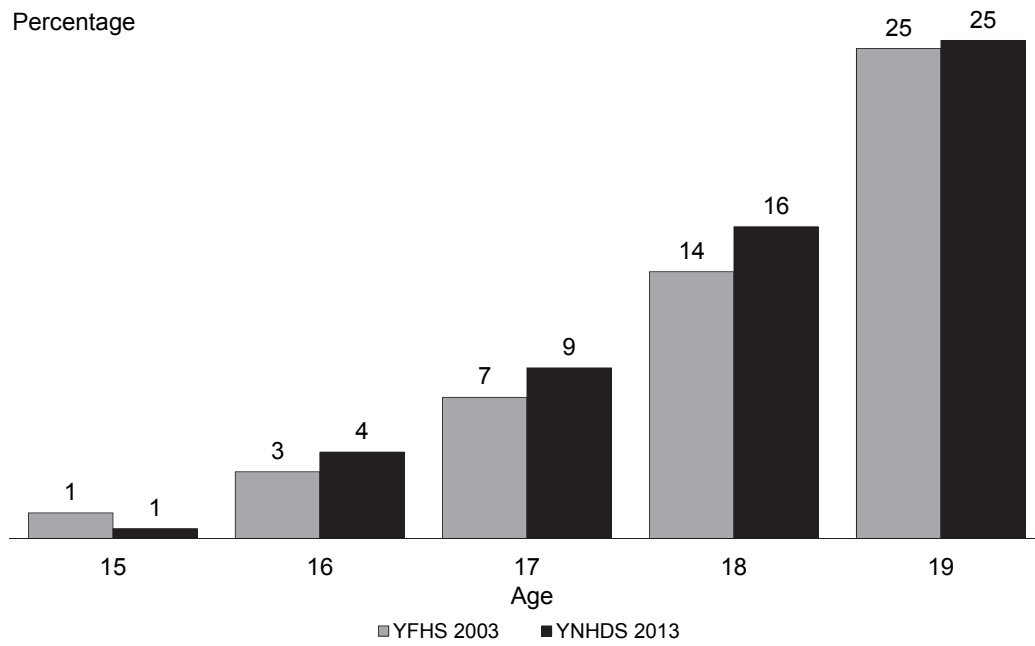
Key Findings

- Currently married women in Yemen are roughly evenly split between those who want to have another child (45 percent) and those who either want no more children or are sterilized (41 percent).
- Ever-married women report that the ideal number of children is 4.3.
- One in seven births in Yemen (14 percent) was reported by the mother to have been unwanted at the time of conception, and 21 percent were mistimed (wanted later); only 63 percent of births were wanted at the time of conception.
- If all unwanted births could be prevented, women would have an average of 3.1 births (total wanted fertility rate) instead of the actual fertility rate of 4.4 children per woman.

Information on fertility preferences is of considerable importance to managers of family planning programs, who must assess the need for contraception (whether to space births or childbearing) (limiting), and the extent of unwanted and mistimed pregnancies. Data on fertility preferences also can be used to predict the direction that future fertility patterns may take.

In the 2013 YNHDS, women were asked whether they wanted more children and, if so, how long they would prefer to wait before the next child. They were also asked, if they could start afresh, how many children they would want.

6.1 FERTILITY PREFERENCES BY NUMBER OF LIVING CHILDREN

Table 6.1 presents fertility preferences among currently married women by number of living children. When classifying people according to their fertility preferences, the desired timing of the next birth is taken into account. Forty-five percent of currently married women in Yemen would like to have another child; 20 percent want another child soon (within the next two years), while 24 percent want to have another child later (in two or more years), and 1 percent want another child but are undecided as to when. Nearly four in ten married women (39 percent) want no more children, while almost 1 in 10 (10 percent) are undecided. An additional 2 percent have been sterilized.

Table 6.1 Fertility preferences by number of living children

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Yemen 2013

Desire for children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Have another soon[2]	76.9	31.7	20.7	14.1	10.1	7.2	3.3	19.5
Have another later[3]	7.4	47.0	42.9	34.7	23.8	13.7	4.8	24.2
Have another, undecided when	1.2	2.0	1.5	1.8	1.8	0.9	0.4	1.3
Undecided	4.0	8.3	12.0	11.6	13.0	11.3	7.5	9.6
Want no more	1.4	8.4	20.5	34.1	46.5	61.0	71.7	39.0
Sterilized[4]	0.1	0.3	0.7	1.0	2.0	2.3	6.3	2.3
Declared infecund	7.7	1.7	1.2	2.2	1.8	2.8	5.0	3.2
Missing	1.4	0.6	0.5	0.6	0.9	0.8	0.9	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,445	2,186	2,397	2,149	1,930	1,632	3,827	15,566

[1] Number of living children includes the current pregnancy
[2] Wants next birth within two years
[3] Wants to delay next birth for two or more years
[4] Includes both female and male sterilization

As expected, the desire to have children depends on the number of living children a woman already has. More than three out of four married women with no living children (77 percent) want to have a child soon (within two years), compared with only 3 percent of women with six or more children. The desire to stop childbearing increases dramatically among women who already have several living children. The proportion reporting that they do not want another child or have been sterilized increases from 2 percent among married women with no children to 78 percent among women with six or more children.

Fertility preferences have changed somewhat over time. The proportion of currently married women who either want no more children or have been sterilized has declined from 49 percent in 1997 to 41 percent in 2013, while the proportion who want to have more children has increased slightly over the same period, from 42 to 45 percent (CSO and MI, 1998).

6.2 DESIRE TO STOP CHILDBEARING BY BACKGROUND CHARACTERISTICS

Table 6.2 shows the percentage of currently married women who want no more children by number of living children and selected background characteristics. Overall, four in ten married women want no more children or are sterilized. The desire to stop childbearing is slightly higher among rural women (42 percent) than among urban women (39 percent), although this varies by the number of living children. The proportion wanting no more children varies substantially by governorate, from a low of 20 percent of married women in Hadramout Governorate to a high of 56 percent in Hajjah Governorate.

Table 6.2 Desire to stop childbearing

Percentage of currently married women age 15-49 who want no more children, by number of living children, according to background characteristics, Yemen 2013

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	1.6	9.4	20.7	32.3	52.7	68.1	78.8	39.2
Rural	1.4	8.3	21.5	36.7	46.4	61.2	77.8	42.3
Governorate								
Ibb	2.3	10.4	23.0	32.8	38.0	58.5	79.3	40.1
Abyan	0.0	2.2	14.2	32.1	42.9	56.9	76.9	31.6
Sana'a City	3.3	8.1	17.4	34.4	60.8	73.2	79.2	38.8
Al-Baidha	2.2	12.8	18.7	30.2	37.0	76.0	84.0	42.0
Taiz	0.9	12.1	23.9	36.7	49.6	64.5	77.4	40.8
Al-Jawf	(3.5)	2.1	18.9	(18.6)	33.1	(28.1)	77.2	34.0
Hajjah	2.4	13.7	27.8	47.5	66.4	70.9	83.2	55.8
Al-Hodiedah	0.0	6.2	20.7	39.6	54.4	65.3	84.0	44.2
Hadramout	1.6	2.2	10.1	15.4	18.3	30.5	42.6	19.8
Dhamar	1.4	5.8	18.2	29.3	39.8	56.0	76.1	40.4
Shabwah	0.0	2.7	6.8	12.4	26.8	41.6	69.2	29.7
Sadah	(5.7)	11.0	19.0	35.9	44.7	60.3	66.5	41.1
Sana'a	3.8	12.3	27.9	47.9	57.4	79.2	89.1	48.4
Aden	0.0	8.3	31.5	42.5	62.7	75.1	84.4	42.8
Lahj	0.0	14.7	40.0	47.2	63.9	63.3	82.4	47.4
Mareb	1.9	10.2	19.1	12.5	44.9	38.6	59.4	31.8
Al-Mhweit	0.0	12.4	19.5	39.7	50.7	68.0	87.2	49.8
Al-Mhrah	(0.0)	(5.9)	9.8	11.4	29.7	(33.0)	52.2	24.9
Amran	0.0	0.9	19.2	38.1	62.7	76.7	87.7	45.8
Aldhalae	3.7	5.0	16.6	33.3	53.4	62.6	81.3	47.3
Reimah	0.0	8.1	26.1	27.3	41.2	49.5	72.3	42.6
Education								
No education	1.5	9.4	22.7	36.8	48.7	62.0	78.8	50.3
Fundamental	1.5	7.3	18.7	34.1	45.5	64.4	74.7	32.4
Secondary	1.9	9.5	24.1	30.9	50.8	69.4	76.9	26.4
Higher	0.0	12.3	21.5	35.7	68.9	*	*	29.2
Wealth quintile								
Lowest	2.3	9.3	23.6	42.0	51.0	62.6	78.4	47.6
Second	2.1	10.2	19.7	32.0	47.7	62.1	79.6	41.5
Middle	0.5	7.6	23.6	41.4	45.6	63.1	79.9	42.8
Fourth	1.0	7.3	22.5	29.9	46.8	55.6	76.0	38.5
Highest	1.5	9.0	18.3	32.1	51.3	71.7	75.2	37.1
Total	1.5	8.7	21.2	35.1	48.5	63.3	78.0	41.3

Note: Women who have been sterilized are considered to want no more children. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] The number of living children includes the current pregnancy.

Overall, married women with no education are far more likely to want no more children (50 percent) than women with some education (26 to 32 percent); however among women with any given number of children, the relationship weakens or even disappears. Similarly, the association between wealth and the desire to stop childbearing is inconsistent.

6.3 IDEAL NUMBER OF CHILDREN

Ever-married women were asked what number of children they would consider to be the ideal number. Respondents who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For respondents who had children, the question was rephrased as follows: "If you could go back to the time when you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" Responses to these questions are summarized in Table 6.3 for ever-married women age 15-49.

Table 6.3 Ideal number of children by number of living children

Percent distribution of ever-married women age 15-49 by ideal number of children, and mean ideal number of children for ever-married women and for currently married women, according to the number of living children, Yemen 2013

| Ideal number of children | Number of living children[1] | | | | | | | Total |
	0	1	2	3	4	5	6+	
0	2.9	2.7	2.8	3.8	3.9	6.1	6.7	4.3
1	2.6	4.8	1.3	1.7	1.4	0.6	0.5	1.7
2	25.9	21.2	19.4	11.0	10.6	11.0	8.8	14.7
3	7.8	12.3	11.7	16.8	4.2	5.4	5.3	9.0
4	29.4	30.7	36.8	32.5	35.1	20.5	19.0	28.4
5	6.5	7.0	6.1	9.8	10.0	16.0	6.3	8.3
6+	17.3	14.3	14.1	16.5	24.7	27.1	37.7	23.1
Non-numeric responses	7.6	7.0	7.7	8.0	10.2	13.2	15.8	10.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,653	2,399	2,540	2,260	2,022	1,718	3,973	16,564
Mean ideal number of children for:[2]								
Ever-married women	3.9	3.7	3.8	4.1	4.5	4.7	5.2	4.3
Number of ever-married	1,527	2,230	2,345	2,079	1,817	1,490	3,347	14,834
Currently married women	4.0	3.8	3.9	4.1	4.5	4.7	5.2	4.4
Number of currently married	1,354	2,043	2,218	1,981	1,741	1,416	3,231	13,984

[1] The number of living children includes current pregnancy
[2] Means are calculated excluding respondents who gave non-numeric responses.

The data in the top portion of Table 6.3 indicate that a large majority of women were able to give a numeric answer to this hypothetical question. Only 10 percent of ever-married women gave a non-numeric answer such as "It is up to God," "any number," or "I do not know." The mean ideal number of children is 4.3 for ever-married women and 4.4 for currently married women. More women report four children as ideal (28 percent) than any other number of children, although almost as many women (23 percent) report six or more children as ideal. Overall, 58 percent of women ideally would want four or fewer children.

When interpreting the findings in Table 6.3, it is important to remember that the actual and stated ideal number of children tend to be related. There are several reasons for this. First, to the extent that women are able to fulfil their fertility desires, women who want large families will achieve large families. Second, because women with large families are, on average, older women, they may prefer a greater number of children because of the attitudes towards childbearing to which they were exposed during the early stages of their reproductive lives. Finally, some women may have difficulty admitting that they would prefer fewer children than they currently have if they could begin childbearing again. Such women are likely to report their actual number as their preferred number. Indeed, women who have fewer children do report a smaller ideal number of children than women with more children. The mean ideal number of children among ever-married women with one child is 3.7, compared with 5.2 among women with six or more children.

It is also interesting that a substantial number of women reported ideal family sizes smaller than their actual number of children. For example, 47 percent of women with 6 or more children reported that if

they could start over, they would have five or fewer children. Similarly, 44 percent of women with 5 children said ideally they would want four or fewer children.

Over time, the mean ideal number of children reported by ever-married women has fluctuated from 4.5 children in 1997 up to 4.6 in 2003 and down to 4.3 in 2013 (CSO and MI, 1998; POPHP, CSO, PAPFAM, 2004).

6.4 IDEAL NUMBER OF CHILDREN BY BACKGROUND CHARACTERISTICS

Table 6.4 shows the mean ideal number of children among ever-married women age 15-49, by background characteristics. The mean ideal number of children increases consistently with age, from 3.8 among women age 15-19 to 5.2 among women age 45-49. Women in rural areas have higher family size norms than those in urban areas (4.5 and 4.0 children, respectively). The mean ideal number of children varies substantially by governorate, from a low of 3.5 children for women in Sana'a Governorate to a high of 6.5 children for women in Al-Mhrah Governorate.

The mean ideal number of children consistently decreases with increasing education, differing by slightly over one child between the lowest and highest education categories. The mean ideal number of children also decreases with increasing wealth quintile.

6.5 FERTILITY PLANNING STATUS

The issue of unplanned and unwanted fertility was investigated in the 2013 YNHDS by asking women who had births during the five years before the survey whether the births were wanted at the time (planned), wanted at a later time (mistimed), or not wanted at all (unwanted). The responses to those questions provide a measure of the degree to which Yemeni couples have been successful in controlling childbearing. In addition, the information can be used to estimate the effect on fertility if unwanted pregnancies had been prevented.

Questions pertaining to the planning status of recent births require the respondent to recall accurately her wishes at one or more points in the past five years and report them honestly. These questions are subject to recall and accuracy bias in remembering how she felt about a particular pregnancy. She also may not be willing to admit that she had not wanted a child at its conception. Conversely, if the child has become an economic or health burden, she may now claim that the pregnancy was unwanted. Despite these potential problems of comprehension, recall, and truthfulness, results from previous surveys have yielded plausible responses, with the most probable effect of biases in the answers being net underestimation of the level of unwanted fertility.

Table 6.5 shows the distribution of births in the five years before the survey by whether a birth was wanted then, wanted later, or not wanted. Overall, 63 percent of all births were wanted at the time of conception, 21 percent were reported as mistimed (wanted later), and 14 percent were unwanted. The proportion of unwanted births is much greater for births that are fourth order or more (29 percent) than for first births (less than 1 percent). Similarly, a much larger proportion of births to older women are unwanted than are those to younger women. Whereas only 1 percent of births to women under age 20 are unwanted, 54 percent of births to women age 45-49 are unwanted.

Table 6.4 Mean ideal number of children

Mean ideal number of children for ever-married women age 15-49 by background characteristics, Yemen 2013

Background characteristic	Mean	Number of women[1]
Age		
15-19	3.8	1,029
20-24	4.0	2,901
25-29	4.1	3,402
30-34	4.3	2,544
35-39	4.6	2,275
40-44	4.9	1,473
45-49	5.2	1,210
Residence		
Urban	4.0	4,871
Rural	4.5	9,963
Governorate		
Ibb	4.1	1,333
Abyan	4.6	312
Sana'a City	3.7	1,562
Al-Baidha	4.1	567
Taiz	4.6	2,148
Al-Jawf	5.2	132
Hajjah	4.1	870
Al-Hodiedah	4.6	1,852
Hadramout	5.2	794
Dhamar	4.1	991
Shabwah	5.2	200
Sadah	5.8	491
Sana'a	3.5	788
Aden	3.9	523
Lahj	4.4	407
Mareb	5.3	113
Al-Mhweit	4.0	417
Al-Mhrah	6.5	57
Amran	4.1	590
Aldhalae	5.0	371
Reimah	4.3	315
Education		
No education	4.6	7,757
Fundamental	4.1	4,935
Secondary	3.9	1,470
Higher	3.5	672
Wealth quintile		
Lowest	4.6	2,695
Second	4.4	2,907
Middle	4.4	2,937
Fourth	4.4	2,962
Highest	4.0	3,333
Total	4.3	14,834

[1] Number of women who gave a numeric response

Table 6.5 Fertility planning status

Percent distribution of births to ever-married women age 15-49 in the five years preceding the survey (including current pregnancies), by planning status of the birth, according to birth order and mother's age at birth, Yemen 2013

| Birth order and mother's age at birth | Planning status of birth | | | | Total | Number of births |
	Wanted then	Wanted later	Wanted no more	Missing		
Birth order						
1	86.7	11.4	0.5	1.5	100.0	3,673
2	72.9	24.5	1.3	1.2	100.0	3,310
3	66.5	28.0	4.2	1.3	100.0	2,820
4+	48.1	22.0	28.6	1.4	100.0	8,205
Mother's age at birth						
<20	79.5	17.8	1.3	1.5	100.0	2,328
20-24	69.8	25.2	3.6	1.4	100.0	5,383
25-29	64.0	23.5	11.3	1.1	100.0	4,716
30-34	54.5	19.7	24.0	1.8	100.0	3,003
35-39	45.9	15.7	37.1	1.4	100.0	1,801
40-44	42.9	9.1	47.4	0.7	100.0	663
45-49	40.3	5.2	54.4	0.2	100.0	113
Total	63.4	21.2	14.0	1.4	100.0	18,008

6.6   WANTED FERTILITY RATES

Responses to the question on the ideal number of children are used to calculate a total "wanted" fertility rate. This measure is calculated in the same manner as the conventional total fertility rate, except that unwanted births are excluded from the numerator. A birth is considered wanted if the number of living children at the time of conception are fewer than the ideal number of children currently reported by the respondent. Wanted fertility rates express the level of fertility that theoretically would result if all unwanted births were prevented. Comparison of the actual fertility rate with the wanted rate indicates the potential demographic impact of eliminating unwanted births.

Table 6.6 and Figure 6.1 show that the wanted fertility rate is 3.1 children, compared with the actual fertility rate of 4.4 children (rates calculated over the three years prior to the survey). In other words, Yemeni women are currently having an average of 1.3 children more than they actually want. The table also shows that regardless of place of residence, level of education, and wealth quintile, the wanted fertility rate is lower than the actual total fertility rate. The total wanted fertility rate has declined enormously since 1997, when it was 4.6 children per woman (CSO and MI, 1998).

Women in rural areas have a much larger gap between their actual and wanted fertility (1.6 children) than do women in urban areas (0.8). Women with higher levels of education as well as those in the higher wealth quintiles seem to be the most successful in achieving their fertility goals; that is, the gap between wanted and actual fertility narrows as education and wealth quintile increase. For example, women in the poorest wealth quintile have an average of about two children more than they want, while women in the highest wealth quintile have less than one child more than they want.

Table 6.6 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Yemen 2013

Background characteristic	Total wanted fertility rates	Total fertility rate
Residence		
Urban	2.4	3.2
Rural	3.5	5.1
Governorate		
Ibb	3.4	4.8
Abyan	3.0	4.0
Sana'a City	2.2	3.1
Al-Baidha	3.2	3.9
Taiz	3.2	4.0
Al-Jawf	4.3	5.8
Hajjah	3.0	5.5
Al-Hodiedah	3.0	4.4
Hadramout	3.1	3.4
Dhamar	4.1	6.2
Shabwah	3.5	4.0
Sadah	2.9	4.0
Sana'a	3.0	4.9
Aden	2.3	2.9
Lahj	3.3	4.5
Mareb	3.7	4.7
Al-Mhweit	3.3	5.8
Al-Mhrah	3.7	4.3
Amran	3.6	6.1
Aldhalae	2.9	4.5
Reimah	3.5	5.9
Education		
No education	3.6	5.3
Fundamental	3.1	4.1
Secondary	2.5	3.1
Higher	1.9	2.2
Wealth quintile		
Lowest	3.8	6.1
Second	3.7	5.3
Middle	3.2	4.5
Fourth	2.9	3.8
Highest	2.3	2.9
Total	3.1	4.4

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 5.2.

Figure 6.1 Total fertility rates and wanted total fertility rates

Number of Births

	TFR	Wanted TFR
Yemen	4.4	3.1
Urban	3.2	2.4
Rural	5.1	3.5
Lowest	6.1	3.8
Second	5.3	3.7
Middle	4.5	3.2
Fourth	3.8	2.9
Highest	2.9	2.3

YNHDS 2013

FAMILY PLANNING

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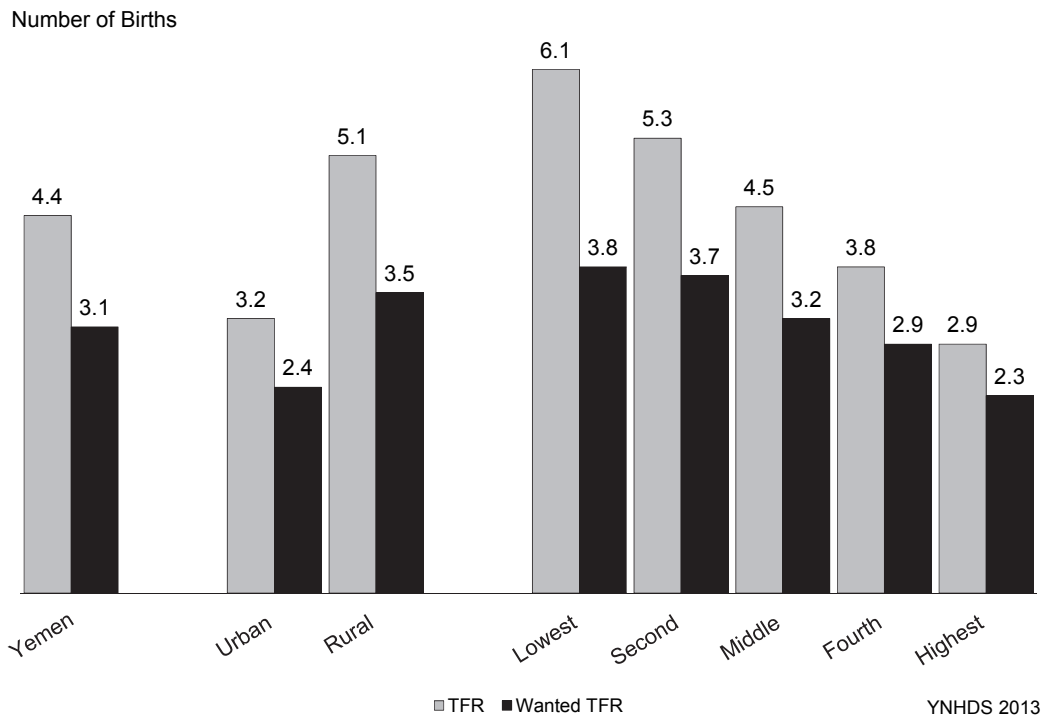
Key Findings

- Knowledge about contraception is nearly universal in Yemen: 98 percent of married women have heard of at least one method.
- The contraceptive prevalence rate has increased to 34 percent among married women; in 1997, this rate was only 21 percent.
- The birth control pill is the most widely used method of contraception, the IUD and injectables are the next most popular methods.
- Just over half (53 percent) of modern contraceptive users obtain their methods from the public sector.
- Among women who started using a family planning method in the five years before the survey, 43 percent stopped using the method within 12 months. Discontinuation rates are highest for injectables and the pill.
- Twenty-nine percent of currently married women have an unmet need for family planning services (15 percent for spacing births and 14 percent for stopping childbearing), with just over half of the demand being satisfied.
- Overall, 92 percent of nonusers did not discuss family planning with a fieldworker or a staff member at a health facility.

Family planning refers to a conscious effort by a couple to stop childbearing (limiting) or space the number of children they want to have through the use of contraceptives. This chapter presents results from the 2013 YNHDS on a number of aspects of contraception: knowledge of specific contraceptive methods, current use, sources of current contraceptive methods, contraceptive discontinuation, unmet need for family planning services, and exposure to family planning messages and providers. The focus of this chapter is on currently married women because these women have the greatest risk of exposure to pregnancy.

7.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

Information about contraceptive methods was collected by asking ever-married women if they had heard of various methods that a couple can use to delay or avoid a pregnancy. Specifically, the interviewer named a method, described it, and then asked whether the respondent had heard of it. In all, the interviewer asked about thirteen different contraceptive methods. Provision was also made in the questionnaire to record any additional methods the respondent had heard of but was not asked about by the interviewer.

Contraceptive methods are classified into two broad categories, namely modern methods and traditional methods. Modern methods include female and male sterilization, the pill, the intrauterine device (IUD), injectables, implants, the male and the female condom, the diaphragm, the lactational amenorrhea method (LAM), and emergency contraception. Traditional methods include rhythm (periodic abstinence) and withdrawal.

Table 7.1 shows that knowledge of contraceptive methods is almost universal in Yemen, with 98 percent of both ever-married and currently married women having heard of at least one method of contraception. Modern methods are more widely known than traditional methods; 98 percent of currently married women know of a modern method, while only 75 percent know of a traditional method.

Table 7.1 Knowledge of contraceptive methods

Percentage of ever-married women and currently married women age 15-49 who know a contraceptive method, by specific method, Yemen 2013

Method	Ever-married women	Currently married women
Any method	98.2	98.3
Any modern method	98.2	98.3
Female sterilization	72.2	72.2
Male sterilization	30.0	29.8
Pill	96.9	97.1
IUD	89.9	90.0
Injectables	92.2	92.5
Implants	84.0	84.0
Male condom	55.3	55.5
Female condom	14.4	14.3
Diaphragm	10.2	10.2
Lactational amenorrhea (LAM)	80.5	80.6
Emergency contraception	11.4	11.5
Any traditional method	74.6	74.7
Rhythm	65.6	65.7
Withdrawal	57.6	58.0
Other	7.7	7.5
Mean number of methods known by respondents 15-49	7.7	7.7
Number of respondents	16,564	15,566

The pill, injectables, the IUD, and implants are the contraceptive methods most widely known among women in Yemen. Among currently married women age 15-49, 97 percent have heard of the pill, 93 percent have heard of injectables, 90 percent have heard of the IUD, and 84 percent have heard of implants. Each of these figures is markedly higher than those reported in the 1997 YDMCHS (76 percent, 56 percent, 64 percent, and 6 percent, respectively). Knowledge of several other modern methods has also dramatically increased. For example, the proportion of currently married women who have heard of female sterilization has increased from 48 percent in 1997 to 72 percent in 2013, while the proportion who have heard of the male condom has doubled from 24 percent in 1997 to 56 percent in 2013. Over four in five women have heard of the lactational amenorrhea method (LAM). The least well known modern methods are the diaphragm (known by 10 percent of currently married women), emergency contraception (12 percent), female condom (14 percent), and male sterilization (30 percent). With regard to traditional methods, two-thirds of women have heard of the rhythm method, while 58 percent know about withdrawal. Overall, women in Yemen have heard of an average of 7.7 contraceptive methods.

As shown in Table 7.2, knowledge of some method of family planning is almost universal among currently married women in Yemen. Across all categories of age, residence, governorate, education, and wealth, more than 95 percent of currently married women have heard of at least one contraceptive method and at least one modern method with only three exceptions: women age 15-19, women in Al-Mhrah Governorate, and women in the lowest wealth quintile. Even in these three categories, however, more than 90 percent of women have heard of a modern method of contraception.

Table 7.2 Knowledge of contraceptive methods by background characteristics

Percentage of currently married women age 15-49 who have heard of at least one contraceptive method and who have heard of at least one modern method, by background characteristics, Yemen 2013

Background characteristic	Heard of any method	Heard of any modern method[1]	Number
Age			
15-19	94.2	94.2	1,084
20-24	98.7	98.7	2,968
25-29	98.1	98.1	3,574
30-34	98.9	98.8	2,675
35-39	99.1	99.1	2,409
40-44	98.6	98.5	1,579
45-49	98.0	98.0	1,277

Continued…

Table 7.2—Continued

Background characteristic	Heard of any method	Heard of any modern method[1]	Number
Residence			
Urban	99.8	99.8	4,949
Rural	97.6	97.5	10,617
Governorate			
Ibb	98.8	98.8	1,678
Abyan	99.0	99.0	326
Sana'a City	100.0	100.0	1,510
Al-Baidha	98.3	98.3	702
Taiz	98.4	98.4	2,053
Al-Jawf	98.2	98.2	124
Hajjah	96.0	95.9	867
Al-Hodiedah	98.5	98.5	1,891
Hadramout	97.2	97.2	884
Dhamar	97.0	96.9	1,106
Shabwah	99.2	99.2	293
Sadah	95.5	95.5	504
Sana'a	99.4	99.4	831
Aden	100.0	100.0	487
Lahj	98.0	97.6	405
Mareb	99.7	99.7	111
Al-Mhweit	96.1	96.0	425
Al-Mhrah	91.4	90.4	61
Amran	98.9	98.9	595
Aldhalae	99.0	99.0	384
Reimah	98.0	98.0	330
No education	97.1	97.1	8,336
Fundamental	99.5	99.5	5,090
Secondary	99.9	99.9	1,511
Higher	100.0	100.0	629
Wealth quintile			
Lowest	94.1	93.9	2,840
Second	98.1	98.0	3,076
Middle	99.3	99.3	3,141
Fourth	99.6	99.5	3,147
Highest	100.0	100.0	3,362
Total 15-49	98.3	98.3	15,566

[1] Female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, diaphragm, foam or jelly, lactational amenorrhea method (LAM), and emergency contraception

7.2 CURRENT USE OF CONTRACEPTION

Contraceptive use is one of the principal determinants of the level of fertility. Changes in contraceptive prevalence that have occurred over time can indicate the overall success of family planning programs in Yemen.

Contraceptive use among currently married women age 15-49 is presented in Table 7.3 by age group. The contraceptive prevalence rate (CPR), or the percentage of currently married women who use a contraceptive method of any sort, is 34 percent, while the CPR for modern methods is 29 percent; only 4 percent of currently married women use a traditional method. The contraceptive methods most commonly used are the pill (12 percent) and the IUD (6 percent) (Figure 7.1). Four percent of currently married women reported using injectables, another 4 percent use LAM, and 2 percent have been sterilized. Less than one percent of married women are using implants, male condoms, or male sterilization. As for traditional methods, 3 percent of married women reported using withdrawal, while 2 percent are using the rhythm method.

The contraceptive prevalence rate increases with age, reaching a peak of 40 percent at age 30-39, after which it declines to 37 percent at age 40-44 and to 29 percent among women age 45-49. The pill is the most popular method among women at every age group except 45-49 when it is overtaken by female sterilization.

Table 7.3 Current use of contraception by age

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to age, Yemen 2013

Age	Any method	Modern method										Traditional method				Not currently using	Total	Number of women
		Any modern method	Female sterilization	Male sterilization	Pill	IUD	Inject-ables	Implants	Male condom	LAM	Other	Any traditional method	Rhythm	With-drawal	Other			
15-19	13.2	12.1	0.0	0.0	6.2	1.2	1.8	0.2	0.2	2.6	0.0	1.1	0.5	0.6	0.0	86.8	100.0	1,084
20-24	25.4	23.0	0.0	0.0	11.5	3.7	2.8	0.6	0.2	4.3	0.0	2.5	0.7	1.8	0.0	74.6	100.0	2,968
25-29	36.4	32.8	0.4	0.0	13.9	7.0	4.8	0.8	0.5	5.3	0.1	3.6	1.0	2.4	0.1	63.6	100.0	3,574
30-34	40.2	35.6	1.6	0.0	13.8	8.8	5.8	0.6	0.8	4.2	0.0	4.6	2.2	2.4	0.0	59.8	100.0	2,675
35-39	40.5	34.5	3.2	0.0	12.3	7.8	5.2	0.5	1.1	4.4	0.0	6.0	2.6	3.2	0.2	59.5	100.0	2,409
40-44	37.4	30.6	7.8	0.1	9.4	5.6	4.5	0.4	0.4	2.3	0.1	6.8	2.5	4.0	0.3	62.6	100.0	1,579
45-49	29.2	22.9	7.7	0.8	7.0	3.1	2.4	0.4	0.3	1.2	0.0	6.4	1.9	4.4	0.1	70.8	100.0	1,277
Total	33.5	29.2	2.3	0.1	11.6	5.9	4.2	0.6	0.5	4.0	0.0	4.3	1.6	2.6	0.1	66.5	100.0	15,566

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method

Figure 7.1 Percentage of currently married women using specific contraceptive methods

Percentage

Any modern method	29
Pill	12
IUD	6
Injectables	4
LAM	4
Female sterilization	2
Implants	1
Male condons	1
Any traditional method	4
Withdrawal	3
Rhythm	2

YNHDS 2013
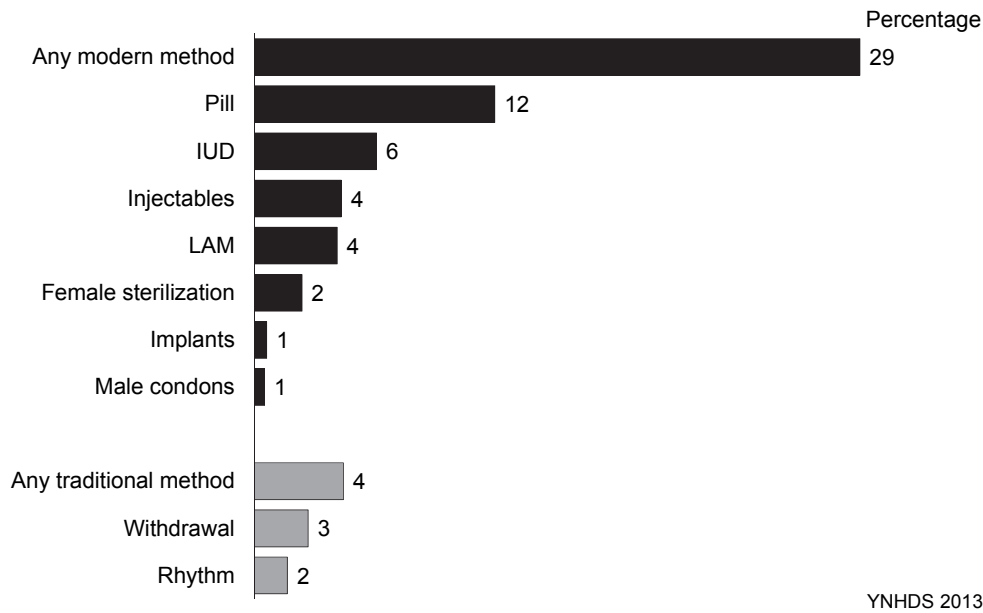
Figure 7.2 shows trends in contraceptive use among currently married women from 1997 to 2013. Data from four surveys conducted in Yemen over the past 16 years show an impressive increase in the use of contraceptive methods from 21 percent in 1997 to 34 percent in 2013. The increase in the use of contraceptives is due mainly to increased use of modern methods (from 10 percent in 1997 to 29 percent in 2013), while use of traditional methods has decreased from 11 percent in 1997 to 4 percent in 2013. The figure shows that the proportion of currently married women who are using a modern method of contraception has increased by 50 percent in the past 7 years (from 19 percent in 2006 to 29 percent in 2013), while use of traditional methods has decreased by 50 percent (from 8 percent in 2006 to 4 percent in 2013).

Figure 7.2 Trends in contraceptive prevalence, Yemen 1997-2013

Percentage

□ 1997 YDMCHS   ▨ 2003 YFHS   ▦ 2006 YMICS   ■ 2013 YNHDS
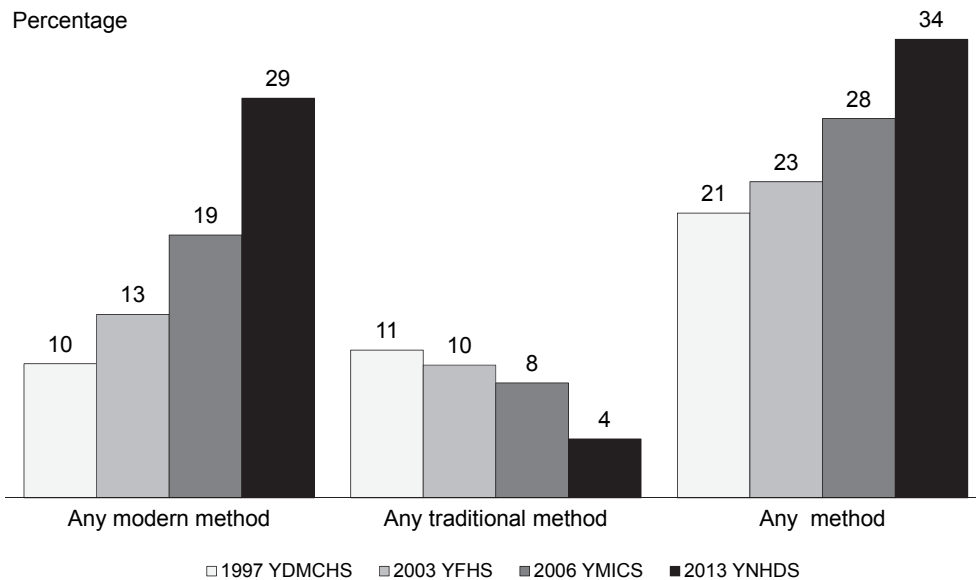
7.3 CURRENT USE OF CONTRACEPTION BY BACKGROUND CHARACTERISTICS

Table 7.4 shows that there are large variations in contraceptive use among currently married women age 15-49 by background characteristics. For example, very few married women without children use any contraceptive method (1 percent), compared with over 40 percent of women with three or more children.

Table 7.4 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Yemen 2013

Background characteristic	Any method	Modern method										Traditional method				Not currently using	Total	Number of women
		Any modern method	Female sterilization	Male sterilization	Pill	IUD	Inject-ables	Implants	Male condom	LAM	Other	Any tradi-tional method	Rhythm	With-drawal	Other			
Number of living children																		
0	1.1	0.8	0.1	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.2	0.0	98.9	100.0	1,864
1-2	30.9	27.3	0.5	0.0	13.4	4.9	2.6	0.6	0.4	4.8	0.0	3.6	1.5	2.1	0.0	69.1	100.0	4,538
3-4	41.5	36.8	1.4	0.1	15.0	8.7	5.1	0.8	0.6	5.0	0.0	4.7	1.8	2.9	0.1	58.5	100.0	3,941
5+	41.3	35.2	5.2	0.1	11.4	6.8	6.4	0.6	0.7	3.8	0.1	6.1	2.1	3.7	0.2	58.7	100.0	5,223
Residence																		
Urban	47.5	40.2	3.1	0.1	17.2	11.0	3.3	0.9	1.2	3.2	0.1	7.3	2.9	4.3	0.1	52.5	100.0	4,949
Rural	27.0	24.0	1.9	0.1	9.0	3.5	4.6	0.4	0.2	4.3	0.0	2.9	1.0	1.9	0.1	73.0	100.0	10,617
Governorate																		
Ibb	32.7	30.7	2.8	0.4	12.0	6.6	6.9	0.4	0.3	1.4	0.0	2.0	0.9	1.0	0.2	67.3	100.0	1,678
Abyan	32.4	29.5	0.7	0.0	15.5	3.8	2.8	0.7	0.3	5.9	0.0	2.9	1.2	1.7	0.0	67.6	100.0	326
Sana'a City	56.2	48.1	3.4	0.0	19.6	16.9	1.9	0.8	1.6	3.7	0.1	8.1	2.2	5.9	0.0	43.8	100.0	1,510
Al-Baidha	33.9	30.2	1.2	0.0	12.2	6.7	5.9	0.3	0.4	3.5	0.0	3.7	0.2	3.5	0.1	66.1	100.0	702
Taiz	31.4	27.7	1.3	0.2	8.9	4.3	4.4	0.7	0.3	7.4	0.1	3.7	2.0	1.7	0.1	68.6	100.0	2,053
Al-Jawf	26.3	26.0	0.1	0.0	10.7	4.1	7.9	0.5	0.1	2.5	0.1	0.4	0.2	0.1	0.0	73.7	100.0	124
Hajjah	17.1	16.4	1.6	0.0	6.3	1.3	5.7	0.3	0.2	1.1	0.0	0.6	0.5	0.1	0.0	82.9	100.0	867
Al-Hodiedah	16.5	13.7	1.7	0.0	7.4	2.4	1.8	0.3	0.0	0.1	0.0	2.8	1.9	0.5	0.4	83.5	100.0	1,891
Hadramout	37.3	27.5	1.3	0.0	15.4	4.5	1.6	0.4	0.5	3.7	0.1	9.8	5.5	4.3	0.0	62.7	100.0	884
Dhamar	35.2	33.2	4.2	0.0	8.2	8.1	6.3	0.3	0.9	5.2	0.0	2.0	0.6	1.3	0.0	64.8	100.0	1,106
Shabwah	21.3	19.4	2.0	0.0	9.9	3.2	2.2	0.4	0.4	1.1	0.2	1.9	1.0	0.9	0.1	78.7	100.0	293
Sadah	32.7	26.9	0.5	0.0	11.7	1.9	9.4	0.2	0.0	3.3	0.0	5.8	1.2	4.5	0.1	67.3	100.0	504
Sana'a	49.7	41.3	4.1	0.0	16.0	10.5	3.4	1.1	1.0	5.3	0.0	8.4	1.1	7.3	0.0	50.3	100.0	831
Aden	46.9	40.4	1.7	0.2	20.9	6.5	4.6	1.1	2.1	3.1	0.4	6.5	2.5	4.0	0.2	53.1	100.0	487
Lahj	33.2	30.4	1.5	0.0	19.7	1.8	2.3	0.5	0.3	4.1	0.0	2.9	1.3	1.4	0.6	66.8	100.0	405
Mareb	25.7	21.3	1.2	0.2	7.9	7.3	2.5	0.4	0.3	1.8	0.0	4.5	1.3	2.6	0.6	74.3	100.0	111
Al-Mhweit	23.1	19.6	3.2	0.0	6.7	3.1	4.0	0.1	0.0	2.5	0.0	3.4	1.1	2.3	0.0	76.9	100.0	425
Al-Mhrah	32.9	20.0	1.0	0.0	7.7	0.9	1.2	0.4	0.1	8.7	0.0	12.9	2.5	10.3	0.0	67.1	100.0	61
Amran	48.3	41.9	2.7	0.0	10.1	5.4	4.7	0.9	0.8	17.1	0.1	6.4	0.7	5.7	0.1	51.7	100.0	595
Aldhalae	34.2	29.1	5.6	0.0	8.9	2.9	5.2	1.7	0.2	4.5	0.1	5.0	2.1	2.7	0.2	65.8	100.0	384
Reimah	14.0	12.4	0.7	0.0	5.4	1.8	3.4	0.4	0.2	0.6	0.0	1.6	0.6	0.7	0.3	86.0	100.0	330
Education																		
No education	28.0	24.8	3.0	0.1	8.1	3.8	4.8	0.4	0.4	4.0	0.0	3.2	0.9	2.2	0.2	72.0	100.0	8,336
Fundamental	37.7	32.5	1.3	0.1	14.7	7.6	3.8	0.7	0.4	3.9	0.1	5.3	2.1	3.1	0.1	62.3	100.0	5,090
Secondary	42.6	37.4	1.1	0.0	18.3	9.0	3.3	0.9	0.8	3.9	0.0	5.3	2.5	2.8	0.0	57.4	100.0	1,511
Higher	50.4	40.8	2.7	0.0	17.0	13.2	1.5	0.7	1.9	3.8	0.1	9.6	4.9	4.7	0.0	49.6	100.0	629
Wealth quintile																		
Lowest	14.5	13.6	0.8	0.0	3.2	0.6	3.5	0.2	0.2	5.2	0.0	0.9	0.2	0.7	0.1	85.5	100.0	2,840
Second	24.0	21.0	1.6	0.0	6.7	3.1	4.5	0.2	0.3	4.6	0.0	3.0	0.8	2.1	0.1	76.0	100.0	3,076
Middle	33.8	30.5	2.8	0.2	12.1	4.9	6.4	0.5	0.3	3.4	0.0	3.3	0.8	2.3	0.1	66.2	100.0	3,141
Fourth	42.2	35.8	3.2	0.0	14.5	8.1	5.1	1.0	0.4	3.5	0.1	6.4	2.6	3.5	0.2	57.8	100.0	3,147
Highest	49.7	42.2	2.8	0.2	20.0	12.0	1.6	0.9	1.4	3.3	0.1	7.5	3.2	4.3	0.0	50.3	100.0	3,362
Total	33.5	29.2	2.3	0.1	11.6	5.9	4.2	0.6	0.5	4.0	0.0	4.3	1.6	2.6	0.1	66.5	100.0	15,566

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method.

Married women in urban areas are more likely to use contraceptive methods than their counterparts in rural areas (48 percent compared with 27 percent). Among governorates, use of contraceptive methods is highest in Sana'a City (56 percent) and lowest in Reimah Governorate (14 percent).

Contraceptive use is positively associated with women's level of education and wealth. Twenty-eight percent of currently married women with no education use contraceptives, compared with 50 percent of those with higher education. Similarly, only 15 percent of married women in the lowest wealth quintile use contraceptives compared with 50 percent of women in the highest wealth quintile. The same patterns hold for use of modern contraceptives and use of traditional methods.

7.4   TIMING OF STERILIZATION

Information on the age at which women gets sterilized is useful for family planning programs. In the 2013 YNHDS, women using female sterilization were asked the month and year at which they had the procedure. Table 7.5 shows the percent distribution of currently married, sterilized women by age at the time of sterilization, according to the number of years since the operation.

Table 7.5 Timing of sterilization

Percent distribution of currently married women age 15-49 sterilized by age at the time of sterilization and median age at sterilization, according to the number of years since the operation, Yemen 2013

Years since operation	Age at time of sterilization						Total	Number of women	Median age[1]
	<25	25-29	30-34	35-39	40-44	45-49			
<2	2.2	8.3	25.9	31.1	28.3	4.1	100.0	81	34.7
2-3	2.0	7.4	19.3	40.3	27.7	3.2	100.0	60	35.5
4-5	(2.1)	(18.4)	(25.9)	(38.2)	(15.5)	(0.0)	100.0	44	(34.1)
6-7	(10.5)	(15.3)	(33.7)	(24.5)	(16.0)	(0.0)	100.0	49	(33.0)
8-9	(4.5)	(17.0)	(33.4)	(36.9)	(8.2)	(0.0)	100.0	40	(33.9)
10+	9.7	29.0	44.6	16.6	0.0	0.0	100.0	77	a
Total	5.2	15.9	30.8	30.1	16.4	1.5	100.0	353	33.2

Note: Figures in parentheses are based on 25-49 unweighted cases.
a = Not calculated due to censoring
[1] Median age at sterilization is calculated only for women sterilized before age 40 at less than 40 years of age to avoid problems of censoring

The table indicates that more women get sterilized at ages 30-34 and 35-39 than in other age groups, but it also indicates that over one-fifth of sterilized women had the operation when they were relatively young, i.e., under age 30. The median age at the time of sterilization fluctuates by the number of years since the operation, showing no pattern across time. However, comparison with the 1997 YDMCHS shows a slight decrease in the median age at sterilization, from 34 years in 1997 to 33 years in 2013 (CSO and MI, 1998).

7.5   SOURCE OF MODERN CONTRACEPTIVE METHODS

Where women obtain the contraceptive methods they use is useful information for family planning program managers and others who plan the distribution of contraceptives. In the 2013 YNHDS, all women who reported that they were currently using any modern contraceptive method at the time of the survey were asked where they obtained the method the last time they acquired it. Because women may know the name of the facility but not exactly in which category the source falls (e.g., government or private, health center or clinic), in such cases, the interviewers were instructed to note the name of the source or facility. Furthermore, supervisors were trained to verify the name and type of source to maintain consistency and improve the accuracy of the information.

Table 7.6 shows that just over half (53 percent) of users obtain their contraceptives from public sector sources. Government hospitals are the most common public source (25 percent), followed by government health centers (18 percent). Forty-four percent use the private medical sector to obtain contraceptives. Pharmacies (24 percent) and private hospitals and clinics (20 percent) are the providers from

the private medical sector. One percent of women obtain contraceptive methods from non-governmental organizations (NGOs).

Table 7.6 Source of modern contraceptive methods

Percent distribution of currently married women using modern contraceptive methods age 15-49 by most recent source of method, according to method, Yemen 2013

Source	Female sterilization	Pill	IUD	Injectables	Implants	Male condom	Total
Public sector	62.0	49.2	53.7	56.8	80.7	30.3	53.0
Government hospital	59.5	16.5	27.7	22.8	44.6	7.9	24.6
Government health center	1.9	20.5	16.8	21.6	21.1	11.1	17.9
Primary health center	0.0	8.1	0.9	8.7	1.0	4.9	5.5
Family planning clinic	0.0	4.0	8.1	3.3	13.9	6.4	4.8
Mobile clinic	0.6	0.1	0.2	0.4	0.0	0.0	0.2
Private medical sector	31.3	49.0	43.3	41.7	15.4	67.6	44.3
Private hospital/ clinic/doctor	31.3	9.1	42.6	14.8	15.4	1.8	19.9
Pharmacy	0.0	39.8	0.6	26.9	0.0	65.8	24.4
NGO	0.2	0.5	2.8	1.3	3.9	0.0	1.2
Other	0.7	1.2	0.0	0.1	0.0	2.1	0.7
Missing	5.7	0.2	0.2	0.1	0.0	0.0	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	353	1,808	921	654	86	82	3,920

Note: Total excludes lactational amenorrhea method (LAM) and other modern methods. Total includes 12 cases of male sterilization, 1 user of the female condom, and 3 users of the diaphragm.

The source from which a woman obtains her contraceptive method differs based on the method she uses. For example, 81 percent of implant users obtain this method from a public sector source, typically a government hospital (45 percent) or government health center (21 percent). In contrast, only 30 percent of condom users obtain male condoms from the public sector. Pill users are evenly split between those who obtain the method from a public source and those who use private sources.

7.6   INFORMED CHOICE

Women age 15-49 who are currently using a modern contraceptive method and who started the last episode of use within five years of the survey were asked whether they had been informed about possible side effects or problems of their chosen method, what to do if they experienced side effects, and other methods that they could also use. Their responses give a measure of the quality of family planning service provision. Table 7.7 shows the results from the 2013 YNHDS, by method and by source of the current episode of use.

Only fifty-nine percent of users of modern contraceptives were ever informed about side effects or health problems associated with the method they used, 45 percent were informed about what to do if they experienced side effects, and 60 percent were told of other methods available. Women using IUDs and implants were the most likely to be informed of side effects and what to do if they experienced side effects. There are small differences by method in the proportions of women who were informed of other methods that they could use. Women who had been sterilized and women using the pill were the least likely to be informed about side effects, about what to do if they experienced side effects, and about other methods. Women who got their contraceptive from the public sector were more likely than those who got their contraceptive from the private sector to be informed of side effects, what to do if they experienced side effects, and other methods that they could use.

Table 7.7 Informed choice

Among currently married women age 15-49 using modern methods who started the last episode of use within the five years preceding the survey, the percentage who were informed about possible side effects or problems of that method, the percentage who were informed about what to do if they experienced side effects, and the percentage who were informed about other methods they could use, by method and initial source, Yemen 2013

| Method/source | Among women who started last episode of modern contraceptive method within five years preceding the survey: | | | |
	Percentage who were ever informed about side effects or problems of method used	Percentage who were informed about what to do if experienced side effects	Percentage who were ever informed by a health or family planning worker of other methods that could be used	Number of women
Method				
Female sterilization	53.7	33.4	56.1	155
Pill	52.0	37.8	57.6	1,700
IUD	74.2	62.4	65.2	769
Injectables	59.2	43.3	63.4	599
Implants	71.4	60.7	61.1	86
Initial source of method[1]				
Public sector	63.8	49.2	67.4	1,894
Government hospital	63.5	50.1	65.4	839
Government health center	63.9	47.9	66.7	685
Primary health center	59.9	49.1	67.6	205
Family planning clinic	70.2	50.2	81.0	157
Mobile clinic	*	*	*	8
Private medical sector	52.8	39.2	51.4	1,336
Private hospital/clinic/doctor	63.8	52.6	59.9	686
Pharmacy	41.2	25.0	42.3	650
Private hospital/clinic/doctor NGO	(71.7)	(59.9)	(57.6)	34
Other	(38.0)	(20.1)	(40.4)	36
Total	59.1	44.9	60.4	3,309

Note: Table includes users of only the methods listed. Total includes 9 cases with missing information on Initial source of method. Figures in parentheses are based on 25-49 unweighted cases.
[1] Source at start of current episode of use

7.7 RATES OF DISCONTINUING CONTRACEPTIVE METHODS

Couples can realize their reproductive goals only when they consistently use reliable methods of contraception. Of particular concern to family planning programs is the rate at which users discontinue contraceptive methods and the reasons for such discontinuation. Armed with this information, family planning providers are able to better advise potential users of the advantages and disadvantages of each contraceptive method, allowing women to make a more informed decision about the method that best suits their needs.

Women age 15-49 who started an episode of contraceptive use within the five years preceding the survey and discontinued it within 12 months were asked the reason for the discontinuation. Table 7.8 presents discontinuation rates, by contraceptive type and by reason for discontinuation. Among all methods, 43 percent of episodes of use were discontinued within 12 months. Some methods are much more likely to be discontinued early than others. For example, almost half of those who start using injectables, the pill, and male condoms discontinue within 12 months. In contrast, fewer than one in five women who start using the IUD discontinue within 12 months. The reason for discontinuation also varies by method. For example, whereas 24 percent of episodes of use of injectables were discontinued because of side effects and/or health concerns, no episodes of use of the rhythm method were discontinued for this reason. Use of the rhythm method and withdrawal are particularly subject to discontinuation due to failure of the method (i.e., unwanted pregnancy).

Table 7.8 Twelve-month contraceptive discontinuation rates

Among ever-married women age 15-49 who started an episode of contraceptive use within the five years preceding the survey, the percentage of episodes discontinued within 12 months, by reason for discontinuation and specific method, Yemen, 2011

Method	Method failure	Desire to become pregnant	Other fertility-related reasons[2]	Side effects/ health concerns	Wanted more effective method	Other method-related reasons[3]	Other reasons	Any reason[4]	Switched to another method[5]	Number of episodes of use[6]
Female sterilization	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	163
Pill	5.1	6.5	10.6	16.9	2.0	2.5	4.1	47.6	8.7	4,887
IUD	1.3	2.0	1.6	10.8	0.7	1.1	1.0	18.5	8.1	1,209
Injectables	1.5	3.8	6.2	24.3	1.5	4.7	6.3	48.5	13.9	1,424
Implants	(1.4)	(2.3)	(1.0)	(15.1)	(0.0)	(6.4)	(0.2)	(26.5)	(9.4)	179
Male condom	(7.9)	(6.8)	(5.1)	(6.5)	(5.4)	(5.3)	(11.1)	(48.2)	(20.3)	156
Rhythm	15.5	5.6	1.7	0.0	4.8	2.0	3.1	32.7	7.9	456
Withdrawal	12.3	5.0	4.5	0.3	7.1	1.0	7.5	37.6	12.1	716
Other[1]	13.4	3.7	1.3	1.5	17.8	2.7	7.5	48.0	21.7	2,940
All methods	7.2	4.8	5.9	11.4	6.1	2.6	5.0	43.0	12.7	12,167

Note: Figures are based on life table calculations using information on episodes of use that began 3-62 months preceding the survey. Figures in parentheses are based on 125-249 unweighted cases.
[1] Includes LAM, male sterilization, diaphragm, other modern methods, and other traditional methods
[2] Includes difficult to get pregnant/menopausal and marital dissolution/separation
[3] Includes lack of access/too far, costs too much, and inconvenient to use
[4] Reasons for discontinuation are mutually exclusive and add to the total given in this column.
[5] The episodes of use included in this column are a subset of the discontinued episodes included in the discontinuation rate. A woman is considered to have switched to another method if she used a different method in the month following discontinuation or if she gave "wanted a more effective method" as the reason for discontinuation and started another method within two months of discontinuation.
[6] Number of episodes of use includes both episodes of use that were discontinued during the period of observation and episodes of use that were not discontinued during the period of observation.

7.8   REASONS FOR DISCONTINUING CONTRACEPTIVE METHODS

Table 7.9 shows the percent distribution of discontinuations of contraceptive methods in the five years preceding the survey by main reason stated for the discontinuation, according to specific method. In total, almost 10,000 discontinuations occurred within this time period. Across all contraceptive methods, the most common reason for discontinuation was health concerns/side effects (26 percent), followed by the desire to become pregnant (21 percent), and method failure (became pregnant while using) (17 percent).

Table 7.9 Reasons for discontinuation

Percent distribution of discontinuations of contraceptive methods in the five years preceding the survey by main reason stated for discontinuation, according to specific method, Yemen 2013

Reason	Pill	IUD	Injection	Implants	Male condom	LAM	Rhythm	With-drawal	Other	All methods
Became pregnant while using	10.8	4.9	5.1	2.2	17.3	29.5	40.5	33.9	(20.2)	16.7
Wanted to become pregnant	25.2	27.8	15.3	15.0	18.9	12.0	26.1	23.1	(22.5)	20.7
Husband disapproved	1.8	1.2	2.3	0.7	9.4	0.4	1.9	5.6	(2.2)	1.7
Wanted a more effective method	3.6	2.0	2.6	2.0	12.3	27.2	13.0	14.9	(7.4)	10.4
Side effects/health concerns	33.2	50.6	48.1	64.0	14.4	2.9	1.7	2.3	(26.3)	26.0
Lack of access/too far	0.5	0.1	2.4	0.0	0.6	7.6	0.9	0.0	(0.0)	2.4
Cost too much	0.2	0.1	0.6	1.9	2.6	0.0	0.0	0.0	(0.0)	0.2
Inconvenient to use	3.1	2.6	4.3	10.6	7.2	1.3	2.9	2.5	(2.6)	2.8
Up to God/fatalistic	0.1	0.0	0.3	0.0	0.0	2.1	1.0	1.5	(0.0)	0.7
Difficult to get pregnant/ menopausal	0.1	0.5	0.1	0.0	0.0	0.1	0.6	0.0	(0.0)	0.1
Infrequent sex/husband away	15.0	3.9	9.2	1.9	7.0	2.4	4.4	6.0	(15.7)	9.1
Marital dissolution/separation	0.6	1.4	0.3	0.6	1.6	0.4	0.3	0.1	(0.0)	0.6
Other	1.9	1.3	3.7	0.4	4.2	4.3	2.2	4.0	(0.0)	2.8
Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0
Missing	3.8	3.6	5.5	0.9	4.5	9.6	4.5	6.3	(3.1)	5.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of discontinuations	4,266	800	1,146	123	123	2,478	364	537	42	9,887

LAM = Lactational amenorrhea method
[1] Includes female and male sterilization, and female condom

Across specific contraceptive methods, the reasons for discontinuation vary widely. For example, among users of the pill, IUD, injectables, and implants, the main reason for discontinuing was side effects/health concerns, followed by the desire to become pregnant. Almost two-thirds of discontinuations of implants and half of discontinuations of the IUD were due to side effects, health concerns, or both. Discontinuation of condom use was most likely to be due to either the desire to become pregnant or to becoming pregnant while using. Method failure was the most common reason for discontinuing use of LAM, the rhythm method, and withdrawal.

7.9 NEED AND DEMAND FOR FAMILY PLANNING

Table 7.10 presents data on unmet need, met need, and total demand for family planning for currently married women. These indicators help to evaluate the extent to which the family planning program in Yemen meets the demand for services.

Table 7.10 Need and demand for family planning among currently married women

Percentage of currently married women age 15-49 with unmet need for family planning, percentage with met need for family planning, the total demand for family planning, and the percentage of the demand for contraception that is satisfied, by background characteristics, Yemen 2013

Background characteristic	Unmet need for family planning			Met need for family planning (currently using)			Total demand for family planning[1]			Percentage of demand satisfied[2]	Percentage of demand satisfied by modern methods[3]	Number of women
	For spacing	For stopping	Total	For spacing	For stopping	Total	For spacing	For stopping	Total			
Age												
15-19	26.6	2.6	29.2	11.9	1.3	13.2	38.5	3.9	42.4	31.2	28.5	1,084
20-24	23.3	5.9	29.2	19.9	5.6	25.4	43.2	11.5	54.7	46.5	42.0	2,968
25-29	19.9	10.0	29.9	23.3	13.1	36.4	43.2	23.2	66.3	54.9	49.4	3,574
30-34	12.5	16.1	28.6	18.1	22.0	40.2	30.6	38.1	68.8	58.4	51.7	2,675
35-39	9.4	22.1	31.6	11.6	28.9	40.5	21.0	51.0	72.0	56.2	47.8	2,409
40-44	3.5	22.4	25.8	4.4	32.9	37.4	7.9	55.3	63.2	59.1	48.4	1,579
45-49	1.8	20.6	22.4	2.7	26.6	29.2	4.4	47.2	51.6	56.6	44.3	1,277
Residence												
Urban	11.5	8.8	20.3	23.9	23.5	47.5	35.4	32.3	67.7	70.1	59.3	4,949
Rural	16.6	16.1	32.7	11.6	15.3	27.0	28.2	31.4	59.7	45.2	40.3	10,617
Governorate												
Ibb	19.7	13.7	33.4	14.9	17.8	32.7	34.6	31.5	66.1	49.5	46.4	1,678
Abyan	7.3	10.4	17.7	19.2	13.2	32.4	26.5	23.6	50.0	64.7	59.0	326
Sana'a City	9.5	6.9	16.4	29.8	26.4	56.2	39.3	33.3	72.6	77.4	66.2	1,510
Al-Baidha	15.3	15.3	30.6	15.3	18.6	33.9	30.7	33.9	64.5	52.5	46.8	702
Taiz	14.2	11.9	26.0	13.4	18.0	31.4	27.6	29.9	57.5	54.7	48.2	2,053
Al-Jawf	18.8	15.3	34.0	13.6	12.7	26.3	32.4	28.0	60.4	43.6	43.0	124
Hajjah	21.0	26.5	47.5	4.7	12.4	17.1	25.7	38.9	64.6	26.4	25.5	867
Al-Hodiedah	17.1	20.8	37.9	5.7	10.9	16.5	22.8	31.6	54.4	30.4	25.2	1,891
Hadramout	12.8	5.0	17.7	27.2	10.1	37.3	40.0	15.1	55.1	67.8	50.0	884
Dhamar	16.2	15.8	32.0	17.4	17.8	35.2	33.6	33.6	67.2	52.4	49.4	1,106
Shabwah	21.1	10.4	31.4	11.9	9.4	21.3	33.0	19.7	52.8	40.4	36.7	293
Sadah	11.8	11.0	22.8	16.4	16.3	32.7	28.2	27.3	55.5	58.9	48.5	504
Sana'a	12.7	11.0	23.7	21.3	28.4	49.7	34.0	39.4	73.5	67.7	56.3	831
Aden	8.5	6.8	15.3	17.3	29.5	46.9	25.8	36.3	62.2	75.4	65.0	487
Lahj	9.8	13.9	23.8	12.6	20.6	33.2	22.4	34.6	57.0	58.3	53.3	405
Mareb	22.2	11.2	33.4	15.3	10.5	25.7	37.4	21.7	59.1	43.5	36.0	111
Al-Mhweit	20.3	20.9	41.2	7.1	16.0	23.1	27.4	37.0	64.3	35.9	30.5	425
Al-Mhrah	9.9	5.6	15.5	21.6	11.3	32.9	31.4	17.0	48.4	67.9	41.3	61
Amran	12.0	11.3	23.3	20.4	28.0	48.3	32.4	39.3	71.6	67.4	58.5	595
Aldhalae	13.0	13.7	26.7	12.2	22.0	34.2	25.2	35.7	60.9	56.1	47.8	384
Reimah	20.0	21.5	41.5	5.3	8.7	14.0	25.3	30.2	55.5	25.2	22.4	330
Education												
No education	13.8	19.2	33.0	9.2	18.7	28.0	23.0	38.0	61.0	45.9	40.7	8,336
Fundamental	17.1	8.4	25.4	20.4	17.3	37.7	37.5	25.7	63.2	59.7	51.4	5,090
Secondary	16.0	5.8	21.8	27.2	15.4	42.6	43.3	21.2	64.4	66.1	58.0	1,511
Higher	11.2	4.1	15.3	31.4	19.0	50.4	42.6	23.1	65.7	76.7	62.1	629
Wealth quintile												
Lowest	19.3	23.8	43.1	5.1	9.4	14.5	24.4	33.2	57.6	25.2	23.7	2,840
Second	17.6	16.1	33.7	9.6	14.4	24.0	27.1	30.5	57.7	41.6	36.4	3,076
Middle	15.2	13.6	28.8	14.0	19.8	33.8	29.2	33.4	62.6	54.0	48.8	3,141
Fourth	13.0	9.4	22.4	21.2	21.1	42.2	34.2	30.4	64.6	65.4	55.5	3,147
Highest	10.6	7.4	18.0	25.9	23.8	49.7	36.5	31.2	67.7	73.4	62.4	3,362
Total	15.0	13.8	28.7	15.5	18.0	33.5	30.5	31.7	62.2	53.8	46.9	15,566

Note: Numbers in this table correspond to the revised definition of unmet need described in Bradley et al., 2012.
[1] Total demand is the sum of unmet need and met need.
[2] Percentage of demand satisfied is met need divided by total demand.
[3] Modern methods include female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, and lactational amenorrhea method (LAM).

Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:

- At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.

- Pregnant with a mistimed pregnancy.

- Postpartum amenorrheic for up to two years following a mistimed birth and not using contraception.

Women are considered to have unmet need for stopping childbearing if they are:

- At risk of becoming pregnant, not using contraception, and want no (more) children.

- Pregnant with an unwanted pregnancy.

- Postpartum amenorrheic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant.

Women using contraception are considered to have met need. Women using contraception who say they want no (more) children are considered to have met need for stopping childbearing, and women who are using contraception and say they want to delay having a child, or are unsure if or when they want a/another child, are considered to have met need for spacing.

Unmet need, total demand, percentage of demand satisfied, and percentage of demand satisfied by modern methods are defined as follows:

- **Unmet need:** the sum of unmet need for spacing plus unmet need for stopping childbearing

- **Total demand for family planning:** the sum of unmet need plus total contraceptive use

- **Percentage of demand satisfied:** total contraceptive use divided by the sum of unmet need plus total contraceptive use

- **Percentage of demand satisfied by modern methods:** use of modern contraceptive methods divided by the sum of unmet need plus total contraceptive use

The definition of unmet need for family planning has been revised to make levels of unmet need comparable over time and across surveys. The aspect of the change in the definition that has the largest impact on levels of unmet need is the removal of information collected from the contraceptive calendar, which is not included in all surveys. Previously, in surveys that included a calendar, women who were pregnant or postpartum amenorrheic resulting from contraceptive failure were not considered to have unmet need, even if their last pregnancy/birth was unwanted or mistimed. By contrast, if the survey did not collect information on contraceptive failure in the calendar, all pregnant and postpartum amenorrheic women whose last pregnancy/birth was unwanted or mistimed were considered to have unmet need. To make the definition of unmet need comparable in both types of surveys, the new definition does not take information on contraceptive failure into account for any woman when assigning unmet need status. Removing contraceptive failure from the calculation can result in a small increase in the estimated level of unmet need by moving some women who were in the contraceptive failure category into the unmet need category.

Table 7.10 shows that 29 percent of currently married women have an unmet need for family planning services (15 percent for spacing births and 14 percent for stopping childbearing). Thirty-four percent of married women are currently using a contraceptive method. Almost two in three currently married women (62 percent) have a demand for family planning. At present, 54 percent of the potential demand for family planning is being met. Thus, if all married women who said they want to space or limit their children were to use family planning methods, the contraceptive prevalence rate would increase from 34 percent to 62 percent.

As expected, unmet need for spacing is high among younger women, while unmet need for stopping childbearing is higher among older women. Unmet need is higher in rural than urban areas, with urban areas at 20 percent and rural areas at 33 percent. Regional differences in unmet need are also relatively large. Almost half of the currently married women in Hajjah Governorate have an unmet need for family planning services (48 percent), compared with only 15 percent of women in Aden Governorate.

Unmet need decreases steadily as women's education level increases. It declines from 33 percent of women with no education to only 15 percent of those with higher education. Unmet need is also inversely associated with a woman's wealth status. Among women in the lowest wealth quintile, unmet need is 43 percent, while it is 18 percent among those in the highest wealth quintile.

Comparison with the 1997 YDMCHS indicates a large decline in unmet need over the past 16 years. Since the definition of unmet need changed between the surveys, the indicator for the 2013 YNHDS was recalculated using the older definition (see Table C.8 in Appendix C). This shows that unmet need declined from 39 percent of married women in 1997 to 27 percent in 2013 (CSO and MI, 1998).

7.10 FUTURE USE OF CONTRACEPTION

An important indicator of the changing demand for family planning is the extent to which nonusers plan to use contraceptive methods in the future, as this is a forecast of potential demand for services. In the 2013 YNHDS, women who were not using contraceptives at the time of the survey were asked about their intention to use family planning in the future.

Table 7.11 shows results for currently married women age 15-49. The table shows that 44 percent of currently married nonusers indicated that they intend to use family planning methods in the future, while 40 percent said that they do not intend to use a method in the future; 14 percent were unsure. The proportion of women who intend to use a method is highest among women with one to three children and lowest among those with no children and those with at least four children.

Table 7.11 Future use of contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method by intention to use in the future, according to number of living children, Yemen 2013

Intention	Number of living children[1]					Total
	0	1	2	3	4+	
Intends to use	42.7	51.4	50.3	51.1	36.5	43.6
Unsure	17.7	15.4	14.4	10.8	13.6	14.2
Does not intend to use	37.3	32.0	33.4	36.5	47.9	40.3
Missing	2.3	1.2	1.9	1.7	2.0	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,425	1,660	1,521	1,301	4,447	10,354

[1] Includes current pregnancy

7.11 Exposure to Family Planning Messages in the Media

Radio, television, and newspapers and/or magazines are potential sources of information about family planning in Yemen. Information on the level of public exposure to messages through these media allows policymakers to ensure the use of the most effective media for various target groups. To assess the effectiveness of such media on the dissemination of family planning information, ever-married women interviewed in the 2013 YNHDS were asked whether they had heard messages about family planning on the radio or seen them on television or in newspapers/magazines during the few months preceding the survey (Table 7.12).

Table 7.12 Exposure to family planning messages

Percentage of ever-married women age 15-49 who heard or saw a family planning message on radio, on television, or in a newspaper or magazine in the past few months, according to background characteristics, Yemen 2013

Background characteristic	Radio	Television	Newspaper/ magazine	None of these three media sources	Number of women
Age					
15-19	27.3	39.6	12.3	47.3	1,112
20-24	30.0	48.6	13.9	40.6	3,099
25-29	29.0	46.3	11.0	43.9	3,731
30-34	30.0	48.5	10.9	41.3	2,824
35-39	28.8	45.1	9.1	44.5	2,612
40-44	29.7	46.6	8.0	44.7	1,744
45-49	24.8	42.1	6.9	49.8	1,442
Residence					
Urban	30.7	63.1	19.6	30.5	5,322
Rural	28.1	38.1	6.4	50.1	11,242
Governorate					
Ibb	24.9	55.4	12.7	36.1	1,791
Abyan	19.4	43.9	16.9	51.6	345
Sana'a City	40.4	71.1	25.8	23.3	1,587
Al-Baidha	30.1	56.0	9.9	39.7	768
Taiz	26.4	53.2	12.3	37.2	2,196
Al-Jawf	14.7	29.4	6.5	62.5	141
Hajjah	39.1	27.2	4.5	53.9	895
Al-Hodiedah	38.0	40.2	6.2	43.6	2,023
Hadramout	16.4	28.3	6.8	62.0	958
Dhamar	31.3	38.9	4.7	47.7	1,188
Shabwah	14.0	41.2	13.6	54.4	315
Sadah	8.3	30.0	2.2	69.1	532
Sana'a	48.8	49.1	9.5	36.6	867
Aden	10.6	55.8	15.8	38.8	534
Lahj	34.1	47.0	17.9	42.3	425
Mareb	30.0	48.5	15.9	37.9	123
Al-Mhweit	25.1	44.4	5.1	46.2	445
Al-Mhrah	4.4	29.7	4.7	68.2	62
Amran	23.8	43.0	5.8	46.2	614
Aldhalae	16.5	31.7	10.4	65.8	404
Reimah	22.4	17.3	1.6	66.7	350
Education					
No education	24.8	34.1	2.1	54.9	8,887
Fundamental	32.0	56.1	14.8	34.5	5,416
Secondary	38.8	68.5	30.8	22.9	1,564
Higher	35.3	72.2	41.9	20.6	697
Wealth quintile					
Lowest	22.9	8.8	1.3	72.9	3,010
Second	28.9	35.3	4.7	50.6	3,248
Middle	29.4	55.0	7.8	37.6	3,330
Fourth	30.7	60.1	13.8	33.6	3,394
Highest	31.9	66.0	23.6	28.4	3,582
Total	28.9	46.1	10.6	43.8	16,564

Overall, 29 percent of ever-married women reported that they had recently heard a family planning message on the radio, 46 percent had seen a message on television, and 11 percent saw messages in newspapers or magazines. Although these numbers indicate that coverage is far from universal, they indicate an increase over time. The proportion of ever-married women who heard a family planning message on the radio increased from 24 percent in 1997 to 29 percent in 2013, while the proportion who saw a message on television increased from 22 percent in 1997 to 46 percent in 2013 (CSO and MI, 1998).

Exposure to family planning messages does not vary substantially by the woman's age, although women age 15-19 are the least likely to have seen a family planning message on television and woman age 45-49 are the least likely to have heard a message on the radio or seen a message in a newspaper or magazine. Stronger differences in access to media messages are observed by residence, governorate, education, and wealth. For example, women in urban areas are more likely than those in rural areas to have access to family planning messages on television (63 percent and 38 percent respectively) or in newspapers or magazines (20 percent and 6 percent, respectively). The proportion of ever-married women who have heard a family planning message on the radio ranges from 4 percent in Al Mhrah Governorate to a high of 49 percent in Sana'a Governorate. The range is even greater for television, from 17 percent of women in Reimah Governorate to 71 percent of women in Sana'a City. Exposure to family planning messages on all three types of media increases as the respondent's education level and wealth status increases. The relationship is particularly strong for television and print media.

7.12 CONTACT OF NONUSERS WITH FAMILY PLANNING PROVIDERS

In the 2013 YNHDS, women who were not using any contraceptive method were asked whether a fieldworker talked with them about family planning in the 12 months preceding the survey. This information is especially useful for determining whether family planning outreach programs reach nonusers. Nonusers were also asked if they had visited a health facility in the preceding 12 months for any reason, and if so, whether any staff member at the facility had spoken to them about family planning. These questions help to assess the level of missed opportunities to inform women about contraception.

The results shown in Table 7.13 indicate that only 4 percent of nonusers reported being visited by a fieldworker who discussed family planning with them. Five percent of nonusers visited a health facility and discussed family planning in the 12 months before the survey, while 36 percent of the nonusers had visited a facility but did not discuss family planning. Differences by background characteristics are minimal.

Overall, 92 percent of nonusers did not discuss family planning with a fieldworker or a staff member at a health facility. This represents a significant pool of potential users of family planning who could be targeted for family planning counseling. A more vigorous outreach program will be needed to reach these women.

Table 7.13 Contact of nonusers with family planning providers

Among ever-married women age 15-49 who are not using contraception, the percentage who during the past 12 months were visited by a fieldworker who discussed family planning, the percentage who visited a health facility and discussed family planning, the percentage who visited a health facility but did not discuss family planning, and the percentage who did not discuss family planning either with a fieldworker or at a health facility, by background characteristics, Yemen 2013

Background characteristic	Percentage of women who were visited by fieldworker who discussed family planning	Percentage of women who visited a health facility in the past 12 months and who:		Percentage of women who did not discuss family planning either with fieldworker or at a health facility	Number of women
		Discussed family planning	Did not discuss family planning		
Age					
15-19	2.5	2.5	31.6	95.4	969
20-24	3.8	5.5	39.6	91.6	2,344
25-29	3.9	5.7	37.5	91.1	2,430
30-34	5.1	5.2	35.3	90.7	1,749
35-39	4.0	4.2	37.5	92.9	1,637
40-44	3.6	3.3	37.0	93.9	1,154
45-49	3.0	2.5	28.7	94.7	1,069
Residence					
Urban	4.0	5.3	45.4	91.4	2,974
Rural	3.8	4.3	32.9	92.7	8,378
Governorate					
Ibb	2.0	3.2	21.1	95.2	1,242
Abyan	2.9	7.4	20.2	90.7	240
Sana'a City	2.8	5.9	33.6	91.4	738
Al-Baidha	2.0	6.1	64.2	92.1	530
Taiz	2.4	6.5	39.9	92.2	1,551
Al-Jawf	9.4	8.3	39.5	86.4	108

Continued…

Table 7.13—*Continued*

Background characteristic	Percentage of women who were visited by fieldworker who discussed family planning	Percentage of women who visited a health facility in the past 12 months and who:		Percentage of women who did not discuss family planning either with fieldworker or at a health facility	Number of women
		Discussed family planning	Did not discuss family planning		
Governorate					
Hajjah	2.1	3.2	27.3	95.1	747
Al-Hodiedah	6.0	2.3	49.6	92.4	1,711
Hadramout	2.1	0.8	29.1	97.0	628
Dhamar	4.4	6.2	23.7	89.8	798
Shabwah	3.4	2.5	43.8	94.3	252
Sadah	3.6	3.2	56.1	93.1	367
Sana'a	10.5	4.8	41.6	86.5	454
Aden	4.8	9.3	61.7	88.6	305
Lahj	8.7	7.8	21.6	86.6	290
Mareb	5.9	3.8	60.0	90.9	95
Al-Mhweit	4.8	7.7	23.6	89.4	347
Al-Mhrah	4.4	4.0	41.6	91.5	42
Amran	5.3	3.5	37.0	92.4	327
Aldhalae	1.7	6.4	22.8	92.0	273
Reimah	0.9	1.2	9.9	97.8	304
Education					
No education	3.6	3.5	33.1	93.5	6,556
Fundamental	4.0	5.0	40.3	92.0	3,495
Secondary	5.0	8.5	41.9	87.8	920
Higher	4.0	9.2	38.4	87.2	380
Wealth quintile					
Lowest	3.9	2.8	30.2	93.9	2,598
Second	3.7	3.7	32.7	93.3	2,509
Middle	4.0	5.7	37.1	91.5	2,269
Fourth	4.1	5.9	41.2	90.7	2,064
Highest	3.5	5.2	42.6	91.9	1,912
Total	3.9	4.5	36.2	92.4	11,351

EARLY CHILDHOOD AND MATERNAL MORTALITY   8

> **Key Findings**
>
> - The under-5 mortality rate in Yemen is 53 deaths per 1,000 live births. This means that about 1 in 19 children dies before age 5.
> - The infant mortality rate is 43 deaths per 1,000 live births.
> - There has been a remarkable decline in childhood mortality rates over the past three decades. The under-5 mortality rate decreased from 150 deaths per 1,000 live births in about 1985 to 53 deaths per 1,000 live births in about 2011.
> - Under-5 mortality is twice as high for births to women with no education as for women with higher education.
> - Survey data show that spacing births farther apart could have an enormous impact on further reducing under-5 mortality in Yemen.
> - The maternal mortality ratio measured in the survey is 148 maternal deaths per 100,000 births.

Information on levels, trends, and differentials in neonatal, infant, and child mortality is important in the demographic assessment of the population and the evaluation of health policies and programs. Estimates of infant and child mortality are used for population projections. Information on mortality of children serves the needs of agencies providing health services by identifying subgroups of the population at high risk of mortality.

8.1   BACKGROUND AND QUALITY OF DATA ON EARLY CHILDHOOD MORTALITY

The rates of childhood mortality presented in this chapter are defined as follows:

- **Neonatal mortality:** the probability of dying within the first month of life
- **Postneonatal mortality:** the arithmetic difference between infant and neonatal mortality
- **Infant mortality:** the probability of dying between birth and the first birthday
- **Child mortality:** the probability of dying between the first and the fifth birthday
- **Under-5 mortality:** the probability of dying between birth and the fifth birthday

All rates are expressed as deaths per 1,000 live births, except child mortality, which is expressed as deaths per 1,000 children surviving to the first birthday.

Information drawn from the questions asked in the birth history section of the Ever-Married Woman's Questionnaire is used to calculate the mortality rates presented in this chapter. First, the respondents were asked a series of questions about their childbearing experience. In particular, they were asked to report the number of sons and daughters living with them, the number living elsewhere, and the number who have died. In the birth history, for each live birth, information was collected on sex; month and year of birth; survivorship status; and current age or, if the child has died, age at death.

The quality of mortality estimates calculated from retrospective birth histories depends on the mother's ability to recall all of the children she has given birth to, as well as their birth dates and ages at death. Potentially the most serious data quality problem is the selective omission from the birth histories of those births that did not survive. If the problem of omission is serious, it can result in underestimation of childhood mortality. If selective omission of childhood deaths occurs, it is usually most severe for deaths early in infancy. Generally, if deaths are substantially underreported, the result is a low ratio of early neonatal

deaths (deaths within the first week of life) to all neonatal deaths and a low ratio of neonatal deaths to infant deaths.

An examination of the proportion of early neonatal deaths to all neonatal deaths (Appendix Table C.5) shows that early neonatal deaths represented 79 percent of all neonatal deaths for the five-year period prior to the 2013 YNHDS.[1] This relatively high proportion implies little, if any, omission of neonatal deaths. The percentage of early neonatal deaths decreases incrementally for each five-year period further back in time, which is to be expected.

An examination of the proportion of neonatal deaths to infant deaths (Appendix Table C.6) shows that neonatal deaths represented 65 percent of infant deaths for the five-year period prior to the 2013 YNHDS. This is higher than the proportion reported in the period 5-19 years before the survey, which ranged between 47 percent and 54 percent. Again, this proportion does not provide evidence of omission of deaths in infancy.

Another potential data quality problem involves the displacement of birth dates, which may distort mortality trends. This can occur if an interviewer knowingly records a birth as occurring in a different year, which could happen if an interviewer were trying to cut down on the work load, because live births occurring during the five years preceding the interview are the subject of a lengthy set of additional questions. In the 2013 YNHDS questionnaire, the cut-off year for these questions was 2008. Appendix Table C.4 shows evidence of clear transference of children from 2008 to earlier years. For example, there were 2,673 children born in 2008 compared with 3,702 born in 2007, a 38 percent increase.

A third factor that affects childhood mortality estimates is the quality of reporting of age at death. Misreporting the child's age at death may distort the age pattern of mortality, especially if the net effect of the age misreporting is to transfer deaths from one age bracket to another. For example, a net transfer of deaths from under 1 month to a higher age will affect the estimates of neonatal and postneonatal mortality. To minimize errors in reporting age at death, YNHDS interviewers were instructed to record age at death in days if the death took place in the month following the birth, in months if the child died before age 2, and in years if the child was at least age 2. They also were asked to probe for deaths reported at age 1 to determine a more precise age at death in terms of months.

Appendix Table C.6 shows a high level of "heaping" on age at death of 12 months. For example, for the five years preceding the survey, the number of reported deaths at age 12 months is 39, compared with only 4 at age 11 months and 5 at age 10 months. To the extent that at least some of these deaths actually occurred before age 12 months, the infant mortality rate is probably distorted somewhat. However, the table shows that there were no deaths reported to have occurred at age "1 year."

Finally, any method of measuring childhood mortality that relies on mothers' reports (e.g., birth histories) assumes that female adult mortality is not high, or if it is high, that there is little or no correlation between the mortality risks of the mothers and those of their children. In countries like Yemen that have low rates of female adult mortality, these assumptions are likely valid.

8.2 INFANT AND CHILD MORTALITY LEVELS AND TRENDS

Table 8.1 presents childhood mortality rates for the three five-year periods before the 2013 YNHDS. The data show that for the five-year period immediately prior to the survey (which roughly corresponds to the calendar years 2009-2013), under-5 mortality was 53 per 1,000 live births. This means that 1 in 19 children born in Yemen dies before reaching their fifth birthday. Most of the mortality occurs during the first

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

year of life; infant mortality is 43 deaths per 1,000 births, while mortality between the first and fifth birthday is 10 per 1,000. Mortality during the first month of life, or neonatal mortality, is 26 per 1,000 births, while postneonatal mortality (between the first month and the first year of life) is 17 per 1,000.

Table 8.1 Early childhood mortality rates

Neonatal, post-neonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Yemen 2013

Years preceding the survey		Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
0-4	2009-2013	26	17	43	10	53
5-9	2004-2008	27	23	50	12	62
10-14	1999-2003	32	29	61	23	82

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

An examination of the mortality levels across the three successive five-year periods shown in Table 8.1 suggests that under-5 mortality has progressively declined over the 15 years prior to the 2013 YNHDS: from 82 deaths per 1,000 live births during the period circa 1999-2003, to 62 deaths per 1,000 live births during the period 2004-2008, to 53 deaths per 1,000 live births during the period 2009- 2013. Neonatal, postneonatal, infant, and child mortality all declined during this 15-year span.

Trends in mortality in early childhood can also be explored by examining the mortality results from previous surveys in Yemen. Figure 8.1 shows under-5 mortality rates for several five-year periods preceding the 1997 YDMCHS, the 2003 YFHS, the 2006 YMICS, and the 2013 YNHDS surveys. Although not entirely consistent, the data show a remarkable decline in childhood mortality rates over the past three decades. The under-5 mortality rate decreased from 150 deaths per 1,000 live births in about 1985 to 53 deaths per 1,000 live births in about 2011.

Figure 8.1 **Trends in under-5 mortality 1985-2011**
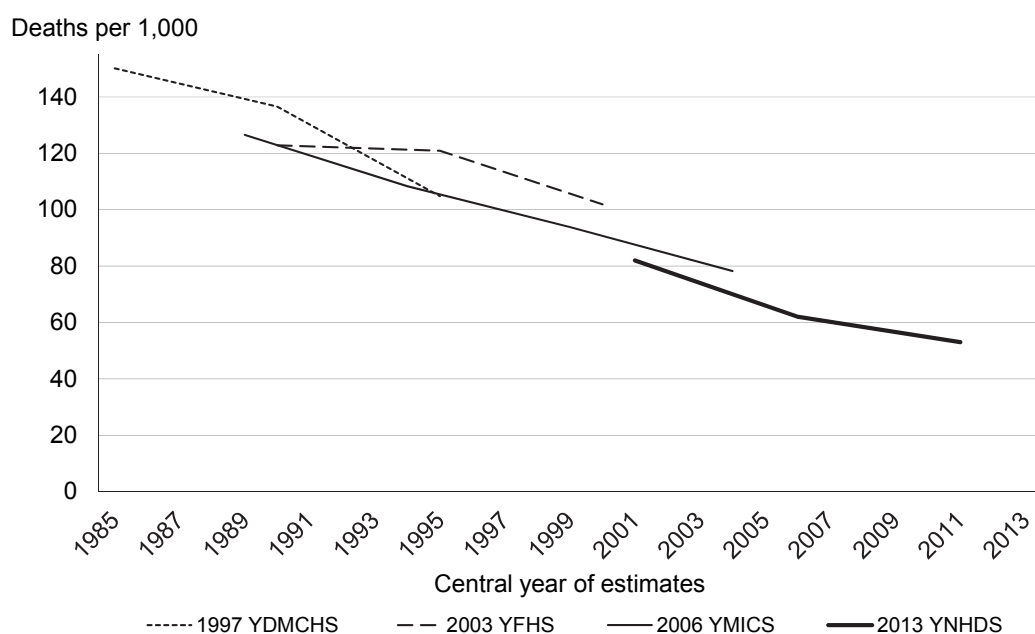
8.3 SOCIOECONOMIC DIFFERENTIALS IN EARLY CHILDHOOD MORTALITY

Table 8.2 shows differentials in infant and child mortality by residence, governorate, mother's education, and wealth quintile. The mortality estimates are calculated for the 10-year period before the survey (approximately 2004-2013) so that the rates are based on a sufficient number of cases in each category to ensure statistically reliable estimates.

Table 8.2 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 10-year period preceding the survey, by background characteristics, Yemen 2013

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
Residence					
Urban	21	15	36	8	44
Rural	28	22	51	12	63
Governorate					
Ibb	28	23	51	11	62
Abyan	27	15	41	8	49
Sana'a City	22	10	32	5	37
Al-Baidha	30	32	62	9	70
Taiz	29	22	51	10	60
Al-Jawf	15	11	26	6	32
Hajjah	20	12	33	11	43
Al-Hodiedah	29	21	49	18	66
Hadramout	17	10	27	6	32
Dhamar	27	35	62	15	76
Shabwah	21	9	29	9	39
Sadah	23	20	44	10	54
Sana'a	29	31	61	12	71
Aden	22	13	35	5	40
Lahj	18	10	29	6	34
Mareb	32	21	53	8	61
Al-Mhweit	34	20	55	16	70
Al-Mhrah	25	16	41	11	52
Amran	31	28	59	16	74
Aldhalae	33	10	43	5	47
Reimah	33	22	54	13	66
Mother's education					
No education	27	23	50	13	62
Fundamental	26	19	45	9	54
Secondary	25	12	37	4	41
Higher	20	9	29	2	31
Wealth quintile					
Lowest	29	25	53	17	69
Second	32	26	58	14	72
Middle	25	22	48	9	56
Fourth	23	15	38	9	46
Highest	22	11	33	5	38

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

Childhood mortality is higher in rural areas than in urban areas at all age groups. For example, the under-5 mortality rate is 63 deaths per 1,000 live births in rural areas and 44 deaths per 1,000 births in urban areas. Data for governorates should be interpreted with caution due to the relatively high sampling errors associated with mortality rates. Nevertheless, the data show marked differentials by governorate, with under-5 mortality ranging from 32 deaths per 1,000 births in Al-Jawf and Hadramout governorates to 76 in Dhamar Governorate.

A mother's education and the wealth quintile into which a child is born also relate to survival. The under-5 mortality rate decreases steadily as education of the mother increases, from 62 deaths per 1,000 births to mothers with no education to 31 deaths for mothers with higher education. The under-5 mortality rate is also substantially lower for births in the highest wealth quintile (38 deaths per 1,000 live births) than for births in the lowest two quintiles (69-72 deaths per 1,000 live births).

8.4   DEMOGRAPHIC DIFFERENTIALS IN EARLY CHILDHOOD MORTALITY

The relationship between early childhood mortality and various demographic variables is examined in Table 8.3. As expected, mortality for male children is generally slightly higher than for female children, especially for neonatal mortality rates (30 deaths per 1,000 live births for boys and 23 deaths per 1,000 live births for girls). All five childhood mortality rates decline steadily with increasing age of the mother at the time of the birth. For example, the infant mortality rate for children born to women age 45-49 (34 per 1,000 births) is half that for children born to women under age 20 (69 per 1,000) (Figure 8.2). The pattern of mortality by birth order is not consistent, although neonatal, infant, and under-5 mortality rates show the characteristic U-shaped pattern with the highest rates among first births and the lowest among birth orders 4-6.

Table 8.3 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under5 mortality rates for the 10-year period preceding the survey, by demographic characteristics, Yemen 2013

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
Child's sex					
Male	30	18	49	11	59
Female	23	22	45	11	56
Mother's age at birth					
<20	41	27	69	12	80
20-29	26	20	46	11	56
30-39	19	18	37	11	48
40-49	18	16	34	(6)	(40)
Birth order					
1	40	19	59	9	67
2-3	28	21	49	11	59
4-6	19	20	39	13	52
7+	22	22	44	10	53
Previous birth interval[2]					
<2 years	38	35	73	18	89
2 years	16	19	35	9	43
3 years	10	7	17	5	21
4+ years	14	5	19	8	27
Birth size[3]					
Small/very small	26	15	41	na	na
Average or larger	20	13	33	na	na

Note: Figures in parentheses are based on 250-499 unweighted cases.
na = Not available
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births
[3] Rates for the five-year period before the survey

Studies have shown that longer birth intervals increase children's chances of survival. Data from the 2013 YNHDS generally support this observation. For example, under-5 mortality decreases from 89 deaths per 1,000 live births for children born less than two years after a preceding sibling to 21 deaths per 1,000 live births for children born three years after a preceding sibling before rising slightly to 27 deaths for children born four or more years after a preceding sibling. Neonatal, postneonatal, infant, and child mortality rates also generally decline as the interval between births increases. These findings point out the potential for mortality reduction that could result from successful efforts to promote birth spacing in Yemen.

A child's size at birth is an indicator of the risk of dying during infancy, particularly during the first months of life. In the 2013 YNHDS, in addition to recording the actual birth weight, interviewers asked mothers whether each of their children born in the last five years was very small, small, average size, large, or very large at birth. This type of subjective assessment has been shown to correlate closely with actual birth weight. Survey results indicate that newborns perceived by their mothers to be very small or small were more likely to die in their first year than those perceived as average or larger in size; the differential is especially great during the neonatal period.

Figure 8.2 Infant mortality by demographic characteristics

YNHDS 2013
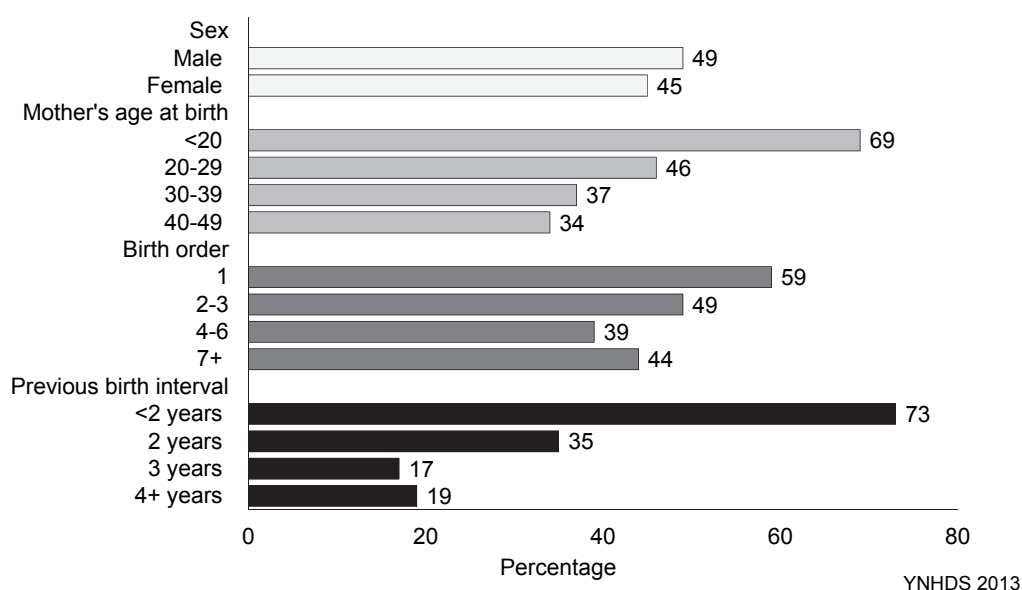
8.5 PERINATAL MORTALITY

Pregnancy losses occurring after seven completed months of gestation (stillbirths) plus deaths of live births within the first seven days of life (early neonatal deaths) constitute perinatal deaths. The distinction between a stillbirth and an early neonatal death is recognized as a fine one, often depending on observing and then remembering sometimes faint signs of life after delivery. Furthermore, the causes of stillbirths and early neonatal deaths are closely linked, and examining just one or the other can understate the true level of mortality around delivery. For this reason, deaths around the time of delivery are combined when assessing the perinatal mortality rate. Information on stillbirths is available for the five years preceding the survey and was collected using the calendar at the end of the Woman's Questionnaire.

Table 8.4 indicates that the perinatal mortality for the country as a whole is 36 deaths per 1,000 pregnancies of seven or more months in duration. There are differentials in perinatal mortality across background characteristics of the mothers. For example, perinatal mortality is highest among both the youngest and oldest mothers as well as for first pregnancies. It is also higher for rural than urban women.

Table 8.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Yemen 2013

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	35	68	48	2,144
20-29	143	177	35	9,041
30-39	51	66	28	4,244
40-49	25	10	49	704
Previous pregnancy interval in months[4]				
First pregnancy	73	100	57	3,010
<15	79	118	47	4,190
15-26	34	44	24	3,247
27-38	25	15	18	2,206
39+	43	44	25	3,480
Residence				
Urban	39	82	28	4,340
Rural	214	239	38	11,793
Mother's education				
No education	142	173	35	8,907
Fundamental	95	106	39	5,218
Secondary	10	29	27	1,456
Higher	6	12	31	552
Wealth quintile				
Lowest	72	59	36	3,634
Second	62	90	43	3,522
Middle	54	65	36	3,257
Fourth	39	46	29	2,985
Highest	26	61	32	2,735
Total	253	320	36	16,133

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration, expressed per 1,000.
[4] Categories correspond to birth intervals of <24 months, 24-35 months, 36-47 months, and 48+ months.

8.6 HIGH-RISK FERTILITY BEHAVIOR

Typically, infants and young children have a higher risk of dying if they are born to very young mothers or older mothers, if they are born after a short birth interval, or if their mothers have already had many children. In the following analysis, mothers are classified as at risk if they are younger than age 18 or older than age 35 at the time of childbirth. A short birth interval is defined as less than 24 months, and a high-order birth is defined as occurring after three or more previous births (i.e., birth order 4 or higher). A child may be at an elevated risk of dying due to a combination of factors.

The first column of Table 8.5 shows the percentage of births in the five years before the survey classified by various risk categories. Overall, 62 percent of births involved at least one avoidable risk factor, with 39 percent involving a single risk factor and 24 percent involving multiple risk factors. Fortunately, 21 percent of births in Yemen do not fall into any high-risk category, and 17 percent are first births to women age 18-34, which are considered to be in an unavoidable risk category.

The second column in Table 8.5 presents risk ratios, which represent the increased risk of mortality among births in various high-risk categories relative to births not having any high-risk characteristics. Among births involving a single risk factor, mother's age less than 18 (risk ratio = 2.9) is the single factor most associated with increased risk of under-5 mortality in Yemen; however, only 4 percent of births fall in this category. Overall, the risk ratio for single risk factor births was 1.6. Multiple risk factor births were generally associated with higher risk ratios than single risk factor births, with an overall risk ratio of 2.1.

The third column of Table 8.5 shows the distribution of currently married women by the risk category into which a birth conceived at the time of the survey would fall. The data in the table show that 17

percent of women are not in any high-risk category and 10 percent are only at risk of having their first birth between ages 18 and 34, which is considered to be an unavoidable risk. Seventy-four percent of currently married women have at least one avoidable risk factor, with 31 percent having a single risk factor and 42 percent having multiple risk factors.

Table 8.5 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Yemen 2013

Risk category	Births in the five years preceding the survey		Percentage of currently married women[1]
	Percentage of births	Risk ratio	
Not in any high risk category	20.9	1.00	17.0[a]
Unavoidable risk category			
First order births between ages 18 and 34 years	17.0	2.11	9.5
Single high-risk category			
Mother's age <18	3.9	2.94	0.9
Mother's age >34	0.8	2.11	3.0
Birth interval <24 months	11.0	2.28	10.3
Birth order >3	22.8	0.94	17.2
Subtotal	38.5	1.55	31.3
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	0.7	5.25	0.3
Age >34 and birth interval <24 months	0.1	(4.12)	0.2
Age >34 and birth order >3	10.7	1.16	25.4
Age >34 and birth interval <24 months and birth order >3	2.5	3.32	5.0
Birth interval <24 months and birth order >3	9.5	2.57	11.3
Subtotal	23.5	2.09	42.2
In any avoidable high-risk category	62.1	1.76	73.5
Total	100.0	na	100.0
Number of births/women	15,880	na	15,566

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category. Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the category age <18 and birth order >3
[a] Includes sterilized women

8.7 MATERNAL MORTALITY

The maternal mortality ratio is considered to be a key indicator of the health status of a population. According to the World Health Organization's international classification of diseases, a maternal death is defined as a death of a woman while pregnant or within 42 days of the end of the pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO, 2014). Maternal deaths are rare events, being far less common than childhood deaths and therefore more difficult to measure. Estimation of maternal mortality rates and ratios requires comprehensive and accurate reporting of deaths to women as well as determination as to whether the death was due to maternal causes. Maternal mortality was measured in the 2013 YNHDS, but not by using the maternal mortality module developed by MEASURE DHS (which is based on the sisterhood method). Instead, the survey used a much more involved methodology designed by the Pan Arab Project for Family Health (PAPFAM) and used in the 2003 YFHS. The maternal mortality component of the YNHDS was implemented in two phases:

Household Listing. During the household listing operation, listers recorded two pieces of information for each of the 113,463 households listed: the number of births and the number of deaths of women age 12-49 in the two previous years. All households with a woman's death in the past two years were identified to be interviewed during the main survey. It should be noted that these households were not necessarily the same as those randomly selected for the main survey.

Maternal Mortality Data Collection. During the data collection, all households identified during the listing phase with a woman's death in the past two years (whether or not selected for the main survey) were interviewed using the Maternal Mortality Questionnaire to identify maternal deaths and collect additional information on the deceased women (see Appendix D).

Among the deaths of women age 12-49 identified during the household listing phase, 332 deaths were confirmed during the data collection phase; that means that a) the household was visited, b) the woman's age at death was confirmed, and c) the period of death – the last two years – was also confirmed (see Table 8.6). Of these deaths, 83 were subsequently identified as maternal deaths during the data collection phase because they were reported to have occurred during pregnancy, delivery, or within 40 days after giving birth, and they were not caused by an accident. This means that 25 percent of deaths of women age 12-49 can be classified as "maternal" (pregnancy-related) causes. During the listing, 56,018 births were identified in all listed households. Therefore the maternal mortality ratio (ratio of maternal deaths to live births) is estimated to be 148 maternal deaths per 100,000 live births for the two-year period before the survey. The confidence interval for the ratio is 105-190. The maternal mortality ratio is much higher in rural areas than in urban areas (164 compared with 97).

Table 8.6 Maternal mortality

Results of the maternal mortality survey and maternal mortality ratio, by residence, Yemen 2013

Maternal mortality survey	Residence		Total
	Urban	Rural	
Number of deaths of women age 12-49 in the past two years	67	265	332
Number of maternal deaths in the past two years (excluding deaths by accident)	13	70	83
Percentage of deaths to women age 12-49 classified as maternal deaths	19.5	26.3	24.9
Number of live births in the past two years	13,504	42,515	56,018
Maternal mortality ratio (per 100,000 live births)	97	164	148

The maternal mortality ratio of 148 as measured by the 2013 YNHDS is less than half the ratio of 365 deaths per 100,000 births measured in the 2003 YFHS (MOPHP, CSO, PAPFAM, 2004). It is also considerably lower than the maternal mortality ratio of 270 (range of 150-510) estimated by the United Nations for 2013 (WHO, 2014). Although it is likely that maternal deaths in Yemen have declined over time, it is important to recognize the difficulties in measuring maternal mortality and to exercise caution in interpreting numbers, especially since the methodology incorporated in the survey of collecting data on the number of maternal deaths and live births in households is likely to result in maternal mortality ratios that are systematically biased downward due to underreporting of deaths (WHO, 2014).

Table 8.7 presents the percent distribution of maternal deaths in the past two years (excluding deaths by accident) by age at death, and woman's level of education and age at marriage. Globally the distribution of deaths by age follows the fertility curve, with the highest percentage of maternal deaths at age 20-29 years, the age of the highest fertility. While 54 percent of Yemeni women do not have any education, this percentage is much higher among women who have died a maternal death (80 percent). About half of the all women

Table 8.7 Maternal deaths by background characteristics

Percent distribution of maternal deaths in the past two years (excluding deaths by accident) by age at death, level of education, and age at marriage, Yemen 2013

Background characteristic	Percent
Age at death	
< 20	13.3
20-29	48.5
30-39	21.8
40 +	16.5
Total	100.0
Education	
No education	80.3
Formal education	19.7
Total	100.0
Age at marriage	
< 18	48.0
18 +	38.8
Missing	13.2
Total	100.0
Number of maternal deaths	83

age 15-49 are married before 20, this proportion is about the same among women who have died a maternal death (48 percent).

Figure 8.3 shows the percent distribution of the 83 maternal deaths according to the place where the death occurred: 42 percent of deaths took place at home, or in a relative's home, while 39 percent of deaths took place in a health facility. The fact that a large proportion of deaths (17 percent) occurred on the way to the health facility suggests that the women and/or her family cannot recognize or recognize too late the signs of complications during pregnancy, delivery, or the few weeks following delivery.

Figure 8.3 Percent distribution of maternal deaths by place of death

On the way to
health facility, 17%

Other place
2%

Health facility
39%

Home
42%
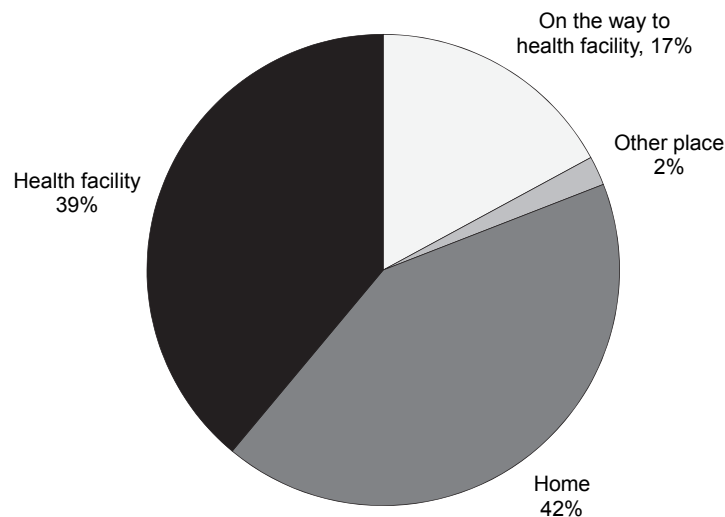
YNHDS 2013

Figure 8.4 shows the percentage of women who had specific symptoms/conditions before they died a maternal death, as reported by the respondent to the Maternal Mortality Questionnaire. It should be noted that a respondent could report several symptoms/conditions. Among all women classified as having died a maternal death, the most commonly reported symptoms/conditions were vaginal bleeding (40 percent), coma (32 percent), high fever (26 percent), and convulsions (21 percent).

Figure 8.4 Symptoms/conditions of the women before maternal death

Percentage

40 — Vaginal bleeding
32 — Coma
26 — High fever
26 — Other
21 — Convulsion
5 — Labor pain stopped
4 — Nothing
2 — Don't know
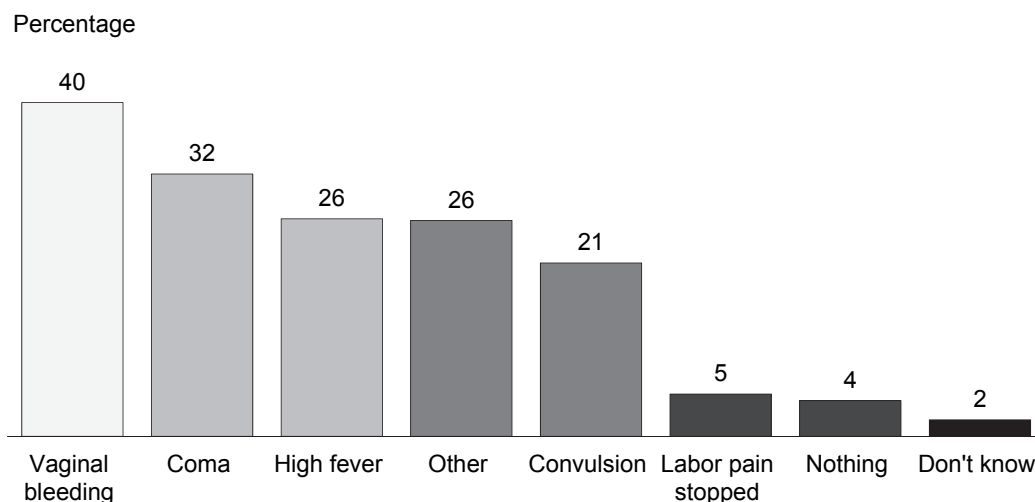
Note: More than one symptom/condition may have been reported for each woman. Therefore, the sum of percentages may exceed 100 percent.

YNHDS 2013

MATERNAL HEALTH CARE

9

The health care services that a mother receives during pregnancy, childbirth, and the immediate postnatal period are important for the survival and wellbeing of both the mother and the infant. The 2013 YNHDS obtained information on the extent to which women in Yemen receive care during each of these stages. These results are important to those who design policy and implement programs to improve maternal and child health care services.

This chapter also includes information on knowledge and self-reported prevalence of obstetric fistula, on self-reported prevalence of tumors, and on problems that women may face in accessing health care.

9.1 ANTENATAL CARE

Antenatal care from a skilled provider is important for monitoring pregnancy and reducing the risks for both mother and child during pregnancy, at delivery, and within the postnatal period (within 42 days after delivery). Antenatal care enables (1) screening and/or early detection of complications and prompt treatment (e.g., of sexually transmitted infections or anemia); (2) prevention of diseases through immunization and micronutrient supplementation; (3) birth preparedness and complication readiness; (4) health promotion and disease prevention through health messages; and (5) advice and counseling of pregnant women, including place of delivery and referral of mothers with complications.

Collecting information on antenatal care is relevant for identifying subgroups of women who do not use such services and is useful in planning improvements in services provided. In the 2013 YNHDS, women who had given birth in the five years preceding the survey were asked whether they had received antenatal care for their last live birth. If the respondent had received antenatal care for her last birth, she was then asked a series of questions about the care she received, such as the type of provider, number of visits made, stage of pregnancy at the time of the first visit, and services and information provided during these visits.

For women with two or more live births during the five-year period preceding the survey, data refer to the most recent birth.

Table 9.1 presents information about the type of provider from whom antenatal care services were received for the most recent birth in the five years before the survey, according to background characteristics. For women who reported more than one source of antenatal services, only the provider with the highest qualifications is presented in the table. Results show that only 6 in 10 women in Yemen receive antenatal care from a skilled provider (doctor, nurse, midwife, or auxiliary nurse/midwife). Nevertheless, this figure is considerably higher than that reported in the 2006 YMICS (47 percent).

Table 9.1 Antenatal care

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth and the percentage receiving antenatal care from a skilled provider for the most recent birth, according to background characteristics, Yemen 2013

| Background characteristic | Antenatal care provider | | | | | | | Percentage receiving antenatal care from a skilled provider[1] | Number of women |
	Doctor	Nurse/ midwife	Auxiliary nurse/ midwife	Traditional birth attendant, grand-mother, other	Missing	No ANC	Total		
Mother's age at birth									
<20	58.6	3.4	0.0	0.2	2.1	36.1	100.4	62.0	1,192
20-34	57.0	4.2	0.2	0.3	2.4	36.7	100.6	61.4	7,398
35-49	45.3	6.1	0.1	0.2	2.1	46.9	100.7	51.4	1,779
Birth order									
1	68.0	3.4	0.2	0.2	1.6	27.0	100.3	71.5	1,846
2-3	59.0	4.4	0.0	0.2	3.0	34.3	100.9	63.4	3,454
4-5	54.6	4.2	0.1	0.0	2.4	39.3	100.6	58.9	2,323
6+	42.4	5.3	0.3	0.4	1.7	50.3	100.4	48.0	2,747
Residence									
Urban	75.1	4.7	0.1	0.1	1.7	18.8	100.4	79.9	3,077
Rural	46.8	4.3	0.2	0.2	2.6	46.6	100.7	51.3	7,292
Governorate									
Ibb	74.1	1.6	0.0	0.5	1.7	23.4	101.2	75.7	1,147
Abyan	58.0	12.6	0.0	0.2	1.7	28.4	100.8	70.5	207
Sanaa City	83.5	0.5	0.0	0.0	2.3	14.1	100.4	84.0	933
Al-Baidha	58.1	1.5	0.1	0.3	1.0	39.6	100.5	59.7	446
Taiz	60.1	0.8	0.0	0.4	4.9	34.2	100.4	60.9	1,274
Al-Jawf	49.6	7.6	0.1	0.8	4.9	38.2	101.3	57.3	95
Hajjah	32.9	5.7	0.0	0.6	1.5	59.8	100.5	38.6	620
Al-Hodiedah	41.6	14.5	0.3	0.0	2.0	41.9	100.4	56.5	1,257
Hadramout	72.4	7.9	0.5	0.5	1.4	18.5	101.1	80.8	543
Dhamar	33.0	1.4	0.3	0.0	2.6	62.9	100.2	34.7	802
Shabwah	67.2	0.1	0.0	0.0	1.0	32.4	100.7	67.3	194
Sadah	25.8	4.9	0.4	0.4	4.1	67.1	102.6	31.1	320
Sanaa	51.8	1.0	0.0	0.0	1.6	45.9	100.4	52.8	598
Aden	87.4	0.9	0.0	0.0	2.8	9.3	100.4	88.2	291
Lahj	59.9	6.7	0.4	0.0	0.9	32.4	100.3	67.0	276
Mareb	65.2	1.2	0.0	0.2	1.1	32.2	100.0	66.4	78
Al-Mhweit	29.2	6.6	0.4	0.3	0.9	62.8	100.2	36.2	304
Al-Mhrah	73.7	6.1	0.0	0.2	3.2	18.6	101.8	79.8	42
Amran	48.5	4.9	0.0	0.0	1.8	44.9	100.2	53.4	445
Aldhalae	63.3	4.8	0.2	0.2	2.6	29.1	100.3	68.4	251
Reimah	12.5	5.0	0.8	0.2	1.4	81.5	101.3	18.2	246
Education									
No education	43.4	4.3	0.2	0.3	2.3	50.2	100.7	47.9	5,475
Fundamental	64.1	4.5	0.1	0.1	2.2	29.6	100.6	68.7	3,463
Secondary	74.6	5.0	0.2	0.3	2.7	17.5	100.4	79.8	1,025
Higher	89.2	3.6	0.1	0.0	1.9	5.6	100.4	93.0	407
Wealth quintile									
Lowest	34.2	4.6	0.1	0.3	2.7	59.0	101.0	39.0	2,097
Second	39.9	6.1	0.1	0.1	2.1	52.0	100.3	46.1	2,136
Middle	53.6	3.3	0.3	0.4	2.9	40.3	100.8	57.2	2,107
Fourth	66.8	5.4	0.3	0.1	1.8	26.1	100.5	72.4	2,016
Highest	83.2	2.7	0.0	0.1	1.9	12.6	100.5	85.9	2,014
Total	55.2	4.4	0.2	0.2	2.3	38.4	100.6	59.8	10,369

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation.
[1] Skilled provider includes doctor, nurse, midwife, and auxiliary nurse/midwife

Almost all women who received antenatal care reported that they received care from a doctor. Fifty-five percent received antenatal care from a doctor, 4 percent from a nurse or midwife, and a tiny fraction from an auxiliary nurse/midwife. Thirty-eight percent of women received no antenatal care.

There are large differences in the percentage of women who receive antenatal care from a skilled provider by background characteristics. Antenatal care coverage declines with both age of the mother and birth order of the child. For example, women get antenatal care from a skilled provider for 72 percent of first births, compared with only 48 percent of sixth and higher order births. In urban areas, 80 percent of pregnant women receive antenatal care from skilled providers, while in rural areas, the corresponding percentage was only 51 percent. By governorate, antenatal care coverage by a skilled provider is highest in Aden Governorate (88 percent) and lowest in Reimah Governorate (18 percent).

There are also large educational and wealth status variations in the percentages of women who receive antenatal care from a skilled provider. For example, women with higher education are almost twice as likely to receive antenatal care services from a skilled provider (93 percent) as women with no education (48 percent). Similarly, women in the highest wealth quintile (86 percent) are more than twice as likely to receive antenatal care from a skilled provider as those in the lowest wealth quintile (39 percent).

9.2 NUMBER AND TIMING OF ANTENATAL VISITS

Antenatal care is more effective in preventing adverse pregnancy outcomes when sought early in the pregnancy and continued through to delivery. Health professionals recommend that the first antenatal visit occur within 12 to 16 weeks of pregnancy. The second visit should occur at 28 weeks, the third visit at 32 weeks, and the fourth visit at 36 weeks. Under normal circumstances, WHO recommends that a woman without complications should have at least four visits. Women with complications, special needs, or conditions beyond the scope of basic care may require additional visits.

In the 2013 YNHDS, respondents were asked how many antenatal care visits they made during the pregnancy preceding their last live birth in the five years before the survey and how many months pregnant they were at the time of the first visit. Table 9.2 and Figure 9.1 show that among women who had a live birth in the five years preceding the survey, 25 percent had four or more antenatal care visits, 23 percent had two to three visits, and 12 percent had one visit only. Urban women are much more likely to receive four or more visits (47 percent) than rural women (16 percent). The proportion of women with four or more antenatal care visits has increased over time, from 11 percent in 1997, to 14 percent in 2003, and to 25 percent in 2013 (CSO and MI, 1998; MOPHP, CSO, PAPFAM, 2004).

Table 9.2 also shows that less than one-third of women (31 percent) had an antenatal care visit at less than four months of pregnancy, as recommended. Fifteen percent of women had their first visit in the fourth to the fifth month of pregnancy, 11 percent had

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

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth, and by the timing of the first visit, and among women with ANC, median months pregnant at first visit, according to residence, Yemen 2013

	Residence		
Number and timing of ANC visits	Urban	Rural	Total
Number of ANC visits			
None	18.8	46.6	38.4
1	9.3	13.8	12.4
2-3	23.8	22.9	23.1
4+	47.2	15.8	25.1
Don't know/missing	0.9	1.0	1.0
Total	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	18.8	46.6	38.4
<4	49.5	22.7	30.6
4-5	17.3	13.5	14.6
6-7	9.0	11.2	10.5
8+	4.8	5.5	5.3
Don't know/missing	0.5	0.6	0.6
Total	100.0	100.0	100.0
Number of women	3,077	7,292	10,369
Median months pregnant at first visit (for those with ANC)	3.3	4.5	4.0
Number of women with ANC	2,499	3,894	6,393

their first visit in the sixth to the seventh month of pregnancy, and 5 percent had their first visit from the eighth month onwards. The median duration of pregnancy at the first visit was 4.0 months, hardly changed from the 4.3 months reported in the 1997 YDMCHS (CSO and MI, 1998).

Figure 9.1 Number of ANC visits

- 4+ visits 25%
- None 38%
- 2-3 visits 23%
- 1 visit 12%
- Don't know/missing 1%
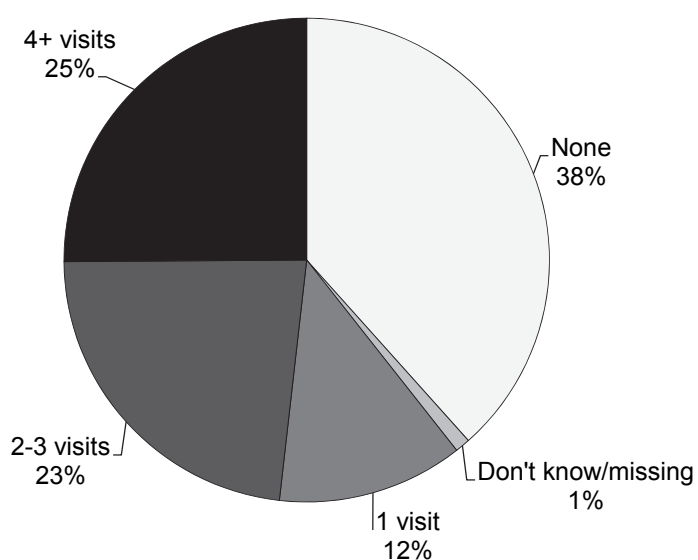
YNHDS 2013

9.3 COMPONENTS OF ANTENATAL CARE

The content of antenatal care is an essential component of the quality of services. Apart from receiving basic care, every pregnant woman should be monitored for complications. Ensuring that pregnant women receive information on and undergo screening for complications should be a routine part of all antenatal care visits. To assess antenatal care services, respondents were asked whether they had been advised of complications or received certain screening tests during at least one of the antenatal care visits. Table 9.3 presents information on the content of antenatal services, including the percentages of women who took iron supplements, took drugs for intestinal parasites, were informed of the signs of pregnancy complications, and received selected routine services during antenatal care visits for their most recent birth in the past five years.

Overall, 29 percent of women took iron tablets during the pregnancy of their last birth. Variations by background characteristics indicate that urban women are more likely than rural women to take iron supplements, as are women in Aden and Shabwah governorates. The proportion of women who took iron supplements increases steadily with both education and wealth quintile.

As a component of antenatal care, the administration of drugs to treat intestinal worms is much less common than the administration of iron supplements. Overall, only 3 percent of women took drugs to treat intestinal worms during their last pregnancy. Differences by background characteristics are minor.

Half of the women who received antenatal care for their most recent live birth in the five years preceding the survey were informed of the signs of pregnancy complications. The proportion of women who were informed about pregnancy complications during antenatal care is remarkably similar across background characteristics. Notable exceptions occur by governorate, where coverage ranges from a low of 27 percent for women in Hadramout Governorate to a high of 69 percent for women in Aldhalae Governorate.

Among the various other antenatal care services, overall, 86 percent of women who received antenatal care had their blood pressure measured, 76 percent had a urine sample taken, and 80 percent had a blood sample taken. By background characteristics, the likelihood of women receiving each of these antenatal care services varies little, showing only a slight increase among women with higher education and those in the highest wealth quintile.

Table 9.3 Components of antenatal care

Among women age 15-49 with a live birth in the five years preceding the survey, the percentage who took iron tablets or syrup and drugs for intestinal parasites during the pregnancy of the most recent birth, and among women receiving antenatal care (ANC) for the most recent live birth in the five years preceding the survey, the percentage receiving specific antenatal services, according to background characteristics, Yemen 2013

Background characteristic	Among women with a live birth in the past five years, the percentage who during the pregnancy of their last birth:			Among women who received antenatal care for their most recent birth in the past five years, the percentage with selected services				
	Took iron tablets or syrup	Took intestinal parasite drugs	Number of women with a live birth in the past five years	Informed of signs of pregnancy complications	Blood pressure measured	Urine sample taken	Blood sample taken	Number of women with ANC for their most recent birth
Mother's age at birth								
<20	29.6	2.3	1,192	46.2	85.6	80.7	84.9	762
20-34	30.0	3.5	7,398	50.1	85.5	75.4	78.9	4,686
35-49	24.9	3.9	1,779	50.4	90.5	78.1	82.6	944
Birth order								
1	37.2	3.2	1,846	48.9	87.4	82.8	86.6	1,347
2-3	31.0	3.0	3,454	47.7	85.2	75.0	77.5	2,270
4-5	27.2	3.9	2,323	52.2	85.7	72.5	78.2	1,410
6+	22.8	3.8	2,747	51.2	87.3	76.4	80.3	1,366
Residence								
Urban	43.6	2.2	3,077	49.8	89.9	77.8	81.1	2,499
Rural	22.9	4.0	7,292	49.6	83.9	75.5	79.6	3,894
Governorate								
Ibb	25.3	4.1	1,147	49.0	76.7	71.3	75.0	879
Abyan	37.3	3.2	207	56.8	91.9	80.8	89.1	148
Sanaa City	51.8	1.4	933	48.9	88.9	77.0	76.9	802
Al-Baidha	21.6	3.4	446	65.8	81.9	65.5	72.7	270
Taiz	33.4	5.4	1,274	56.2	85.1	77.0	79.2	838
Al-Jawf	24.5	4.2	95	60.7	86.2	64.4	65.8	59
Hajjah	14.5	3.0	620	44.8	86.1	89.7	88.4	249
Al-Hodiedah	24.3	2.3	1,257	49.6	89.0	76.7	81.8	730
Hadramout	42.3	1.3	543	26.6	98.0	94.6	98.0	442
Dhamar	18.6	4.0	802	61.4	89.0	73.5	78.9	298
Shabwah	55.7	1.0	194	58.2	94.1	84.7	90.4	131
Sadah	21.5	1.6	320	42.2	86.7	76.1	78.4	105
Sanaa	15.4	3.0	598	38.6	77.0	68.7	73.4	323
Aden	60.6	1.2	291	33.9	98.2	81.5	91.8	264
Lahj	43.1	4.1	276	55.6	92.0	78.5	85.4	187
Mareb	41.1	3.2	78	56.6	85.1	71.3	83.2	53
Al-Mhweit	15.2	5.9	304	63.0	73.6	64.6	70.4	113
Al-Mhrah	43.1	2.8	42	41.1	96.1	87.9	95.0	34
Amran	14.6	7.3	445	43.6	79.2	61.3	61.6	245
Aldhalae	37.8	2.1	251	69.0	86.6	78.8	84.5	178
Reimah	9.4	5.9	246	61.4	86.1	77.8	78.3	46
Education								
No education	20.8	3.9	5,475	47.8	85.1	75.3	79.5	2,727
Fundamental	33.5	3.1	3,463	50.4	85.4	76.0	79.7	2,437
Secondary	43.8	2.5	1,025	51.8	89.9	76.3	79.8	845
Higher	64.9	2.1	407	53.7	91.0	87.1	88.3	384
Wealth quintile								
Lowest	16.3	3.9	2,097	49.1	84.2	79.3	81.4	859
Second	18.9	4.3	2,136	49.1	82.9	72.4	78.0	1,026
Middle	24.3	4.4	2,107	50.4	82.2	73.3	76.9	1,258
Fourth	35.9	2.3	2,016	49.5	86.9	74.8	79.2	1,490
Highest	51.3	2.1	2,014	50.0	91.4	80.8	83.9	1,760
Total	29.1	3.4	10,369	49.7	86.2	76.4	80.2	6,393

9.4 TETANUS TOXOID

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, a leading cause of early infant death in many developing countries that is often due to poor hygiene during delivery. For full protection of her newborn baby, a pregnant woman should receive at least two injections of the vaccine during the pregnancy. If a woman has been vaccinated during a previous pregnancy, however, she may only require one or no doses for the current pregnancy. Five doses are considered to provide lifetime protection. Table 9.4 presents the percentage of women age 15-49 with a live birth in the five years preceding the survey who received two or more tetanus toxoid injections during their most recent pregnancy and the percentage whose last birth was protected against neonatal tetanus.

Table 9.4 Tetanus toxoid injections

Among mothers age 15-49 with a live birth in the five years preceding the survey, the percentage receiving two or more tetanus toxoid injections during the pregnancy for the last live birth and the percentage whose last live birth was protected against neonatal tetanus, according to background characteristics, Yemen 2013

Background characteristic	Percentage receiving two or more injections during last pregnancy	Percentage whose last birth was protected against neonatal tetanus[1]	Number of mothers
Mother's age at birth			
<20	10.2	23.9	1,192
20-34	9.0	29.5	7,398
35-49	7.1	24.0	1,779
Birth order			
1	12.8	28.6	1,846
2-3	8.8	31.3	3,454
4-5	7.4	27.3	2,323
6+	7.5	23.6	2,747
Residence			
Urban	12.4	37.5	3,077
Rural	7.3	23.8	7,292
Governorate			
Ibb	10.3	27.9	1,147
Abyan	8.7	19.3	207
Sanaa City	13.7	33.8	933
Al-Baidha	3.2	15.6	446
Taiz	10.6	31.9	1,274
Al-Jawf	5.1	10.5	95
Hajjah	7.5	31.6	620
Al-Hodiedah	8.1	25.6	1,257
Hadramout	8.5	36.5	543
Dhamar	11.2	31.9	802
Shabwah	3.5	8.7	194
Sadah	4.3	5.4	320
Sanaa	5.5	16.7	598
Aden	14.1	52.9	291
Lahj	5.6	31.3	276
Mareb	7.6	29.8	78
Al-Mhweit	9.1	31.2	304
Al-Mhrah	17.8	35.0	42
Amran	7.1	32.8	445
Aldhalae	8.0	28.4	251
Reimah	5.0	14.3	246
Education			
No education	7.1	21.3	5,475
Fundamental	9.1	30.3	3,463
Secondary	13.4	44.1	1,025
Higher	18.2	55.9	407
Wealth quintile			
Lowest	6.1	19.5	2,097
Second	7.9	21.9	2,136
Middle	7.2	25.2	2,107
Fourth	9.3	33.2	2,016
Highest	13.8	40.4	2,014
Total	8.8	27.9	10,369

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

Results show that coverage of tetanus vaccination for pregnant women is very low in Yemen. Only 9 percent of women received two or more tetanus toxoid injections during the pregnancy of their last live birth. This is identical to the 9 percent reported in the 1997 YDMCHS (based on all births in the five years before the survey). Overall, because some women had received injections before the index pregnancy, 28 percent of births were protected against tetanus, a slight decline from 31 percent in 2006 (MOHP and UNICEF, 2008). Births to women in urban areas are more likely to be protected against tetanus than births to women in rural areas (38 percent and 24 percent, respectively). Births in Aden Governorate are substantially more likely to be protected against tetanus (53 percent) than births in other areas, particularly those in Sadah (5 percent) and Shabwah (9 percent) governorates. The proportion of births protected against tetanus increases with both mother's education level and wealth quintile.

9.5   PLACE OF DELIVERY

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

Table 9.5 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery and percentage delivered in a health facility, according to background characteristics, Yemen 2013

Background characteristic	Health facility		Home	Other	Missing	Total	Percentage delivered in a health facility	Number of births
	Public sector	Private sector						
Mother's age at birth								
<20	21.9	11.2	65.2	0.5	1.2	100.0	33.1	2,109
20-34	19.0	11.0	68.4	0.6	1.2	100.0	29.9	11,521
35-49	16.6	9.4	72.4	0.7	0.8	100.0	26.0	2,250
Birth order								
1	29.1	15.7	53.2	0.7	1.4	100.0	44.8	3,283
2-3	18.8	11.0	68.6	0.3	1.3	100.0	29.8	5,374
4-5	16.6	9.8	72.0	0.6	1.0	100.0	26.4	3,373
6+	12.9	7.1	78.5	0.8	0.7	100.0	20.0	3,850
Antenatal care visits[1]								
None	10.3	4.7	83.5	0.5	1.0	100.0	15.0	3,977
1-3	21.4	11.4	66.2	1.0	0.0	100.0	32.8	3,690
4+	35.4	23.3	40.7	0.5	0.1	100.0	58.7	2,602
Don't know/missing	22.6	8.5	66.1	1.9	0.8	100.0	31.1	100
Residence								
Urban	30.8	18.3	49.5	0.2	1.2	100.0	49.1	4,301
Rural	14.7	8.0	75.6	0.7	1.1	100.0	22.6	11,579
Governorate								
Ibb	20.1	10.6	67.6	0.7	1.1	100.0	30.7	1,738
Abyan	51.0	6.5	40.9	0.8	0.8	100.0	57.5	309
Sanaa City	31.4	25.1	42.6	0.2	0.7	100.0	56.5	1,280
Al-Baidha	19.9	23.8	55.2	0.4	0.8	100.0	43.6	643
Taiz	12.3	9.7	76.9	0.2	0.9	100.0	22.0	1,994
Al-Jawf	18.3	19.8	60.1	0.0	1.8	100.0	38.1	144
Hajjah	7.5	5.4	85.6	0.8	0.8	100.0	12.8	1,019
Al-Hodiedah	9.1	9.4	79.4	0.2	1.8	100.0	18.5	2,037
Hadramout	50.8	2.5	44.1	0.4	2.1	100.0	53.3	738
Dhamar	8.1	8.0	82.8	0.9	0.2	100.0	16.0	1,322
Shabwah	25.4	14.2	59.0	0.0	1.5	100.0	39.5	275
Sadah	27.2	1.6	67.5	1.1	2.6	100.0	28.8	479
Sanaa	17.1	11.6	68.7	1.8	0.7	100.0	28.8	919
Aden	53.2	14.3	31.2	0.2	1.2	100.0	67.4	389
Lahj	37.2	3.8	56.9	0.2	1.9	100.0	41.0	416
Mareb	21.8	16.7	59.8	1.0	0.7	100.0	38.5	120
Al-Mhweit	8.0	9.5	81.0	0.8	0.8	100.0	17.5	517
Al-Mhrah	57.0	2.9	33.3	3.9	2.8	100.0	59.9	63
Amran	13.9	9.8	73.9	1.1	1.2	100.0	23.7	670
Aldhalae	10.5	19.6	68.1	0.4	1.5	100.0	30.1	384
Reimah	2.8	0.9	95.5	0.1	0.8	100.0	3.7	423
Mother's education								
No education	13.9	7.3	77.1	0.7	1.0	100.0	21.2	8,765
Fundamental	24.2	12.4	61.6	0.6	1.3	100.0	36.6	5,123
Secondary	25.8	19.2	53.7	0.1	1.2	100.0	44.9	1,446
Higher	34.5	30.1	34.6	0.0	0.9	100.0	64.5	546
Wealth quintile								
Lowest	7.2	5.3	85.9	0.5	1.1	100.0	12.5	3,562
Second	12.2	6.2	79.5	0.9	1.1	100.0	18.4	3,460
Middle	18.5	9.0	70.6	0.7	1.1	100.0	27.5	3,203
Fourth	28.4	13.0	56.9	0.4	1.3	100.0	41.4	2,946
Highest	33.7	23.5	41.6	0.3	1.0	100.0	57.1	2,709
Total	19.0	10.8	68.5	0.6	1.1	100.0	29.8	15,880

[1] Includes only the most recent birth in the five years preceding the survey

Table 9.5 shows that only 30 percent of births occurred in health facilities. This figure is higher than that recorded in the 2006 YMICS (24 percent). Almost two in ten births take place in public health facilities and just over one in ten takes place in private health facilities

First births are much more likely to take place in health facilities than higher order births (45 percent and 20-30 percent, respectively). There is a strong relationship between uptake of antenatal care and place of delivery. Only 15 percent of births to women who received no antenatal care services took place in a health facility compared with 59 percent of live births to women who received four or more antenatal care visits.

Place of delivery differs greatly by residence; 49 percent of births in urban areas were delivered in a health facility compared with 23 percent of births in rural areas. By governorate, the percentage of births delivered in a health facility ranges from a low of 4 percent in Reimah Governorate to a high of 67 percent in Aden Governorate.

There is a strong correlation between a mother's education and place of delivery, and between household wealth and place of delivery. Births to mothers with higher education are much more likely to take place in a health facility than births to mothers with no education (65 percent compared with 21 percent). Likewise, births to women in the highest wealth quintile are more than four times as likely to take place in a health facility as births to women in the lowest wealth quintile (57 percent and 13 percent, respectively).

Respondents whose most recent birth in the five years before the survey was not delivered in a health facility were asked why they did not deliver at a facility. Results are shown in Table 9.6.

A majority of women (62 percent) said they did not deliver at a health facility because it was better to give birth at home. One-quarter of women cited cost as a factor in their decision to deliver at home, while another one-quarter said that the delivery service was too far away (24 percent). Nine percent of women said that poor treatment by health providers was a reason for their deciding to deliver at home, and another 9 percent said they had emergency labor and presumably could not get to the health facility in time. Differences by age of the mother at the time of birth are generally small.

Table 9.6 Reason for delivery outside a health facility

Among women age 15-49 whose most recent live birth in the five years preceding the survey was not delivered in a health facility, the percentage reporting reasons for not delivering in a facility, according to age at birth, Yemen 2013

	Mother's age at birth			
Reason	<20	20-34	35-49	Total
Better at home	61.7	62.7	58.4	61.8
Service not available	7.7	6.5	6.4	6.6
Service too far	22.7	23.3	25.2	23.6
Cost too much	16.7	24.4	32.7	25.1
Husband did not allow	1.1	1.6	1.9	1.6
Emergency labor	13.4	8.9	6.9	9.0
Health providers treat badly	8.8	9.6	7.3	9.1
No female provider at facility	2.4	1.9	1.8	1.9
Availability of the service	1.4	0.8	0.8	0.8
Husband not present	0.6	0.6	0.6	0.6
Other	0.9	0.7	0.2	0.6
Number of births	751	4,977	1,278	7,005

Note: Women may report multiple reasons so the sum may exceed 100 percent.

9.6 ASSISTANCE DURING DELIVERY

Obstetric care from a skilled provider (doctor, nurse, midwife, or auxiliary nurse/midwife) during delivery is recognized as a critical element in the reduction of maternal and neonatal mortality. Births delivered at home are usually more likely to be delivered without assistance from a skilled provider, whereas births delivered at a health facility are more likely to be delivered by a trained health professional. Table 9.7 shows the percent distribution of live births in the five years preceding the survey by person providing assistance at delivery and the percentage of births delivered by Caesarean section (C-section), according to background characteristics.

Forty-five percent of births in the five years preceding the survey were delivered by a skilled provider, with 26 percent of the deliveries assisted by a doctor, 18 percent by a nurse or midwife, and 2 percent by an auxiliary nurse/midwife. Twelve percent of births were assisted by a traditional birth attendant or a grandmother, and 41 percent by relatives or friends. Overall, the percentage of live births delivered by a skilled provider observed in the 2013 YNHDS (45 percent) represents an increase from the figure reported in the 2006 YMICS (36 percent).

Table 9.7 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, percentage of birth assisted by a skilled provider and percentage delivered by caesarean-section, according to background characteristics, Yemen 2013

| Background characteristic | Person providing assistance during delivery | | | | | | | | Percentage delivered by a skilled provider[1] | Percentage delivered by C-section | Number of births |
	Doctor	Nurse/ midwife	Auxiliary nurse/ midwife	Tradition-al birth attendant/ grand-mother	Relative/ other	No one	Don't know/ missing	Total			
Mother's age at birth											
<20	30.0	18.9	2.0	10.9	36.0	0.9	1.3	100.0	50.9	3.8	2,109
20-34	25.6	17.7	1.7	11.8	40.4	1.5	1.4	100.0	44.9	4.9	11,521
35-49	20.6	15.4	1.5	13.1	45.2	3.1	1.2	100.0	37.5	5.4	2,250
Birth order											
1	39.1	21.4	2.4	8.6	26.2	0.6	1.7	100.0	63.0	8.7	3,283
2-3	25.5	18.9	1.5	12.6	39.1	0.9	1.5	100.0	45.9	5.0	5,374
4-5	22.1	16.4	1.7	12.3	44.5	2.0	1.1	100.0	40.2	3.2	3,373
6+	16.7	13.2	1.3	13.5	51.2	3.1	1.1	100.0	31.1	2.7	3,850
Antenatal care visits[1]											
None	11.5	13.6	1.5	15.1	54.6	2.3	1.3	100.0	26.7	2.0	3,977
1-3	28.7	20.4	2.1	11.3	35.7	1.7	0.2	100.0	51.1	4.7	3,690
4+	52.4	23.5	2.0	5.5	15.5	1.0	0.2	100.0	77.8	13.2	2,602
Place of delivery											
Health facility	75.5	22.5	1.0	0.3	0.5	0.1	0.1	100.0	99.0	16.2	4,731
Elsewhere	4.3	15.6	2.0	17.1	58.3	2.3	0.4	100.0	21.9	0.0	10,971
Missing	0.0	0.8	0.0	0.3	4.3	0.6	94.0	100.0	0.8	0.0	178
Residence											
Urban	45.6	24.9	2.5	6.8	18.3	0.5	1.3	100.0	73.0	10.2	4,301
Rural	18.0	14.7	1.4	13.8	48.7	2.0	1.4	100.0	34.1	2.8	11,579
Governorate											
Ibb	30.5	9.3	2.6	13.7	39.8	2.8	1.3	100.0	42.4	6.1	1,738
Abyan	23.5	48.8	1.7	8.0	16.0	1.1	1.0	100.0	74.0	6.1	309
Sanaa City	61.2	10.7	2.9	3.3	20.5	0.7	0.7	100.0	74.8	13.4	1,280
Al-Baidha	33.8	26.9	0.5	8.6	25.6	3.8	0.9	100.0	61.2	7.9	643
Taiz	23.3	17.7	0.5	14.2	42.9	0.7	0.7	100.0	41.5	3.2	1,994
Al-Jawf	25.2	27.1	1.5	14.4	29.2	0.5	2.1	100.0	53.8	4.3	144
Hajjah	8.3	11.4	0.5	13.8	64.5	0.0	1.6	100.0	20.1	1.4	1,019
Al-Hodiedah	12.1	33.8	3.0	20.5	28.0	0.8	1.9	100.0	48.9	2.8	2,037
Hadramout	27.7	34.7	2.9	6.0	20.7	5.7	2.3	100.0	65.3	7.4	738
Dhamar	17.1	4.2	0.8	13.2	63.9	0.3	0.5	100.0	22.1	1.6	1,322
Shabwah	33.8	17.8	1.4	6.8	37.5	0.6	2.0	100.0	53.0	5.0	275
Sadah	14.3	15.4	0.6	2.1	63.5	1.5	2.6	100.0	30.3	1.2	479
Sanaa	28.4	6.3	1.1	10.9	48.8	3.6	0.8	100.0	35.8	6.2	919
Aden	63.0	17.7	3.1	9.4	5.7	0.0	1.2	100.0	83.7	12.0	389
Lahj	30.0	19.9	1.9	18.9	26.1	0.2	3.0	100.0	51.8	5.4	416
Mareb	34.1	10.3	0.9	4.1	47.2	2.7	0.7	100.0	45.2	3.8	120
Al-Mhweit	16.1	17.7	0.4	11.5	50.2	2.8	1.3	100.0	34.2	3.5	517
Al-Mhrah	37.2	26.9	0.6	2.8	19.1	8.8	4.6	100.0	64.7	7.7	63
Amran	15.6	17.8	1.9	7.6	52.3	3.1	1.6	100.0	35.3	2.3	670
Aldhalae	29.5	13.6	1.8	9.4	42.4	1.1	2.3	100.0	44.9	2.7	384
Reimah	5.2	5.4	1.9	12.3	73.3	0.3	1.5	100.0	12.6	0.7	423
Mother's education											
No education	17.7	11.9	1.3	14.2	51.5	2.0	1.3	100.0	31.0	2.6	8,765
Fundamental	31.2	23.3	1.8	10.0	30.9	1.5	1.4	100.0	56.3	6.2	5,123
Secondary	38.9	27.5	3.5	7.5	20.8	0.4	1.5	100.0	69.8	7.7	1,446
Higher	60.4	26.8	1.5	3.8	6.4	0.0	1.0	100.0	88.8	19.8	546
Wealth quintile											
Lowest	9.5	8.4	1.2	15.3	61.5	2.3	1.6	100.0	19.1	1.0	3,562
Second	15.3	13.9	1.0	15.2	51.3	2.1	1.2	100.0	30.2	2.7	3,460
Middle	22.6	18.2	1.6	12.9	41.7	1.7	1.3	100.0	42.4	3.1	3,203
Fourth	34.1	25.0	2.6	9.3	26.3	1.1	1.6	100.0	61.7	7.0	2,946
Highest	53.4	25.1	2.3	4.7	13.0	0.5	1.0	100.0	80.8	12.1	2,709
Total[3]	25.5	17.5	1.7	11.9	40.5	1.6	1.4	100.0	44.7	4.8	15,880

Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation.
[1] Skilled provider includes doctor, nurse, midwife, and auxiliary nurse/midwife.
[2] Includes only the most recent birth in the five years preceding the survey
[3] Total includes 100 cases with missing information on ANC visits.

Large variations occur in the prevalence of skilled assistance at delivery by mother's age, birth order, number of antenatal care visits, place of delivery, residence, governorate, education, and wealth quintile. The percentage of births delivered by a skilled provider decreases as mother's age at birth increases. First-order births are twice as likely to receive assistance from a skilled provider (63 percent) compared with sixth and higher-order births (31 percent). Births to mothers who had four or more antenatal care visits (78

percent) were much more likely than those with fewer visits (51 percent) or no antenatal care (27 percent) to be delivered by a skilled provider. Almost all births delivered in a health facility were delivered by a skilled provider (99 percent) compared with 22 percent of births that occurred elsewhere. Among births that occurred outside a health facility, 58 percent were assisted by a relative or friend, 17 percent by a traditional birth attendant, and 16 percent by a nurse or midwife.

In urban areas, 73 percent of births were assisted by a skilled provider compared with 34 percent in rural areas. By governorate, more than eight in ten deliveries in Aden Governorate (84 percent) were assisted by a skilled provider compared with only 13 percent of births in Reimah Governorate.

Mother's education is strongly related to the type of assistance at delivery. There is a steady increase in the proportion of births with skilled attendance at delivery as mother's education level increases, from only 31 percent of births to women with no education to 89 percent of births to women with higher education. As with education, wealth quintile is strongly associated with type of assistance at delivery. Births to women in the highest wealth quintile were more likely to get assistance at delivery from a skilled provider (81 percent) compared with births to women in the lowest wealth quintile (19 percent).

Figure 9.2 shows that there has been an increase over time in three key indicators related to maternal care. The percentage of births delivered by a health professional has doubled from 22 percent in 1997 to 45 percent in 2013.

Figure 9.2 Trends in maternal care indicators, Yemen 1997-2013
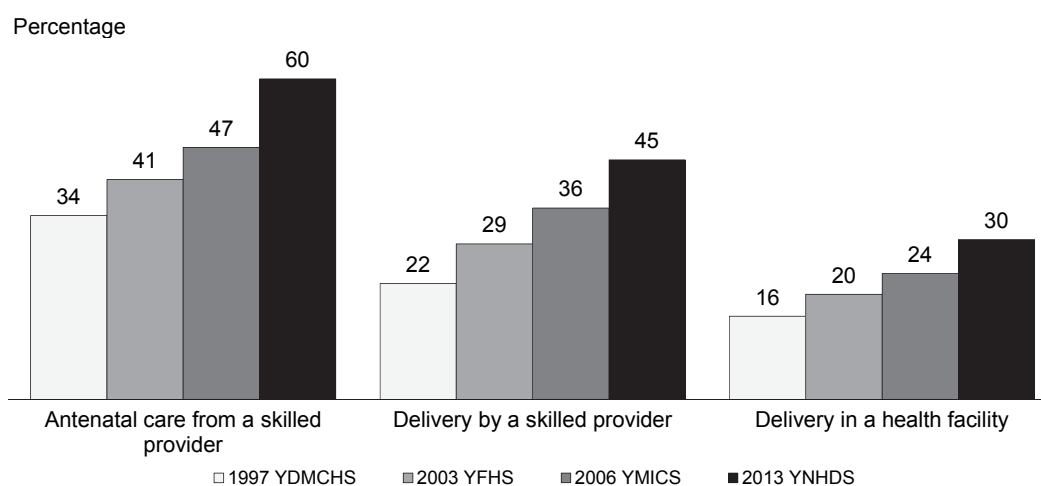
Respondents were also asked whether each of their live births in the five years preceding the survey were delivered by Caesarean (C-section). As shown in Table 9.7, five percent of births were delivered by C-section; this figure is higher than the one reported in the 1997 YDMCHS (1 percent). C-sections are most common among first births (9 percent), births to women who had four or more antenatal care visits (13 percent), births in health facilities (16 percent), births in urban areas (10 percent), births in Sana'a City (13 percent), births to women with higher than secondary education (20 percent), and births to women in the highest wealth quintile (12 percent).

9.7 POSTNATAL CARE FOR THE MOTHER

A large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Thus, prompt postnatal care (PNC) for both the mother and the child is important to treat any complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. Safe motherhood programs recommend that all women receive a check of their health within two days after delivery. Women who deliver at home should go to a health facility for postnatal care

services within 24 hours, and subsequent visits (including those by women who deliver in a health facility) should be made at three days, seven days, and six weeks after delivery.

To assess the extent of postnatal care utilization, respondents were asked, for the last birth in the two years preceding the survey, whether they had received a checkup after delivery, the timing of the first check-up, and the type of health provider performing the postnatal check-up. This information is presented according to background characteristics in Tables 9.8 and 9.9.

Table 9.8 Timing of first postnatal checkup

Among women age 15-49 giving birth in the two years preceding the survey, the percent distribution of the mother's first postnatal checkup for the last live birth by time after delivery, and the percentage of women with a live birth in the two years preceding the survey who received a postnatal checkup in the first two days after giving birth, according to background characteristics, Yemen 2013

Background characteristic	Time after delivery of mother's first postnatal checkup						No postnatal checkup[1]	Total	Percentage of women with a postnatal checkup in the first two days after birth	Number of women
	Less than 4 hours	4-23 hours	1-2 days	3-6 days	7-41 days	Don't know/ missing				
Mother's age at birth										
<20	18.5	0.6	1.7	0.1	1.1	0.6	77.4	100.0	20.8	785
20-34	17.6	0.8	1.6	0.5	0.7	0.8	78.0	100.0	20.0	4,404
35-49	14.4	1.6	2.2	1.2	0.7	1.0	78.9	100.0	18.4	920
Birth order										
1	24.3	1.2	1.9	0.3	1.1	1.2	69.9	100.0	27.4	1,262
2-3	18.9	0.6	2.1	0.7	0.9	0.4	76.3	100.0	21.8	2,063
4-5	14.7	1.0	1.2	0.1	0.6	1.0	81.3	100.0	16.9	1,322
6+	11.1	0.9	1.3	0.8	0.4	0.8	84.6	100.0	13.5	1,464
Place of delivery										
Health facility	42.1	1.7	4.4	1.0	1.3	2.2	47.3	100.0	48.3	1,952
Elsewhere	5.7	0.5	0.4	0.3	0.5	0.1	92.5	100.0	6.6	4,133
Residence										
Urban	31.0	1.5	3.3	0.6	1.1	1.1	61.3	100.0	35.8	1,590
Rural	12.4	0.7	1.1	0.5	0.6	0.7	83.9	100.0	14.3	4,520
Governorate										
Ibb	15.4	1.0	1.7	0.8	0.5	0.0	80.5	100.0	18.2	686
Abyan	32.1	1.2	1.5	0.3	1.0	0.0	63.9	100.0	34.8	126
Sanaa City	31.5	2.4	3.8	0.6	1.0	0.7	60.0	100.0	37.7	473
Al-Baidha	25.9	1.1	0.7	0.5	0.7	0.2	70.9	100.0	27.7	247
Taiz	11.5	0.0	2.4	0.3	0.6	0.7	84.5	100.0	13.9	762
Al-Jawf	19.4	0.4	1.5	1.1	0.3	3.0	74.2	100.0	23.2	54
Hajjah	8.7	0.6	0.6	0.2	0.3	0.6	88.9	100.0	9.9	390
Al-Hodiedah	19.0	0.9	1.9	0.6	0.8	0.6	76.2	100.0	22.0	757
Hadramout	26.8	1.6	2.4	0.0	0.5	6.9	61.8	100.0	30.8	255
Dhamar	10.3	0.0	0.2	0.5	0.5	0.8	87.7	100.0	10.6	557
Shabwah	23.9	1.0	1.3	0.0	0.5	0.0	73.3	100.0	26.2	102
Sadah	12.8	0.8	0.6	1.0	0.4	0.0	84.5	100.0	14.1	183
Sanaa	11.1	1.0	1.4	0.8	0.9	0.9	83.8	100.0	13.5	374
Aden	45.8	1.1	3.6	1.3	2.7	2.4	43.2	100.0	50.5	153
Lahj	22.8	2.5	2.9	0.0	0.3	0.5	71.0	100.0	28.2	168
Mareb	16.5	2.3	2.3	1.4	1.3	0.4	75.8	100.0	21.1	45
Al-Mhweit	6.3	0.7	2.2	1.2	1.9	0.0	87.7	100.0	9.2	199
Al-Mhrah	38.5	0.4	2.2	0.9	0.0	0.0	58.0	100.0	41.1	23
Amran	14.8	1.0	0.0	0.0	0.8	0.0	83.5	100.0	15.8	261
Aldhalae	15.9	0.0	0.4	1.5	1.7	0.5	79.9	100.0	16.3	147
Reimah	4.4	0.5	0.7	0.4	0.9	0.1	92.9	100.0	5.7	150
Education										
No education	11.9	0.8	0.8	0.5	0.6	0.6	84.9	100.0	13.6	3,194
Fundamental	19.8	0.7	2.5	0.7	0.9	0.9	74.4	100.0	23.1	2,101
Secondary	30.5	1.2	3.0	0.4	0.6	1.6	62.7	100.0	34.7	605
Higher	34.9	3.1	3.6	1.1	2.5	0.0	54.7	100.0	41.6	210
Wealth quintile										
Lowest	7.9	0.3	0.6	0.4	0.2	0.4	90.3	100.0	8.8	1,350
Second	11.2	1.1	0.9	0.5	0.7	0.6	85.0	100.0	13.3	1,375
Middle	15.3	0.8	1.4	0.4	1.0	0.6	80.5	100.0	17.5	1,274
Fourth	23.2	1.2	2.6	0.8	0.6	1.5	70.2	100.0	26.9	1,114
Highest	34.2	1.2	3.7	0.7	1.7	1.0	57.4	100.0	39.1	996
Total[2]	17.3	0.9	1.7	0.5	0.8	0.8	78.0	100.0	19.9	6,110

[1] Includes women who received a checkup after 41 days
[2] Total includes 100 cases with missing information on place of delivery.

Overall, only 20 percent of mothers received a postnatal checkup within two days for the most recent birth in the two years preceding the survey. Seventeen percent of mothers received a postnatal checkup within 4 hours after delivery, 1 percent within 4 to 23 hours, 2 percent within 1 to 2 days, and 1 percent within 3 to 41 days after delivery. Over three-quarters of mothers (78 percent) had no postnatal checkup within 41 days. Nevertheless, this shows improvement from the 87 percent of mothers with no postnatal care reported in the 2003 YFHS.

Although differences in postnatal care coverage by mother's age at birth were minor, women are less likely to have a postnatal checkup within two days after delivery for higher-order births than for first births. Women who deliver in a health facility, who reside in urban areas, who had higher levels of education, and who were in the higher wealth quintiles are much more likely to receive a postnatal checkup within two days of delivery compared with other women. For instance, 48 percent of women who delivered at a health facility received a postnatal check-up within two days after birth compared with 7 percent who delivered elsewhere. Similarly, 36 percent of women living in urban areas had a postnatal checkup within two days compared with 14 percent of women living in rural areas. The proportion of women who received a checkup within two days of delivery ranges from a low of 6 percent in Reimah Governorate to a high of 51 percent in Aden Governorate.

Mothers with higher education are more likely to have had a postnatal checkup within two days of delivery than those with no education (42 percent and 14 percent, respectively). Also, mothers in the highest wealth quintile are more likely to have had a checkup within two days of delivery than those within the lowest wealth quintile (39 percent and 9 percent, respectively).

Table 9.9 shows the type of provider of the mother's first postnatal checkup that took place within two days after the last live birth: 20 percent of women received a postnatal checkup from a skilled provider (doctor, nurse, midwife, or auxiliary nurse/midwife). Differentials by background characteristics are similar to those observed for women who received a postnatal checkup within two days after delivery (Table 9.8).

Table 9.9 Type of provider of first postnatal checkup for the mother

Among women age 15-49 giving birth in the two years preceding the survey, the percent distribution by type of provider of the mother's first postnatal health check in the two days after the last live birth, according to background characteristics, Yemen 2013

Background characteristic	Type of health provider of mother's first postnatal checkup			No postnatal checkup in the first two days after birth	Total	Number of women
	Doctor/nurse/ midwife	Auxiliary nurse/midwife	Traditional birth attendant			
Mother's age at birth						
<20	20.6	0.2	0.0	79.2	100.0	785
20-34	19.8	0.1	0.1	80.0	100.0	4,404
35-49	17.9	0.3	0.1	81.6	100.0	920
Birth order						
1	27.2	0.1	0.1	72.6	100.0	1,262
2-3	21.7	0.0	0.1	78.2	100.0	2,063
4-5	16.5	0.2	0.3	83.1	100.0	1,322
6+	13.1	0.4	0.0	86.5	100.0	1,464
Place of delivery						
Health facility	48.2	0.2	0.0	51.7	100.0	1,952
Elsewhere	6.3	0.2	0.2	93.4	100.0	4,133
Residence						
Urban	35.6	0.0	0.2	64.2	100.0	1,590
Rural	14.0	0.2	0.1	85.7	100.0	4,520
Governorate						
Ibb	17.7	0.2	0.2	81.8	100.0	686
Abyan	34.1	0.7	0.0	65.2	100.0	126
Sanaa City	37.7	0.0	0.0	62.3	100.0	473
Al-Baidha	27.0	0.0	0.7	72.3	100.0	247
Taiz	13.6	0.3	0.0	86.1	100.0	762
Al-Jawf	23.2	0.0	0.0	76.8	100.0	54
Hajjah	9.9	0.0	0.0	90.1	100.0	390
Al-Hodiedah	21.7	0.3	0.0	78.0	100.0	757
Hadramout	30.0	0.4	0.3	69.2	100.0	255
Dhamar	10.6	0.0	0.0	89.4	100.0	557
Shabwah	25.4	0.8	0.0	73.8	100.0	102
Sadah	14.1	0.0	0.0	85.9	100.0	183

Continued…

Table 9.9—*Continued*

Background characteristic	Type of health provider of mother's first postnatal checkup			No postnatal checkup in the first two days after birth	Total	Number of women
	Doctor/nurse/ midwife	Auxiliary nurse/midwife	Traditional birth attendant			
Governorate						
Sanaa	13.4	0.1	0.0	86.5	100.0	374
Aden	49.9	0.0	0.6	49.5	100.0	153
Lahj	27.9	0.3	0.0	71.8	100.0	168
Mareb	21.1	0.0	0.0	78.9	100.0	45
Al-Mhweit	9.2	0.0	0.0	90.8	100.0	199
Al-Mhrah	39.3	0.0	1.9	58.9	100.0	23
Amran	15.8	0.0	0.0	84.2	100.0	261
Aldhalae	15.8	0.0	0.5	83.7	100.0	147
Reimah	5.7	0.0	0.0	94.3	100.0	150
Education						
No education	13.3	0.2	0.1	86.4	100.0	3,194
Fundamental	22.8	0.2	0.1	76.9	100.0	2,101
Secondary	34.6	0.0	0.1	65.3	100.0	605
Higher	41.2	0.0	0.4	58.4	100.0	210
Wealth quintile						
Lowest	8.4	0.3	0.1	91.2	100.0	1,350
Second	13.3	0.0	0.0	86.7	100.0	1,375
Middle	17.4	0.0	0.1	82.5	100.0	1,274
Fourth	26.2	0.5	0.3	73.1	100.0	1,114
Highest	39.0	0.0	0.1	60.9	100.0	996
Total[2]	19.6	0.2	0.1	80.1	100.0	6,110

[1] Includes women who received a checkup after 41 days
[2] Total includes 100 cases with missing information on place of delivery.

9.8 POSTNATAL CARE FOR THE NEWBORN

As mentioned, a significant proportion of neonatal deaths occur during the first few hours of life (48 hours) after delivery. The provision of postnatal care services for newborns should therefore start as soon as possible after the child is born. The recommended timing of the postnatal checkup for the newborn is similar to that of the mother--within two days after birth.

Table 9.10 shows that only 11 percent of last births in the two years preceding the survey received a postnatal checkup in the first two days after birth. Place of delivery, residence, mother's education level, and wealth quintile are closely linked to the timing of the first postnatal checkup for the newborn. Newborns whose mothers deliver in a health facility, live in urban areas, have more education, and are in the higher wealth quintiles have a greater chance of receiving a postnatal checkup within two days after birth when compared with those newborns whose mothers delivered elsewhere, reside in rural areas, are less educated, and are members of households in the lower wealth quintiles. For instance, 24 percent of newborns whose mothers live in urban areas received a checkup within two days compared with 7 percent of those whose mothers live in rural areas. Newborns whose mothers reside in Al-Mhrah and Aden governorates and in Sana'a City were most likely to have a postnatal checkup within two days after birth, whereas those whose mothers live in Reimah and Al-Mhweit governorates were the least likely (less than 2 percent).

Newborns whose mothers have at least some higher education are more likely to have a postnatal checkup within two days after birth when compared with their counterparts whose mothers have no education (33 percent and 7 percent, respectively). Newborns of mothers in the highest wealth quintile have a better chance of a checkup within two days after birth than those newborns whose mothers are part of the lowest wealth quintile (26 percent and 5 percent, respectively).

Table 9.10 Timing of first postnatal checkup for the newborn

Percent distribution of last births in the two years preceding the survey by time after birth of first postnatal checkup, and the percentage of births with a postnatal checkup in the first two days after birth, according to background characteristics, Yemen 2013

| Background characteristic | Time after birth of newborn's first postnatal checkup | | | | | | No postnatal checkup[1] | Total | Percentage of births with a postnatal checkup in the first two days after birth | Number of births |
	Less than 1 hour	1-3 hours	4-23 hours	1-2 days	3-6 days	Don't know/ missing				
Mother's age at birth										
<20	4.3	5.8	0.1	0.8	0.9	0.0	88.1	100.0	11.0	785
20-34	3.9	6.6	0.3	0.6	0.5	0.1	87.9	100.0	11.5	4,404
35-49	3.6	5.5	0.6	0.2	0.6	0.4	89.2	100.0	9.8	920
Birth order										
1	5.5	8.2	0.4	1.0	0.8	0.1	83.9	100.0	15.2	1,262
2-3	4.6	6.9	0.3	0.4	0.5	0.3	87.0	100.0	12.2	2,063
4-5	3.2	6.2	0.3	0.7	0.4	0.0	89.2	100.0	10.4	1,322
6+	2.2	4.2	0.3	0.3	0.6	0.1	92.3	100.0	7.0	1,464
Place of delivery										
Health facility	8.6	16.0	0.7	1.0	0.9	0.3	72.4	100.0	26.4	1,952
Elsewhere	1.7	1.8	0.2	0.4	0.4	0.1	95.4	100.0	4.1	4,133
Residence										
Urban	9.4	12.4	0.6	1.2	0.9	0.2	75.3	100.0	23.6	1,590
Rural	2.0	4.2	0.3	0.4	0.4	0.2	92.6	100.0	6.8	4,520
Governorate										
Ibb	0.3	7.4	0.5	0.6	1.1	0.0	90.1	100.0	8.8	686
Abyan	5.5	7.8	0.3	1.7	0.0	1.1	83.7	100.0	15.2	126
Sanaa City	10.1	19.2	1.8	1.8	1.3	0.0	65.8	100.0	32.9	473
Al-Baidha	7.0	1.6	0.0	0.0	0.9	0.6	90.0	100.0	8.9	247
Taiz	1.5	3.2	0.0	0.6	0.4	0.3	94.0	100.0	5.2	762
Al-Jawf	0.0	5.1	0.7	1.6	0.5	1.7	90.4	100.0	7.4	54
Hajjah	0.0	5.6	0.2	0.3	0.3	0.0	93.5	100.0	6.1	390
Al-Hodiedah	9.8	3.5	0.4	0.6	0.0	0.0	85.7	100.0	14.3	757
Hadramout	0.4	6.4	0.0	0.3	0.6	0.0	92.2	100.0	7.1	255
Dhamar	3.6	4.0	0.0	0.2	0.6	0.0	91.6	100.0	7.8	557
Shabwah	0.3	13.8	0.0	1.2	0.0	0.0	84.7	100.0	15.3	102
Sadah	6.9	3.3	0.0	0.7	0.0	0.5	88.6	100.0	10.9	183
Sanaa	0.5	3.7	0.0	0.8	0.4	0.5	94.1	100.0	5.0	374
Aden	14.5	15.0	0.0	0.5	0.9	0.9	68.3	100.0	30.0	153
Lahj	1.4	10.3	1.8	0.0	0.6	0.0	85.9	100.0	13.5	168
Mareb	0.2	8.8	0.5	0.4	0.2	0.4	89.6	100.0	9.9	45
Al-Mhweit	0.2	1.4	0.0	0.0	0.9	0.0	97.6	100.0	1.6	199
Al-Mhrah	8.3	22.5	2.1	1.9	0.0	0.0	65.2	100.0	34.8	23
Amran	2.0	8.5	0.0	0.0	0.3	0.0	89.2	100.0	10.5	261
Aldhalae	7.7	7.0	0.0	0.5	0.9	0.0	83.9	100.0	15.3	147
Reimah	0.0	1.2	0.0	0.0	0.0	0.0	98.7	100.0	1.3	150
Mother's education										
No education	2.2	4.1	0.3	0.3	0.2	0.1	92.8	100.0	6.8	3,194
Fundamental	4.4	7.5	0.2	0.6	0.9	0.2	86.1	100.0	12.8	2,101
Secondary	6.9	12.4	0.6	0.9	1.3	0.1	77.7	100.0	20.9	605
Higher	16.3	12.3	1.4	3.1	0.0	0.0	66.9	100.0	33.1	210
Wealth quintile										
Lowest	1.9	2.2	0.2	0.2	0.2	0.2	95.1	100.0	4.5	1,350
Second	2.6	3.7	0.3	0.3	0.5	0.0	92.4	100.0	7.0	1,375
Middle	1.9	5.8	0.2	0.5	0.3	0.2	91.2	100.0	8.3	1,274
Fourth	4.1	8.8	0.6	1.2	0.8	0.3	84.3	100.0	14.7	1,114
Highest	10.7	13.6	0.5	0.9	1.2	0.1	73.0	100.0	25.7	996
Total[2]	3.9	6.4	0.3	0.6	0.5	0.2	88.1	100.0	11.2	6,110

[1] Includes newborns who received a checkup after the first week
[2] Total includes 100 cases with missing information on place of delivery.

Table 9.11 shows the type of provider of the newborn's first postnatal checkup that took place within two days after birth. As is true for the mother's postnatal care, children's postnatal care is provided almost entirely by doctors.

Table 9.11 Type of provider of first postnatal checkup for the newborn

Percent distribution of last births in the two years preceding the survey by type of provider of the newborn's first postnatal health check during the two days after the last live birth, according to background characteristics, Yemen 2013

Background characteristic	Type of health provider of newborn's first postnatal checkup			No postnatal checkup in the first two days after birth	Total	Number of births
	Doctor/nurse/ midwife	Auxiliary nurse/midwife	Traditional birth attendant			
Mother's age at birth						
<20	10.6	0.1	0.3	89.0	100.0	785
20-34	11.4	0.0	0.1	88.5	100.0	4,404
35-49	9.2	0.4	0.2	90.2	100.0	920
Birth order						
1	14.9	0.1	0.2	84.8	100.0	1,262
2-3	12.1	0.0	0.1	87.8	100.0	2,063
4-5	10.0	0.1	0.3	89.6	100.0	1,322
6+	6.7	0.2	0.1	93.0	100.0	1,464
Place of delivery						
Health facility	26.3	0.1	0.0	73.6	100.0	1,952
Elsewhere	3.7	0.1	0.2	95.9	100.0	4,133
Residence						
Urban	23.2	0.1	0.3	76.4	100.0	1,590
Rural	6.6	0.1	0.1	93.2	100.0	4,520
Governorate						
Ibb	8.1	0.0	0.7	91.2	100.0	686
Abyan	13.9	0.2	1.2	84.8	100.0	126
Sanaa City	32.9	0.0	0.0	67.1	100.0	473
Al-Baidha	8.9	0.0	0.0	91.1	100.0	247
Taiz	5.2	0.0	0.0	94.8	100.0	762
Al-Jawf	4.7	2.7	0.0	92.6	100.0	54
Hajjah	6.1	0.0	0.0	93.9	100.0	390
Al-Hodiedah	13.9	0.3	0.0	85.7	100.0	757
Hadramout	6.7	0.4	0.0	92.9	100.0	255
Dhamar	7.8	0.0	0.0	92.2	100.0	557
Shabwah	15.3	0.0	0.0	84.7	100.0	102
Sadah	10.9	0.0	0.0	89.1	100.0	183
Sanaa	5.0	0.0	0.0	95.0	100.0	374
Aden	27.8	0.0	2.2	70.0	100.0	153
Lahj	13.5	0.0	0.0	86.5	100.0	168
Mareb	9.9	0.0	0.0	90.1	100.0	45
Al-Mhweit	1.6	0.0	0.0	98.4	100.0	199
Al-Mhrah	34.8	0.0	0.0	65.2	100.0	23
Amran	10.5	0.0	0.0	89.5	100.0	261
Aldhalae	14.6	0.0	0.7	84.7	100.0	147
Reimah	1.3	0.0	0.0	98.7	100.0	150
Mother's education						
No education	6.6	0.1	0.1	93.2	100.0	3,194
Fundamental	12.5	0.1	0.2	87.2	100.0	2,101
Secondary	20.5	0.0	0.3	79.1	100.0	605
Higher	32.7	0.0	0.4	66.9	100.0	210
Wealth quintile						
Lowest	4.2	0.2	0.2	95.5	100.0	1,350
Second	7.0	0.0	0.0	93.0	100.0	1,375
Middle	8.0	0.1	0.2	91.7	100.0	1,274
Fourth	14.4	0.1	0.2	85.3	100.0	1,114
Highest	25.5	0.0	0.2	74.3	100.0	996
Total[1]	10.9	0.1	0.2	88.8	100.0	6,110

[1] Total includes 100 cases with missing information on place of delivery.

9.9 OBSTETRIC FISTULA

Vaginal fistula is a medical condition consisting of an abnormal opening between the vagina and bladder or between the vagina and rectum. A woman with a fistula experiences an uncontrollable leakage of urine and/or feces from her vagina (Johnson and Peterman, 2008). Although largely eradicated in the developed world due to improved obstetric care, fistula continues to have devastating effects on the lives of many women in developing countries. In most parts of the world, vaginal fistula usually results from prolonged obstructed labor (Johnson and Peterman, 2008).

The 2013 YNHDS included a module in which ever-married women were asked whether they had heard of a medical condition in which women experience constant leakage of stool or urine from their vagina that usually occurs after a difficult childbirth, but may occur after sexual assault or after pelvic surgery. Those who had ever heard of this problem were asked whether they had ever experienced such a leakage.

Although about one-third of ever-married women (30 percent) had heard of the problem, less than 1 percent reported having experienced symptoms consistent with a fistula (Table 9.12). However, obstetric fistula is highly stigmatized and respondents may choose not to report such a "socially undesirable" condition. In addition, women with fistula may not have been reported as members of a household during the household interviews. Consequently, the occurrence of fistula may be underreported in the YNHDS, and the actual prevalence may be much higher than 1 percent of married women, constituting a severe threat to maternal health. Thus, the YNHDS findings should be interpreted with caution. Differentials in fistula are minor; however, awareness of fistula does increase with women's education level and wealth quintile.

Table 9.12 Obstetric fistula

Percentage of ever-married women age 15-49 who have heard of obstetric fistula and percentage who have experienced obstetric fistula, according to background characteristics, Yemen 2013

Background characteristic	Percentage of women who have heard of obstetric fistula	Percentage of women who have experienced obstetric fistula	Number of ever-married women
Age			
15-19	23.8	0.2	1,112
20-24	25.4	0.4	3,099
25-29	29.9	0.9	3,731
30-34	32.7	0.5	2,824
35-39	32.8	0.8	2,612
40-44	33.4	1.2	1,744
45-49	31.6	0.4	1,442
Residence			
Urban	39.2	0.9	5,322
Rural	25.8	0.5	11,242
Governorate			
Ibb	31.8	0.4	1,791
Abyan	57.6	1.6	345
Sanaa City	43.5	1.5	1,587
Al-Baidha	32.1	0.3	768
Taiz	37.2	1.5	2,196
Al-Jawf	32.7	1.4	141
Hajjah	9.1	0.0	895
Al-Hodiedah	20.4	0.3	2,023
Hadramout	20.7	0.1	958
Dhamar	20.9	0.2	1,188
Shabwah	15.5	0.3	315
Sadah	27.1	0.1	532
Sanaa	23.1	0.7	867
Aden	51.7	0.6	534
Lahj	49.5	0.6	425
Mareb	21.9	0.7	123
Al-Mhweit	30.5	0.8	445
Al-Mhrah	14.7	0.0	62
Amran	42.7	0.4	614
Aldhalae	22.3	1.3	404
Reimah	21.9	0.1	350
Education			
No education	24.6	0.6	8,887
Fundamental	33.2	0.9	5,416
Secondary	40.1	0.3	1,564
Higher	54.1	0.9	697
Wealth quintile			
Lowest	19.6	0.6	3,010
Second	25.8	0.4	3,248
Middle	27.9	0.6	3,330
Fourth	34.4	0.9	3,394
Highest	40.8	0.9	3,582
Total	30.1	0.7	16,564

Women who reported experiencing symptoms consistent with fistula were asked whether the problem started after a natural delivery, after a Caesarean delivery, after an operation, or in some other way. As shown in Table 9.13, the vast majority (90 percent) of women said the leakage started after a natural delivery.

Table 9.13 Origin of fistula

Percent distribution of ever-married women who have experienced obstetric fistula, according to the origin of the fistula, Yemen 2013

Origin of the fistula	Total
After natural birth	89.8
After caesarean birth	5.9
After an operation	2.8
Other	1.5
Total	100.0
Number of women who have experienced fistula	124

Women were also asked if they sought treatment for the fistula. As shown in Table 9.14, just under half of ever-married women who have experienced fistula did not seek treatment (46 percent), while just over half went to a doctor (52 percent) and two percent went to a nurse or midwife for treatment.

Table 9.14 Treatment of fistula

Percent distribution of ever-married women age 15-49 who have experienced obstetric fistula by source of treatment, Yemen 2013

Source of treatment	Total
Did not seek treatment	46.1
Doctor	51.8
Nurse, midwife	2.1
Total	100.0
Number of women who have experienced fistula	124

9.10 TUMORS

In the 2013 YNHDS, women were asked if they had ever had a tumor, and if so, in what part of the body the tumor was located, who discovered the tumor and when, what treatments she might have had, and whether the tumor was benign or malignant. The series of questions was included in both the Ever-Married Woman's Questionnaire and the Never-Married Woman's Questionnaire.

Table 9.15 shows that fewer than 2 percent of all women age 15-49 in Yemen report that they have ever had any kind of tumor. Differences by background characteristics of women are small.

Table 9.15 Self-reported prevalence of tumors

Percentage of all women age 15-49 who reported ever having a tumor, according to background characteristics, Yemen 2013

Background characteristic	Percentage who have ever had any kind of tumor	Number of women
Marital status		
Never married	1.2	8,870
Married	1.5	15,566
Divorced/widowed	3.1	998
Residence		
Urban	2.1	8,619
Rural	1.1	16,815
Governorate		
Ibb	1.3	2,739
Abyan	3.1	551
Sanaa City	1.3	2,487
Al-Baidha	1.8	1,101
Taiz	1.4	3,512
Al-Jawf	2.0	181
Hajjah	0.9	1,374
Al-Hodiedah	1.0	3,261
Hadramout	1.5	1,427
Dhamar	0.8	1,670
Shabwah	1.9	528
Sadah	0.3	823
Sanaa	1.7	1,265
Aden	3.4	921
Lahj	1.7	678
Mareb	2.0	183
Al-Mhweit	1.7	623
Al-Mhrah	1.5	95
Amran	2.4	852
Aldhalae	1.8	641
Reimah	1.5	520
Education		
No education	1.4	10,705
Fundamental	1.4	9,339
Secondary	1.1	3,767
Higher	2.5	1,623
Wealth quintile		
Lowest	0.9	4,435
Second	1.0	4,808
Middle	1.4	5,046
Fourth	1.6	5,320
Highest	2.2	5,825
Total	1.5	25,434

Table 9.16 shows the location of tumors among those women who reported ever having a tumor. More than one-quarter of the women with tumors say their tumor is/was in their cervix, while almost one-quarter say they have had a breast tumor. Other commonly mentioned sites for tumors are the leg (10 percent), arm (7 percent), and neck (7 percent).

Table 9.17 shows information about who discovered the tumor, types of treatment, and whether the tumor was diagnosed as malignant or not. Among all women with tumors, the results indicate that 78 percent were discovered by a doctor and 2 percent were discovered by a nurse or midwife. The table further indicates that almost all women with tumors said that they sought treatment (89 percent) and that 62 percent said they had either a biopsy and/or an ultrasound. Among the women who had a biopsy or ultrasound, 88 percent said their tumor was malignant (cancerous).

Table 9.16 Location of tumors

Percent distribution of all women age 15-49 who reported ever having a tumor according to the location of the tumor, by background characteristics, Yemen 2013

Background characteristic	Breast	Cervix	Glands	Neck	Ear	Arm	Leg (Knee)	Eye	Back	Anus	Stomach	Jaw	Brain	Throat	Other tumors	Missing	Total	Number of women who have ever had a tumor
Age																		
15-29	27.3	15.6	0.1	7.5	3.3	7.0	12.0	1.6	0.5	7.0	5.0	2.1	3.6	3.9	2.0	1.5	100.0	155
30-49	19.8	35.9	2.1	5.9	1.6	6.3	9.3	2.0	3.6	4.3	2.3	0.2	1.1	0.5	3.1	1.9	100.0	215
Marital status																		
Never married	32.8	10.0	0.2	7.2	5.0	4.9	15.5	2.3	0.8	0.0	6.5	2.1	4.7	5.7	1.6	0.7	100.0	107
Married	19.3	36.1	1.9	6.9	1.2	5.2	5.6	1.8	3.3	8.0	2.4	0.7	1.2	0.4	3.5	2.5	100.0	232
Divorced/widowed	(16.5)	(22.3)	(0.0)	(1.9)	(1.3)	(22.5)	(29.4)	(0.0)	(0.7)	(4.1)	(0.5)	(0.0)	(0.0)	(0.8)	(0.0)	(0.0)	100.0	31
Residence																		
Urban	25.1	28.9	2.0	5.4	2.7	6.5	9.8	0.0	2.4	5.9	3.5	0.3	0.9	3.3	0.9	2.2	100.0	184
Rural	20.8	26.0	0.5	7.7	1.8	6.6	11.0	3.6	2.3	4.9	3.4	1.7	3.3	0.6	4.3	1.3	100.0	186
Total	23.0	27.4	1.2	6.6	2.3	6.6	10.4	1.8	2.3	5.4	3.4	1.0	2.1	2.0	2.6	1.7	100.0	370

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

Table 9.17 Tumors

Among women who reported ever having a tumor, percentage whose tumor was discovered by a doctor or by a nurse/midwife, percentage who sought treatment, percentage who had a biopsy and/or an ultrasound, and percent distribution of women who had a biopsy and/or an ultrasound according to the type of tumor, by background characteristics, Yemen 2013

	Among women who have ever had a tumor				Number of women who have ever had a tumor	Among women who had a biopsy or an ultrasound				Number of women who had a biopsy or an ultrasound
Background characteristic	Percentage discovered by a doctor	Percentage discovered by a nurse/ midwife	Percentage who sought treatment	Percentage who had a biopsy or an ultrasound		Malignant tumor	Benign tumor	Others, missing	Total	
Age										
15-29	71.9	3.0	86.6	59.0	155	88.6	1.9	9.5	100.0	91
30-49	82.3	1.8	90.1	63.7	215	87.5	5.0	7.5	100.0	137
Marital status										
Never married	69.5	2.5	87.6	63.8	107	88.7	2.6	8.7	100.0	68
Married	82.1	2.5	90.8	63.4	232	88.0	4.3	7.7	100.0	147
Divorced/widowed	(75.5)	(0.0)	(76.1)	(42.7)	31	*	*	*	*	13
Residence										
Urban	82.6	0.8	92.0	67.9	184	87.4	2.8	9.7	100.0	125
Rural	73.3	3.7	85.3	55.7	186	88.5	4.9	6.6	100.0	104
Total	77.9	2.3	88.6	61.7	370	87.9	3.8	8.3	100.0	228

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed

9.11 PROBLEMS IN ACCESSING HEALTH CARE

Many factors can prevent women from accessing medical advice or treatment for themselves when they are sick. Information on such factors is particularly important in understanding and addressing the barriers women may face when seeking care during pregnancy, delivery, and the postnatal period.

In the 2013 YNHDS, all women (regardless of marital status) were asked whether each of the following factors would be an impediment (or not) in seeking medical care: getting permission to go for treatment, getting money for treatment, distance to a health facility, not wanting to go alone, and not having a female health care provider. Table 9.18 shows that 92 percent of women reported at least one of these concerns as a hindrance when it came to accessing health care.

The most common factor impeding women from accessing health care for themselves is not wanting to go alone; 80 percent of women mentioned this concern. Not having a female health care provider available was cited by 63 percent of women as being a big problem in accessing health care. Distance to a health facility was cited by almost three in five women as a big problem in accessing health care (59 percent), which was closely followed by getting money for treatment (56 percent). The least common problem in accessing health care for women was getting permission to go (cited by 37 percent of women).

Looking at the proportion of women who cite at least one problem in accessing health care, differences by background characteristics are not large. Women in rural areas, less educated women, and women in the lower wealth quintiles are more likely than other women to report having at least one problem. In fact, for each of the problems asked about in the survey, the proportion of rural women who report the problem is substantially higher than the proportion of urban women. The proportion of women who reported each of these factors as big problems in seeking medical care decreased with increasing educational attainment and wealth quintile.

Table 9.18 Problems in accessing health care

Percentage of women age 15-49 who reported that they have serious problems in accessing health care for themselves when they are sick, by type of problem, according to background characteristics, Yemen 2013

Background characteristic	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Not wanting to go alone	No female provider	At least one problem accessing health care	Number of women
Age							
15-19	38.5	53.2	59.4	85.7	62.5	94.2	6,342
20-34	36.7	55.9	58.6	79.5	63.6	92.2	13,055
35-49	34.5	59.5	58.8	75.9	61.9	90.4	6,037
Number of living children							
0	38.5	52.3	59.9	83.8	64.0	91.8	2,075
1-2	35.6	53.7	56.5	78.3	64.0	91.9	4,890
3-4	35.9	57.6	58.5	77.4	64.8	91.5	4,145
5+	36.9	57.0	59.6	81.2	61.9	92.7	14,324
Marital status							
Never married	35.8	53.8	57.6	81.5	59.8	92.2	8,870
Married	37.3	57.0	59.7	79.9	64.9	92.4	15,566
Divorced/widowed	32.7	61.3	57.2	74.0	60.6	89.9	998
Employed last 12 months							
Not employed	37.2	56.4	59.1	80.8	63.4	92.6	23,628
Employed for cash	22.8	45.7	43.6	58.4	48.9	81.2	972
Employed not for cash	35.6	58.6	68.0	88.4	66.0	94.9	829
Residence							
Urban	20.6	42.4	30.4	62.0	50.6	84.1	8,619
Rural	44.8	63.0	73.4	89.6	69.3	96.5	16,815
Governorate							
Ibb	50.0	70.0	68.2	83.2	73.7	97.1	2,739
Abyan	49.3	68.0	73.0	85.0	72.6	97.2	551
Sanaa City	15.2	49.0	32.6	48.6	47.4	78.8	2,487
Al-Baidha	35.3	50.4	55.1	90.5	75.8	97.6	1,101
Taiz	29.8	47.3	59.8	87.0	60.0	95.9	3,512
Al-Jawf	35.8	53.1	87.4	82.0	91.8	98.5	181
Hajjah	40.6	68.7	66.4	82.9	58.9	96.6	1,374
Al-Hodiedah	53.0	69.0	66.5	84.0	66.2	93.5	3,261
Hadramout	7.4	18.5	40.1	79.1	49.9	88.9	1,427
Dhamar	42.8	66.2	65.9	79.8	59.7	88.8	1,670
Shabwah	48.7	58.1	59.4	91.9	44.9	97.0	528
Sadah	36.9	45.2	60.0	79.4	69.4	89.9	823
Sanaa	37.1	51.3	61.1	92.4	63.3	97.2	1,265
Aden	8.1	34.7	16.9	41.8	39.5	68.9	921
Lahj	27.6	50.9	67.1	87.9	50.9	95.8	678
Mareb	28.6	56.7	59.3	93.6	54.5	96.8	183
Al-Mhweit	52.3	71.7	71.4	92.0	80.2	97.9	623
Al-Mhrah	16.6	26.9	38.0	61.2	36.7	77.3	95
Amran	51.4	61.2	66.1	89.0	77.0	96.3	852
Aldhalae	32.5	60.4	73.7	93.4	90.0	96.4	641
Reimah	67.8	75.6	85.8	88.2	84.5	94.8	520
Education							
No education	46.0	68.0	71.2	86.2	69.7	95.8	10,705
Fundamental	34.5	52.1	55.1	80.7	62.2	92.3	9,339
Secondary	25.3	42.3	45.3	74.3	53.8	89.6	3,767
Higher	13.7	32.5	29.8	51.5	44.1	75.3	1,623
Wealth quintile							
Lowest	54.9	81.7	88.0	92.8	74.7	98.7	4,435
Second	50.1	69.9	78.0	90.6	71.5	97.4	4,808
Middle	40.3	57.3	67.6	87.5	67.9	95.6	5,046
Fourth	27.7	44.6	42.0	75.4	56.5	91.3	5,320
Highest	16.6	34.5	28.7	60.1	48.5	81.1	5,825
Total[1]	36.6	56.1	58.8	80.2	62.9	92.3	25,434

[1] Total includes five cases with missing information on employment.

9.12 HEALTH INSURANCE COVERAGE

The 2013 YNHDS collected data on respondents' health insurance coverage, regardless of marital status (Table 9.19). The vast majority of all women age 15-49 (98 percent) report that they do not have health insurance. Less than 1 percent of women have social security insurance, 1 percent have other employer-based insurance, and less than 1 percent are covered by other mechanisms. Differences in insurance coverage

by background characteristics are minimal, with urban women, women with more education, and women in higher wealth quintiles being only slightly more likely than other women to have health insurance.

Table 9.19 Health insurance coverage

Percentage of all women age 15-49 with specific types of health insurance coverage, according to background characteristics, Yemen 2013

Background characteristic	Social security	Other employer based insurance	Mutual health organization/ community-based insurance	Privately purchased commercial insurance	Other	None, missing	Number of women
Residence							
Urban	0.2	3.2	0.4	0.4	0.0	95.8	8,619
Rural	0.8	0.3	0.1	0.3	0.1	98.4	16,815
Education							
No education	0.8	0.4	0.1	0.2	0.0	98.5	10,705
Fundamental	0.4	1.0	0.2	0.2	0.1	98.1	9,339
Secondary	0.4	2.7	0.4	0.5	0.2	95.8	3,767
Higher	0.4	5.5	0.7	1.1	0.1	92.2	1,623
Wealth quintile							
Lowest	1.0	0.2	0.0	0.0	0.0	98.9	4,435
Second	1.0	0.1	0.1	0.0	0.0	98.8	4,808
Middle	0.9	0.2	0.0	0.1	0.1	98.7	5,046
Fourth	0.2	1.0	0.3	0.3	0.3	98.0	5,320
Highest	0.0	4.3	0.6	1.0	0.0	94.1	5,825
Total	0.6	1.3	0.2	0.3	0.1	97.5	25,434

CHILD HEALTH

10

Key Findings

- Forty-three percent of children age 12-23 months are fully vaccinated; 36 percent of this age group received all basic vaccinations before reaching age 12 months.
- Twelve percent of children under age 5 experienced symptoms of an acute respiratory infection (ARI) in the two weeks preceding the survey. Among those with symptoms, advice or treatment from a health facility or provider was sought for one-third; slightly more than half (53 percent) received antibiotics.
- Less than one-third of children under age 5 had a fever within the two weeks preceding the survey. Among those with a fever, one-third were taken to a health facility or provider for advice or treatment, and almost half were given antibiotics.
- Thirty-one percent of children under age 5 had diarrhea in the two weeks preceding the survey. One-third of the children with diarrhea were taken to a health facility or provider. Three in five (60 percent) of the children with diarrhea were treated with oral rehydration therapy (ORT) or increased fluids.

This chapter presents findings about child health and survival, including characteristics of the neonate (birth weight and size), the vaccination status of young children, and treatment practices—particularly contact with health services—among children suffering from three childhood illnesses: acute respiratory infection (ARI), fever, and diarrhea. Because appropriate sanitary practices can help prevent and reduce the severity of diarrheal disease, information is also provided on how children's fecal matter is disposed. These results from the 2013 YNHDS are expected to assist policymakers and program managers as they formulate appropriate strategies and interventions to improve the health of children in Yemen.

10.1 CHILD'S WEIGHT AND SIZE AT BIRTH

Birth weight is an important indicator when assessing a child's health in terms of early exposure to childhood morbidity and mortality. Children who weigh less than 2.5 kilograms, or are reported to be "very small" or "smaller than average," are considered to have a higher-than-average risk of early childhood death. In the 2013 YNHDS, for births in the five years preceding the survey, birth weight was recorded in the Ever-Married Woman's Questionnaire based on either a written record or the mother's report. The mother's estimate of the infant's size at birth was also obtained because birth weight may be unknown for many infants. Although the mother's estimate of size is subjective, it can be a useful proxy for the child's weight.

Table 10.1 shows that a birth weight was reported for only 8 percent of the live births that occurred in the five years preceding the survey. This very low overall proportion and the additional fact that it is skewed towards children of urban residence, some governorates, and better educated and wealthier mothers, means that children for whom a birth weight was reported are not representative of all children. Thus, the figure of 23 percent of infants who had low birth weights (less than 2.5 kg) and, especially, differentials in low birth weight, should be interpreted with caution.

Table 10.1 Child's size and weight at birth

Percent distribution of live births in the five years preceding the survey by mother's estimate of baby's size at birth, percentage of live births in the five years preceding the survey that have a reported birth weight, and among live births in the five years preceding the survey with a reported birth weight, percentage less than 2.5 kg, according to background characteristics, Yemen 2013

Background characteristic	Percent distribution of all live births by size of child at birth				Percentage of all births that have a reported birth weight[1]	Number of births	Births with a reported birth weight[1]	
	Smaller than average	Average or larger	Don't know/ missing	Total			Percentage less than 2.5 kg	Number of births
Mother's age at birth								
<20	36.0	62.3	1.7	100.0	7.0	2,109	21.3	147
20-34	30.5	68.0	1.5	100.0	8.5	11,521	23.7	979
35-49	31.3	67.4	1.3	100.0	7.1	2,250	23.7	161
Birth order								
1	35.6	62.7	1.7	100.0	11.4	3,283	25.4	375
2-3	30.4	67.9	1.7	100.0	9.4	5,374	20.7	503
4-5	29.6	68.8	1.6	100.0	8.0	3,373	27.0	270
6+	30.6	68.4	1.1	100.0	3.6	3,850	20.5	139
Residence								
Urban	30.6	68.0	1.4	100.0	21.5	4,301	22.3	923
Rural	31.6	66.8	1.5	100.0	3.1	11,579	26.2	363
Governorate								
Ibb	26.5	72.0	1.5	100.0	2.4	1,738	*	42
Abyan	28.3	70.4	1.3	100.0	10.3	309	40.0	32
Sana'a City	33.5	65.4	1.1	100.0	26.9	1,280	23.9	345
Al-Baidha	36.4	62.6	1.0	100.0	5.1	643	(23.9)	32
Taiz	34.0	64.4	1.6	100.0	6.4	1,994	14.4	128
Al-Jawf	23.1	74.5	2.4	100.0	3.1	144	*	4
Hajjah	41.2	56.9	1.9	100.0	1.2	1,019	*	13
Al-Hodiedah	31.3	66.8	1.8	100.0	6.7	2,037	37.1	136
Hadramout	19.6	77.6	2.8	100.0	17.5	738	23.7	129
Dhamar	33.2	66.5	0.3	100.0	2.3	1,322	*	31
Shabwah	17.9	80.2	1.9	100.0	8.9	275	13.4	24
Sadah	23.2	74.6	2.2	100.0	2.9	479	*	14
Sana'a	34.2	64.9	0.9	100.0	4.6	919	(24.4)	42
Aden	23.9	74.6	1.6	100.0	47.3	389	15.3	184
Lahj	35.5	62.8	1.7	100.0	10.6	416	31.0	44
Mareb	26.6	72.7	0.7	100.0	9.3	120	38.6	11
Al-Mhweit	40.9	57.9	1.2	100.0	2.5	517	*	13
Al-Mhrah	28.4	67.8	3.8	100.0	40.1	63	16.4	25
Amran	31.1	66.9	2.0	100.0	2.6	670	*	17
Aldhalae	28.1	69.9	2.1	100.0	3.8	384	(20.4)	15
Reimah	29.3	70.0	0.7	100.0	1.2	423	*	5
Mother's education								
No education	32.4	66.2	1.5	100.0	2.5	8,765	20.1	223
Fundamental	30.8	67.5	1.7	100.0	10.1	5,123	25.5	515
Secondary	28.9	69.7	1.4	100.0	21.8	1,446	24.3	315
Higher	26.8	72.4	0.7	100.0	42.6	546	20.8	233
Wealth quintile								
Lowest	38.4	59.9	1.7	100.0	0.5	3,562	(29.4)	18
Second	30.6	68.0	1.4	100.0	1.6	3,460	42.5	57
Middle	28.9	69.6	1.5	100.0	3.3	3,203	26.2	105
Fourth	27.5	70.9	1.6	100.0	10.4	2,946	27.1	307
Highest	30.1	68.5	1.4	100.0	29.5	2,709	20.1	800
Total	31.4	67.1	1.5	100.0	8.1	15,880	23.4	1,286

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Based on either a written record or the mother's recall

Table 10.1 also includes information on a mother's estimate of her infant's size at birth. Almost one-third of births (31 percent) are reported as smaller than average, and 67 percent as average or larger than average. The proportion of births reported as smaller than average declines slightly as mother's education and wealth quintile increase. Births in Hajjah and Al-Mhweit governorates are the most likely to be reported as smaller than average (41 percent in each).

10.2 VACCINATION OF CHILDREN

According to the World Health Organization (WHO), a child is considered fully vaccinated if he or she has received a BCG vaccination against tuberculosis; three doses of DPT vaccine to prevent diphtheria, pertussis, and tetanus; at least three doses of polio vaccine; and one dose of measles vaccine. In Yemen, in 2005, the three doses of DPT vaccine were replaced by three doses of pentavalent vaccine: DPT, hepatitis B (hep B), and Haemophilus influenza type B (Hib). In addition, in early 2011, the Ministry of Public Health and Population introduced the pneumococcal conjugate vaccine that protects against pneumococcal infections as part of its routine immunization program. It is also recommended that children receive the complete schedule of vaccinations before their first birthday: the BCG vaccine should be given at birth; pentavalent, polio, and pneumococcal vaccines should be given at approximately age 2, 3, and 4 months; and measles vaccine should be given at or soon after the child reaches 9 months. The 2013 YNHDS collected information on the coverage for these vaccinations among all children born in the five years preceding the survey.

10.2.1 Sources of Information

Following internationally recommended procedures, information on vaccination coverage was obtained in two ways in the survey – from child health cards and from mothers' verbal reports. All mothers were asked to show the interviewer the child health cards in which immunization dates were recorded for all children born since January 2008. If a card was available, the interviewer recorded onto the questionnaire the dates of each vaccination received by the child. If a card indicated that the child was not fully vaccinated, the mother was then asked whether the child had received other vaccinations that were not recorded on the card, and they too were noted on the questionnaire.

If a child never received a health card or if the mother was unable to show the card to the interviewer, the vaccination information for the child was based on the mother's report. Questions were asked for each vaccine type. Mothers were asked to recall whether the child had received BCG, polio, pentavalent, and measles vaccinations. If the mother indicated that the child had received the polio or pentavalent vaccines, she was asked about the number of doses that the child received. The results presented here are based on both health card information and, for those children without a card, information provided by the mother.[1]

The methodology utilized in the 2013 YNHDS to collect vaccination coverage information has been widely used in international surveys, such as the Demographic and Health Surveys and the UNICEF Multiple Indicator Cluster Surveys. It differs in some ways from methods used in other surveys such as the Expanded Program on Immunization (EPI) cluster surveys, which often utilize simpler methods for selecting households and children and which may utilize health workers as interviewers (WHO, 2005). Consequently, results of the YNHDS or MICS may significantly differ from the findings of EPI surveys and from other sources that report vaccination coverage such as routine health information system.

10.2.2 Vaccination Coverage

Table 10.2 shows vaccination coverage by source of information for children age 12-23 months, the age by which they should have received all vaccinations. Mothers were able to present health cards for 47 percent of these children (Table 10.3). Overall, 43 percent of children age 12-23 months are fully vaccinated, meaning that they received the basic vaccinations (BCG, three doses of pentavalent and polio vaccine, and one dose of measles vaccine) at any time before the survey (Figure 10.1). Sixty-eight percent of children received BCG at any time before the survey, 77 percent received the first dose of pentavalent vaccine, and 76 percent received the first dose of polio. Sixty percent of children completed the required three doses of

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[1] Information on pneumococcal vaccine is only based on health cards.

the pentavalent and 59 percent the three doses of polio vaccine. Coverage of vaccination against measles is 63 percent.

Table 10.2 Vaccinations by source of information

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated 12 months of age, Yemen 2013

Source of information	BCG	Penta[1]			Polio				Measles	All basic vaccina- tions[3]	No vaccina- tions	Pneumococcal			Number of children
		1	2	3	0[2]	1	2	3				1	2	3	
Vaccinated at any time before survey															
Vaccination card	40.4	46.0	43.7	40.4	31.4	46.4	43.9	40.8	39.3	33.7	0.0	43.9	41.7	38.4	1,427
Mother's report	27.1	30.6	26.4	19.3	9.3	29.7	26.2	17.9	24.0	8.8	16.0	0.0	0.0	0.0	1,601
Total (either source)	67.6	76.6	70.1	59.6	40.7	76.1	70.1	58.7	63.3	42.6	16.0	43.9	41.7	38.4	3,028
Vaccinated by 12 months of age[4]	66.9	75.3	68.3	57.6	40.6	74.5	68.1	56.7	51.4	35.5	17.8	42.9	40.6	37.0	3,028

[1] Penta: diphtheria, pertussis, tetanus, Hemophilus influenza type B (Hib), and hepatitis B.
[2] Polio 0 is the polio vaccination given at birth.
[3] BCG, measles, and three doses each of penta and polio vaccine (excluding polio vaccine given at birth).
[4] For children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as for children with a written record of vaccination.

Figure 10.1 **Vaccination coverage among children 12-23 months**

Percentage
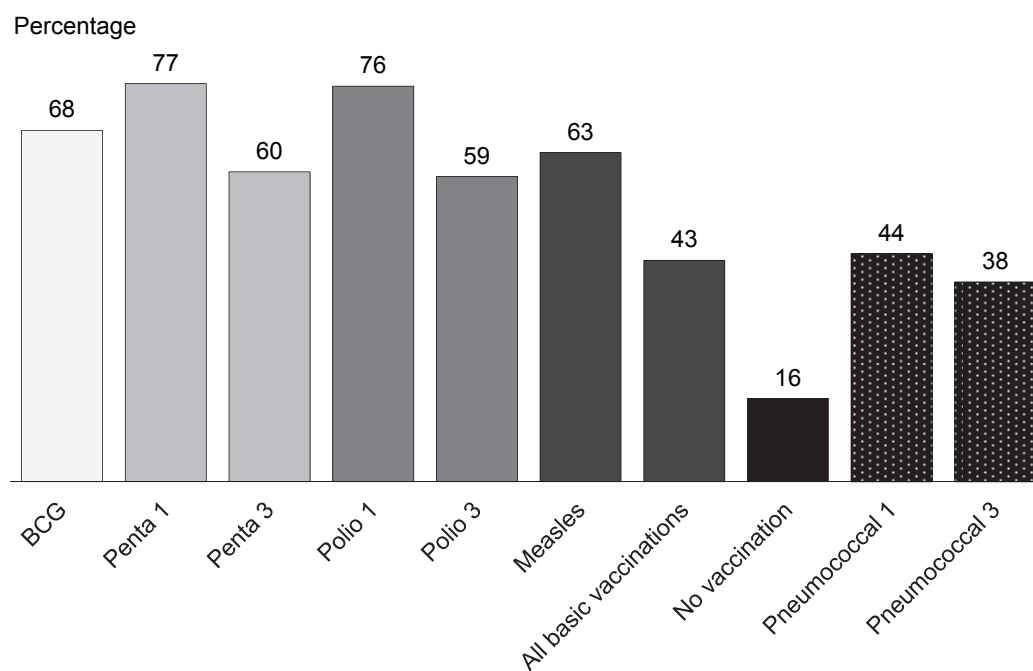
YNHDS 2013

Overall, 16 percent of children in Yemen have not received any basic vaccinations. This represents a slight deterioration from 2006 YMICS in which 12 percent of children were reported to have not received any vaccinations. However, 44 percent of children have now received the first dose of pneumococcal conjugate vaccine and 38 percent have received the three doses.

Table 10.2 also shows vaccination coverage by age 12 months. The rates for each vaccination by the time the child reaches age 12 months is a measure of children receiving vaccines on time. Overall, 36 percent of children are fully immunized by 12 months, compared with 18 percent in the 2006 YMICS.

Table 10.3 presents information on vaccine coverage among children age 12-23 months from vaccination cards and mothers' reports, by background characteristics. The proportion of children fully vaccinated decreases with increasing birth order, from 49 percent of first births to 34 percent of sixth and higher births. Children in urban areas are more likely than rural children to be fully vaccinated (59 percent

compared with 37 percent) and to have received the three doses of pneumococcal vaccine (52 percent compared with 33 percent). Mothers' educational status is highly correlated with the child being fully vaccinated. For example, 34 percent of children of mothers with no education are fully vaccinated compared with 69 percent of children of mothers with higher education. Children in the highest wealth quintile are more likely to be fully vaccinated than those in the lowest (62 percent and 24 percent, respectively). By governorate, the proportion of children fully vaccinated is highest in Aden Governorate (64 percent) and lowest in Sadah Governorate (13 percent).

Table 10.3 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Yemen 2013

Background characteristic	BCG	Penta[1]			Polio				Measles	All basic vaccina- tions[3]	No vaccina- tions	Pneumococcal			Percentage with a vaccination card seen	Number of children
		1	2	3	0[2]	1	2	3				1	2	3		
Sex																
Male	66.6	77.1	69.5	59.7	41.6	76.3	69.8	57.8	63.5	41.3	15.4	44.8	42.2	38.6	48.5	1,540
Female	68.6	76.0	70.7	59.6	39.8	75.9	70.4	59.6	63.2	43.9	16.7	43.0	41.3	38.3	45.7	1,488
Birth order																
1	75.4	82.5	77.8	66.2	48.3	82.2	76.5	65.7	69.7	49.2	10.7	53.6	51.4	46.4	58.2	620
2-3	69.6	78.1	72.4	64.4	44.6	77.4	72.9	62.0	64.8	46.0	15.4	45.3	43.5	40.9	48.7	1,045
4-5	64.0	72.7	66.1	56.3	39.0	73.0	66.5	55.5	60.4	41.1	18.9	42.4	40.4	37.5	44.9	634
6+	61.1	72.7	63.7	50.2	30.2	71.8	63.6	50.8	58.4	33.5	19.1	34.9	32.2	28.9	37.4	730
Residence																
Urban	85.8	85.7	82.7	76.5	66.6	86.3	81.5	69.6	74.4	58.8	9.7	56.1	55.2	52.4	58.2	801
Rural	61.0	73.3	65.6	53.6	31.4	72.4	66.0	54.8	59.4	36.7	18.3	39.5	36.9	33.4	43.1	2,227
Governorate																
Ibb	64.1	70.7	62.2	50.9	36.4	75.6	68.8	60.0	59.1	41.4	17.0	39.4	36.9	34.6	44.1	344
Abyan	62.8	57.4	53.3	50.6	30.3	66.4	63.2	55.9	49.6	44.0	29.3	36.6	33.7	31.7	40.2	63
Sana'a City	92.0	92.9	89.7	88.1	76.7	93.7	90.3	73.7	76.1	59.5	4.2	54.5	54.5	54.2	56.0	244
Al-Baidha	50.8	57.2	50.6	34.5	27.8	54.3	50.5	38.1	41.5	26.1	37.2	28.9	25.7	19.7	31.2	120
Taiz	71.6	85.3	81.9	75.7	50.8	82.9	80.5	71.4	74.0	51.2	9.4	43.9	43.3	42.8	45.9	402
Al-Jawf	40.8	36.5	21.7	20.8	13.1	46.3	35.9	20.2	29.3	15.8	40.4	12.9	9.7	8.9	14.0	24
Hajjah	59.3	69.7	65.3	49.1	19.9	71.9	63.8	47.6	56.2	34.1	20.0	43.6	42.8	35.6	45.6	186
Al-Hodiedah	66.6	80.6	73.2	56.3	45.6	80.2	68.4	58.9	65.2	39.5	13.7	48.3	45.2	38.1	54.0	368
Hadramout	76.5	82.5	79.5	77.5	31.5	78.4	75.4	68.3	62.8	51.7	17.5	47.8	45.8	42.7	51.7	125
Dhamar	75.0	82.6	73.4	57.3	33.1	76.7	68.8	55.4	65.7	42.2	10.2	37.3	35.4	34.6	40.5	274
Shabwah	56.0	59.5	52.7	48.5	35.8	56.6	52.7	45.4	48.8	39.2	39.2	42.3	39.0	36.9	46.0	51
Sadah	28.5	30.5	26.4	20.0	22.0	35.6	29.5	21.5	44.3	13.0	46.1	16.2	14.3	12.7	17.4	89
Sana'a	64.6	71.8	61.3	51.4	35.9	71.1	64.2	51.4	59.1	37.9	18.3	46.7	43.4	38.5	49.1	183
Aden	90.2	90.0	85.1	72.9	82.6	92.5	90.1	75.4	79.8	63.8	7.5	64.7	61.0	58.9	69.9	72
Lahj	73.8	84.0	79.3	73.1	54.1	81.2	76.6	71.7	68.9	54.7	13.5	63.1	58.8	55.0	71.5	75
Mareb	55.3	66.2	54.9	41.9	23.1	67.0	58.3	45.8	53.6	29.6	27.6	34.2	30.9	27.6	36.6	24
Al-Mhweit	62.8	83.1	76.4	62.4	29.5	75.7	73.4	62.5	69.4	40.7	13.0	54.2	53.0	47.7	57.7	101
Al-Mhrah	84.8	82.6	81.4	75.1	62.6	86.4	75.9	59.2	71.1	46.0	10.6	47.5	44.1	41.2	52.7	13
Amran	59.0	76.3	70.4	62.6	21.0	76.2	72.0	63.5	63.2	42.0	14.0	46.2	42.8	39.0	48.3	125
Aldhalae	56.1	69.5	56.9	42.0	27.4	63.1	56.6	44.1	52.2	33.8	23.9	29.9	27.1	23.6	29.9	67
Reimah	69.7	87.2	76.8	61.0	43.6	87.1	77.5	52.8	67.7	34.3	5.1	51.9	47.2	39.8	53.7	77
Mother's education																
No education	59.3	71.7	64.0	50.8	29.5	71.1	64.7	51.9	57.7	34.2	19.0	36.7	34.7	30.9	39.7	1,621
Fundamental	73.2	79.4	73.3	65.0	48.6	79.0	72.7	63.5	67.7	49.2	14.4	50.6	47.7	44.3	54.4	1,019
Secondary	84.0	86.5	84.1	78.3	63.3	86.5	82.4	72.0	71.8	57.2	9.7	57.1	55.6	54.0	59.3	277
Higher	95.8	96.3	94.6	93.0	75.1	95.6	94.2	80.8	84.5	68.6	3.3	55.0	54.8	54.8	58.1	111
Wealth quintile																
Lowest	49.7	67.5	57.1	42.4	21.7	69.2	61.2	44.3	51.8	23.8	20.4	32.0	28.8	23.5	35.6	675
Second	57.4	73.2	66.6	54.3	31.2	69.8	64.4	55.0	58.9	36.3	18.4	38.8	37.4	34.6	42.8	657
Middle	70.6	76.7	68.8	57.9	38.5	74.8	66.6	59.1	63.7	44.9	17.5	44.7	41.4	38.1	48.4	628
Fourth	76.7	78.6	74.0	66.7	51.2	80.3	75.1	65.3	69.6	52.0	14.6	50.8	48.9	45.7	53.5	557
Highest	90.5	90.5	89.1	83.7	69.4	90.4	87.9	74.8	77.1	62.4	7.1	57.5	57.1	55.4	59.4	511
Total	67.6	76.6	70.1	59.6	40.7	76.1	70.1	58.7	63.3	42.6	16.0	43.9	41.7	38.4	47.1	3,028

[1] Penta: diphtheria, pertussis, tetanus, Hemophilus influenzae type B (Hib), and hepatitis B.
[2] Polio 0 is the polio vaccination given at birth.
[3] BCG, measles, and three doses each of penta and polio vaccine (excluding polio vaccine given at birth).

10.2.3 Trends in Vaccination Coverage

There was significant improvement in childhood vaccination coverage between 1997 and 2006 (Figure 10.2). The coverage increased from 28 percent in 1997 to 38 percent in 2006. Since 2006, the coverage for each individual vaccination has slightly decreased, and the proportion of children who received

no vaccinations increased from 12 percent to 16 percent. However, the proportion of children age 12-23 months who were fully vaccinated by the time of the survey has continued to increase, from 38 percent in 2006 to 43 percent in 2013. In contrast, the proportion of children partially vaccinated has decreased from 51 percent to 41 percent (Figure 10.2).

Figure 10.2 Trends in vaccination coverage - children 12-23 months, Yemen 1997-2013

Percentage

	1997 YDMCHS	2006 YMICS	2013 YNHDS
BCG	54	69	68
DPT 3	40	61	60
Polio 3	46	63	59
Measles	43	65	63
All basic vaccinations	28	38	43
No vaccination	12	12	16
Partially vaccinated	60	51	41
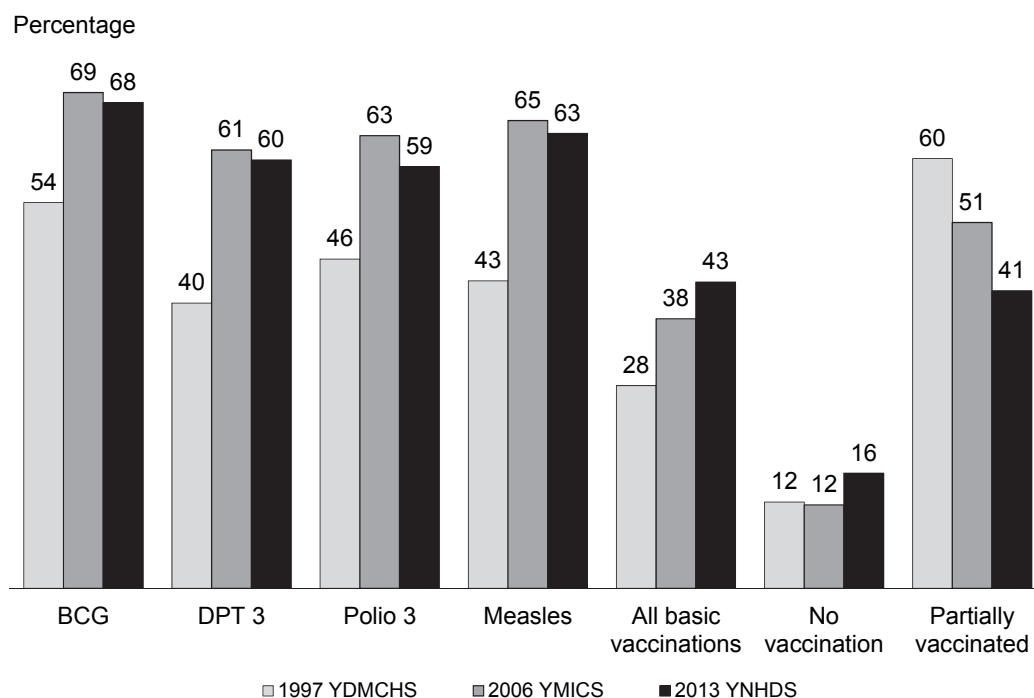
10.3 PREVALENCE AND TREATMENT OF ACUTE RESPIRATORY INFECTION

Acute respiratory infection (ARI) is among the leading causes of childhood morbidity and mortality throughout the world. Among acute respiratory diseases, pneumonia is the most serious for young children. Early diagnosis and treatment with antibiotics can prevent a large number of deaths caused by ARIs. In the 2013 YNHDS, ARI prevalence was estimated by asking mothers whether, in the two weeks before the survey, their children under age 5 had been ill with a cough accompanied by short, rapid breathing, and/or by difficulty in breathing that was chest-related. It should be noted that these data are subjective in the sense that they are based on the mother's perception of illness without validation by medical personnel.

Table 10.4 shows the prevalence of ARI symptoms among children under 5 during the two-week period preceding the interview and the actions that mothers took in response to their children's illness. Overall, 12 percent of children are reported to have had ARI symptoms in the two weeks preceding the survey, almost identical to the 13 percent reported in the 2006 YMICS.

Mothers who reported that their children had had ARI symptoms were asked about the actions they had taken to treat the illness. Among children with ARI symptoms, advice or treatment was sought from a health facility or a health provider for 34 percent of children. Over half (53 percent) of children with ARI symptoms received antibiotics, an increase from the level of 38 percent found in the 2006 YMICS.

Table 10.4 Prevalence and treatment of symptoms of ARI

Among children under age 5, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey and among children with symptoms of ARI, the percentage for whom advice or treatment was sought from a health facility or provider, and the percentage who received antibiotics as treatment, according to background characteristics, Yemen 2013

Background characteristic	Among children under age f5:		Among children under age 5 with symptoms of ARI:		
	Percentage with symptoms of ARI[1]	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Percentage who received antibiotics	Number of children
Age in months					
<6	8.6	1,654	39.4	55.1	142
6-11	16.7	1,548	38.3	55.8	259
12-23	15.5	3,028	37.6	56.7	468
24-35	12.4	3,066	31.1	49.8	379
36-47	12.0	2,894	26.7	52.1	347
48-59	8.8	2,978	33.9	50.9	263
Sex					
Male	12.5	7,764	40.8	55.5	970
Female	12.0	7,406	26.5	51.0	889
Residence					
Urban	10.2	4,137	37.8	63.0	424
Rural	13.0	11,033	32.8	50.5	1,436
Governorate					
Ibb	17.7	1,644	34.4	61.8	291
Abyan	8.4	300	47.1	57.2	25
Sana'a City	5.8	1,242	(50.6)	(81.1)	72
Al-Baidha	16.8	604	38.8	58.9	102
Taiz	18.1	1,910	25.9	46.9	347
Al-Jawf	16.7	140	34.9	68.7	23
Hajjah	7.1	983	22.0	47.4	69
Al-Hodiedah	10.1	1,932	34.7	48.3	194
Hadramout	3.2	716	*	*	23
Dhamar	6.3	1,251	29.2	47.7	79
Shabwah	6.8	267	(35.2)	(54.5)	18
Sadah	10.9	454	44.9	74.0	49
Sana'a	16.8	874	26.3	32.8	146
Aden	6.8	377	(48.5)	(26.7)	26
Lahj	10.2	402	49.1	67.1	41
Mareb	11.7	114	35.0	53.0	13
Al-Mhweit	14.4	492	38.2	50.7	71
Al-Mhrah	7.9	61	(55.2)	(70.9)	5
Amran	23.3	632	35.0	52.3	147
Aldhalae	18.8	373	34.0	62.7	70
Reimah	11.7	401	34.0	48.3	47
Mother's education					
No education	12.5	8,350	33.2	49.0	1,043
Fundamental	11.9	4,886	33.8	58.1	581
Secondary	12.5	1,401	31.3	57.1	175
Higher	11.4	533	(56.2)	(71.6)	61
Wealth quintile					
Lowest	14.4	3,407	30.7	41.7	489
Second	13.6	3,248	32.0	52.1	443
Middle	12.1	3,068	34.5	56.9	371
Fourth	10.9	2,832	34.7	57.6	310
Highest	9.4	2,615	42.4	68.2	247
Total	12.3	15,170	34.0	53.4	1,859

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

Differences in treatment of ARI are observed by background characteristics. One of the most striking findings is that whereas the percentages of male and female children with symptoms of ARI were nearly identical (13 percent and 12 percent, respectively), male children are much more likely than female children to have had advice or treatment sought from a health facility or provider (41 percent and 27 percent, respectively). Wealth is related to treatment of ARI symptoms; the proportions of children with ARI for whom medical advice was sought and who received antibiotics both increase as wealth quintile increases.

10.4 PREVALENCE AND TREATMENT OF FEVER

Fever is a symptom of malaria, but it may also accompany other illnesses including pneumonia, common colds, and influenza. In the 2013 YNHDS, fever prevalence was estimated by asking mothers whether their children under 5 had been ill with fever in the two weeks preceding the survey. For children with fever, mothers were also asked about the actions they took to treat fever, including whether or not the child had been given any drug to treat the fever, and, if so, what drug the child was given.

Table 10.5 shows that 32 percent of children under 5 had a fever during the two weeks preceding the survey. The prevalence of fever varies with children's ages. Children age 6-23 months are more likely to be sick with fever (42-43 percent) than children in other age groups. The proportion of children under 5 reported as having had a fever in the two weeks before the survey varies from 22 percent in Hadramout and Al-Mhrah governorates to 45 percent in Al-Mhweit Governorate. Differences by other background characteristics are not large.

Table 10.5 Prevalence and treatment of fever

Among children under age five, the percentage who had a fever in the two weeks preceding the survey; and among children with fever, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage who took antimalarial drugs, and the percentage who received antibiotics as treatment, by background characteristics, Yemen 2013

Background characteristic	Among children under age 5:		Among children under age 5 with fever				
	Percentage with fever	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[1]	Percentage who had blood taken from a finger or heel for testing	Percentage who took antimalarial drugs	Percentage who took antibiotic drugs	Number of children
Age in months							
<6	25.8	1,654	33.3	14.4	1.0	39.6	426
6-11	43.0	1,548	38.1	17.4	0.9	52.5	666
12-23	41.7	3,028	36.9	18.2	1.2	49.7	1,26
24-35	32.0	3,066	29.8	12.7	1.6	45.9	980
36-47	27.2	2,894	28.6	13.1	0.9	48.0	787
48-59	23.4	2,978	32.2	16.7	1.5	48.4	697
Sex							
Male	32.8	7,764	36.8	16.4	1.3	49.3	2,545
Female	30.7	7,406	29.4	14.7	1.2	46.4	2,275
Residence							
Urban	30.7	4,137	37.9	19.6	0.6	57.4	1,271
Rural	32.2	11,033	31.6	14.2	1.4	44.6	3,549
Governorate							
Ibb	36.1	1,644	34.7	17.0	0.3	55.9	594
Abyan	27.7	300	46.5	21.1	0.0	54.0	83
Sana'a City	27.4	1,242	36.9	10.7	0.5	65.6	341
Al-Baidha	42.3	604	35.0	24.7	0.0	51.9	256
Taiz	39.8	1,910	25.8	15.2	0.3	42.8	761
Al-Jawf	34.5	140	48.4	14.3	0.0	59.2	48
Hajjah	27.3	983	20.3	4.5	0.4	38.3	268
Al-Hodiedah	26.8	1,932	40.2	27.6	6.5	46.0	518
Hadramout	22.0	716	47.3	32.8	0.0	74.1	158
Dhamar	27.4	1,251	16.2	9.5	0.0	34.4	343
Shabwah	27.7	267	35.7	17.3	0.0	38.9	74
Sadah	28.6	454	41.3	5.7	0.5	53.0	130
Sana'a	34.5	874	32.6	4.1	0.3	35.2	301
Aden	24.2	377	49.1	20.9	0.7	41.6	91
Lahj	28.9	402	42.0	23.0	0.0	52.6	116
Mareb	34.4	114	29.6	16.7	0.0	31.2	39
Al-Mhweit	44.9	492	31.5	7.4	1.1	44.6	221
Al-Mhrah	21.7	61	59.5	28.1	2.2	45.3	13
Amran	39.2	632	36.7	12.1	0.3	49.4	248
Aldhalae	26.4	373	40.2	24.0	10.8	58.1	99
Reimah	29.7	401	33.6	10.3	2.4	41.4	119
Mother's education							
No education	32.0	8,350	31.5	13.6	1.8	44.2	2,672
Fundamental	32.1	4,886	34.4	16.7	0.4	51.5	1,569
Secondary	31.5	1,401	36.5	19.8	1.0	56.0	442
Higher	25.7	533	45.8	26.9	0.4	54.1	137
Wealth quintile							
Lowest	34.8	3,407	28.0	13.2	1.8	37.9	1,184
Second	31.9	3,248	31.0	13.0	1.6	44.1	1,036
Middle	31.1	3,068	33.1	14.3	1.2	49.3	954
Fourth	30.5	2,832	38.7	18.0	0.9	52.4	865
Highest	29.9	2,615	38.6	21.4	0.3	61.7	782
Total	31.8	15,170	33.3	15.6	1.2	48.0	4,820

[1] Excludes pharmacy, shop, market, and traditional practitioners

Advice or treatment was sought from a health facility or provider for one-third of the children with fever, and 16 percent had blood taken for testing, presumably for malaria. Very few children with fever received an antimalarial drug (1 percent); however, almost half (48 percent) received an antibiotic drug during the episode of the fever. Advice or treatment for fever was more commonly sought for boys than for girls (37 and 29 percent, respectively) and for children in urban areas (38 percent) than for children in rural areas (32 percent). The proportion of children with fever for whom advice or treatment was sought increases with education and wealth of the mother. Treatment with antibiotics is higher among urban children with fever, as well as among those whose mothers have more education and those in the higher wealth quintiles.

10.5   PREVALENCE AND TREATMENT OF DIARRHEAL DISEASE

Dehydration caused by severe diarrhea is a major cause of morbidity and mortality among young children. Exposure to diarrhea-causing agents frequently relates to the use of contaminated water and to unhygienic practices in food preparation and disposal of excreta.

The 2013 YNHDS obtained information on the prevalence of diarrhea among young children by asking mothers whether their children under 5 had diarrhea during the two weeks preceding the survey. If a child was identified as having had diarrhea, information was collected on treatment and feeding practices during the episode. The mother was also asked whether there was blood in the child's stools. Diarrhea with blood in the stools indicates an infection that needs to be treated differently than diarrhea in which there is no blood in the stools.

10.5.1 Prevalence of Diarrhea

Table 10.6 shows that 31 percent of children under 5 had a diarrheal episode in the two weeks preceding the survey and 5 percent had blood in the stool. The prevalence of diarrhea increases from 28 percent among children less than age 6 months to 45-46 percent among children age 6-11 and 12-23 months. This observation is expected because children age 6 months and older are typically introduced to liquids in addition to breast milk and complementary foods. Rural children are slightly more likely to have diarrhea than urban children (32 versus 28 percent, respectively.) The prevalence of diarrhea varies at the governorate level: it was highest in Al-Mhweit Governorate (43 percent each) and lowest in Hadramout Governorate (14 percent). Diarrhea prevalence varies little by education of the mother except for those with higher education. Similarly, prevalence is rather uniform by wealth quintile until it decreases among those in the highest quintile.

Figure 10.3 summarizes the prevalence of all three childhood illnesses (ARI, fever, and diarrhea) by age group. It indicates that ages 6-23

Table 10.6 Prevalence of diarrhea

Percentage of children under age 5 who had diarrhea in the two weeks preceding the survey, by background characteristics, Yemen 2013

Background characteristic	Diarrhea in the two weeks preceding the survey		Number of children
	All diarrhea	Diarrhea with blood	
Age in months			
<6	27.6	1.6	1,654
6-11	44.7	5.9	1,548
12-23	46.1	7.6	3,028
24-35	31.6	5.4	3,066
36-47	24.6	5.2	2,894
48-59	17.1	3.8	2,978
Sex			
Male	32.3	5.5	7,764
Female	30.0	4.7	7,406
Residence			
Urban	28.1	3.1	4,137
Rural	32.4	5.9	11,033
Governorate			
Ibb	37.7	6.8	1,644
Abyan	26.1	3.5	300
Sana'a City	24.0	2.0	1,242
Al-Baidha	40.1	5.7	604
Taiz	34.7	6.5	1,910
Al-Jawf	35.7	5.7	140
Hajjah	29.4	4.9	983
Al-Hodiedah	28.8	5.5	1,932
Hadramout	13.7	1.2	716
Dhamar	31.0	6.1	1,251
Shabwah	26.6	3.0	267
Sadah	35.1	4.0	454
Sana'a	34.0	5.0	874
Aden	19.3	1.5	377
Lahj	26.2	4.5	402
Mareb	33.8	5.9	114
Al-Mhweit	43.1	8.1	492
Al-Mhrah	19.3	2.3	61
Amran	35.9	5.1	632
Aldhalae	35.6	5.2	373
Reimah	30.6	7.6	401
Mother's education			
No education	31.3	6.2	8,350
Fundamental	31.9	4.2	4,886
Secondary	31.1	2.9	1,401
Higher	23.7	2.2	533
Wealth quintile			
Lowest	32.5	7.7	3,407
Second	33.8	6.6	3,248
Middle	33.0	4.7	3,068
Fourth	30.2	3.7	2,832
Highest	25.2	1.9	2,615
Total	31.2	5.1	15,170

months are the riskiest ages for children under 5, with a higher prevalence of all three illnesses, but particularly of fever and diarrhea.

Figure 10.3 **Prevalence of ARI, fever, and diarrhea by age**
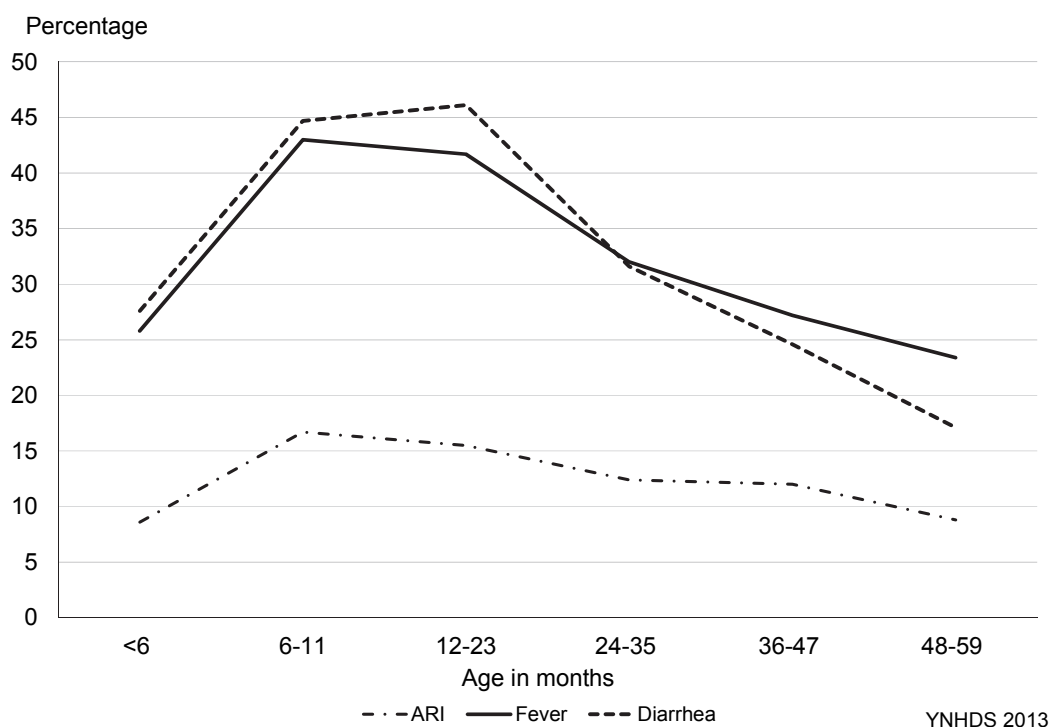
10.5.2 Treatment of Diarrhea

A simple, effective response to dehydration caused by diarrhea is oral rehydration therapy (ORT). Oral rehydration salt (ORS) packets are one source of rehydration therapy available in Yemen.

Table 10.7 shows that advice or treatment was sought from a health facility or provider for 33 percent of children with diarrhea. Advice and/or treatment for the diarrhea were sought more often for children whose mothers have higher education than for those whose mothers are less educated (50 percent and 30-34 percent, respectively).

Some form of ORT, either fluid from ORS packets or recommended home fluid (RHF), was used to treat the diarrhea for just over one-quarter of children (28 percent). Four percent of children suffering from diarrhea in the two weeks preceding the survey were given RHF, and 25 percent were given fluid from ORS packets. Forty-five percent of the children were given increased amounts of other fluids. Three out of five children (60 percent) were given either ORT or increased fluids. Other treatments given to children with diarrhea were principally antibiotics (34 percent), home remedies (21 percent), and anti-motility drugs (11 percent). Nineteen percent of children with diarrhea did not receive any treatment.

Table 10.7 Diarrhea treatment

Among children under age 5 who had diarrhea in the two weeks preceding the survey, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage given oral rehydration therapy (ORT), the percentage given increased fluids, the percentage given ORT or increased fluids, and the percentage given other treatments, by background characteristics, Yemen 2013

Background characteristic	Percentage of children with diarrhea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)			Increased fluids	ORT or increased fluids	Other treatments						No treatment	Number of children with diarrhea
		Fluid from ORS packets or pre-packaged liquid	Recommended home fluids (RHF)	Either ORS or RHF			Antibiotic drugs	Anti-motility drugs	Zinc supplements	Intra-venous solution	Home remedy/ other	Missing		
Age in months														
<6	28.5	17.8	1.2	18.4	25.2	38.9	24.4	8.9	0.5	1.4	17.7	0.4	36.3	456
6-11	39.2	33.9	5.1	35.8	39.7	58.9	32.4	12.9	0.4	2.2	22.4	0.9	18.4	691
12-23	38.6	31.1	3.7	33.2	48.0	64.5	40.1	11.9	0.2	3.8	22.0	0.2	12.8	1,395
24-35	28.9	21.1	4.6	24.4	51.6	63.3	32.1	12.2	0.2	3.0	19.4	0.5	17.0	970
36-47	29.2	21.1	3.2	23.3	48.2	60.4	33.9	10.3	0.7	2.2	21.9	0.6	20.7	712
48-59	24.9	17.9	4.0	21.1	43.5	56.6	28.4	9.1	0.9	2.9	21.9	0.3	21.6	509
Sex														
Male	34.3	26.7	3.9	29.0	44.9	60.0	34.1	11.5	0.3	3.6	21.3	0.5	17.4	2,510
Female	31.2	23.7	3.7	26.0	44.9	58.9	33.0	11.0	0.5	2.0	20.8	0.3	20.6	2,223
Type of diarrhea														
Non-bloody	32.6	24.6	3.8	27.1	43.7	58.1	32.8	11.5	0.4	2.7	21.1	0.4	19.9	3,883
Bloody	34.7	28.7	3.9	30.5	49.8	65.7	38.0	10.2	0.1	3.3	21.4	0.4	14.0	776
Missing	25.0	24.4	1.5	24.4	58.6	68.4	32.7	9.0	2.4	3.5	15.8	4.5	13.9	74
Residence														
Urban	39.0	24.0	7.6	28.6	43.2	57.9	32.5	12.9	0.1	4.6	28.7	0.2	15.7	1,161
Rural	30.9	25.7	2.6	27.3	45.5	60.0	34.0	10.7	0.5	2.3	18.6	0.5	19.9	3,572
Governorate														
Ibb	32.0	22.6	8.0	27.1	58.9	67.1	39.0	16.9	0.8	3.3	13.4	0.3	12.6	619
Abyan	53.1	26.3	15.6	32.0	9.0	39.6	37.8	15.9	0.0	5.8	32.8	0.0	23.2	78
Sana'a City	31.0	19.4	3.9	21.9	40.4	52.5	28.8	6.0	0.0	1.9	31.1	0.0	22.7	298
Al-Baidha	40.0	21.9	9.8	26.9	56.1	68.1	34.5	23.2	0.2	8.1	15.7	0.4	14.5	242
Taiz	22.4	18.2	1.4	19.6	52.0	61.0	30.4	7.2	0.0	1.2	22.7	0.3	21.3	663
Al-Jawf	58.5	51.6	1.7	51.6	25.3	59.5	67.5	34.9	1.0	7.6	20.5	0.0	7.5	50
Hajjah	20.5	20.5	0.0	20.5	28.4	42.9	35.6	7.8	0.0	1.8	16.0	0.4	34.8	289
Al-Hodiedah	44.5	28.3	1.7	28.7	38.5	54.9	33.8	13.4	0.0	5.3	33.4	0.4	15.5	557
Hadramout	36.5	10.6	4.1	14.7	2.7	17.3	40.4	11.2	0.0	8.9	17.7	0.0	32.9	98
Dhamar	24.0	29.7	5.1	34.1	55.1	75.2	31.6	9.4	0.0	1.1	19.8	1.5	11.4	388
Shabwah	32.2	22.2	1.3	22.2	14.6	33.2	45.4	29.0	0.5	4.4	11.9	0.0	26.9	71
Sadah	43.0	44.8	0.4	44.8	49.9	73.6	36.4	5.7	7.1	3.0	17.6	0.4	10.7	159
Sana'a	33.3	29.0	1.9	29.8	50.2	64.2	17.1	2.0	0.0	1.2	31.4	1.1	20.5	297
Aden	43.5	28.5	3.0	30.6	8.0	35.5	30.8	14.7	0.0	4.4	15.2	0.0	29.1	73
Lahj	38.6	34.0	9.2	40.8	30.4	54.5	27.9	7.6	0.0	0.9	15.1	0.7	24.3	105
Mareb	35.8	33.8	0.5	33.8	30.4	51.4	43.6	11.2	0.6	1.7	12.0	0.0	23.8	39
Al-Mhweit	34.8	22.3	0.3	22.3	37.4	51.9	27.4	10.4	0.0	0.5	18.4	0.0	25.2	212
Al-Mhrah	49.2	25.3	0.0	25.3	25.1	30.7	22.5	19.3	0.0	3.6	33.3	0.0	23.8	12
Amran	30.9	30.8	2.0	31.4	67.5	78.4	40.2	7.5	0.4	1.3	16.2	0.3	11.4	227
Aldhalae	33.5	23.8	10.0	32.1	31.5	52.9	47.2	20.7	0.0	3.0	15.0	0.0	17.9	133
Reimah	33.4	33.9	1.6	35.1	50.3	64.4	30.4	4.1	0.0	0.4	7.9	1.0	21.9	123

Table 10.7—Continued

Background characteristic	Percentage of children with diarrhea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)					Other treatments					Missing	No treatment	Number of children with diarrhea
		Fluid from ORS packets or pre-packaged liquid	Recommended home fluids (RHF)	Either ORS or RHF	Increased fluids	ORT or increased fluids	Antibiotic drugs	Anti-motility drugs	Zinc supplements	Intra-venous solution	Home remedy/other			
Mother's education														
No education	31.7	26.3	1.7	27.3	45.5	60.5	33.4	10.2	0.5	2.6	19.6	0.4	20.6	2,612
Fundamental	34.2	23.2	6.7	27.8	43.4	57.4	34.0	12.1	0.2	2.8	22.5	0.4	16.9	1,559
Secondary	29.7	26.8	5.1	29.0	46.7	60.7	33.6	14.0	0.0	4.7	22.9	0.8	17.7	436
Higher	50.1	23.0	6.1	27.2	44.2	59.8	34.0	14.4	1.1	1.6	26.7	0.0	11.8	126
Wealth quintile														
Lowest	28.9	27.0	1.5	28.0	43.2	58.6	31.7	10.0	0.6	2.1	16.1	1.0	23.5	1,106
Second	31.9	26.0	1.5	26.9	46.5	60.6	34.7	9.3	0.5	2.3	18.5	0.1	20.0	1,097
Middle	32.9	25.8	3.8	28.2	47.6	62.2	34.8	12.0	0.6	2.3	21.5	0.7	16.4	1,014
Fourth	33.6	24.9	7.1	29.4	43.6	59.2	33.4	10.8	0.0	2.8	23.8	0.2	16.3	856
Highest	39.9	20.7	7.1	24.8	42.5	55.5	33.4	16.2	0.1	5.7	29.4	0.0	16.3	660
Total	32.8	25.3	3.8	27.6	44.9	59.5	33.6	11.3	0.4	2.8	21.1	0.4	18.9	4,733

Note: ORT includes fluid prepared from oral rehydration salt (ORS) packets, pre-packaged ORS fluid, and recommended home fluids (RHF).
[1] Excludes pharmacy, shop, and traditional practitioners

10.5.3 Feeding Practices during Diarrhea

When a child has diarrhea, mothers are encouraged to continue feeding their child the same amount of food as they would if the child did not have diarrhea, and they are also encouraged to increase the child's fluid intake. These practices help to reduce dehydration and minimize the adverse consequences of diarrhea on the child's nutritional status. In the 2013 YNHDS, mothers were asked whether they gave their child with diarrhea less, the same amount of, or more fluids and food than usual.

Table 10.8 shows the percent distribution of children under 5 who had diarrhea in the two weeks preceding the survey by feeding practices, according to background characteristics. Twenty-four percent of the children with diarrhea were given the same amount of liquids as usual, and 45 percent were given more. It is of concern that 23 percent of the children were given somewhat less and 7 percent were given much less to drink during the diarrhea episode. Twenty-four percent of children were given the same amount of food as usual, 2 percent were given more food, 43 percent were given somewhat less food, and 18 percent were given much less food. Thirteen percent of children were not given any food during the diarrhea episode. Overall, only 30 percent of children had increased fluid intake and continued feeding. Forty percent of children were given ORT and/or increased fluids, and continued feeding, a decline from the 48 percent reported in the 2006 YMICS. The proportion of children who were given ORT and/or increased fluids and continued feeding during the diarrhea varies little by most background characteristics. Exceptions include the lower proportions among children under 6 months (15 percent) and in Hadramout (16 percent), and Al-Mhrah (17 percent) governorates.

Table 10.8 Feeding practices during diarrhea

Percent distribution of children under age five who had diarrhea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, the percentage of children given increased fluids and continued feeding during the diarrhea episode, and the percentage of children who continued feeding and were given ORT and/or increased fluids during the episode of diarrhea, by background characteristics, Yemen 2013

Background characteristic	Amount of liquids given							Amount of food given							Percentage given increased fluids and continued feeding[1]	Percentage who continued feeding and were given ORT and/or increased fluids[1]	Number of children with diarrhea
	More	Same as usual	Some-what less	Much less	None	Don't know/ missing	Total	More	Same as usual	Some-what less	Much less	Never gave food	Don't know/ missing	Total			
Age in months																	
<6	25.2	34.0	27.3	7.4	6.0	0.1	100.0	3.1	22.1	20.3	5.4	48.6	0.5	100.0	9.0	14.6	456
6-11	39.7	26.6	24.5	6.7	1.7	0.8	100.0	2.0	19.7	39.1	16.0	22.7	0.4	100.0	23.4	35.4	691
12-23	48.0	20.2	22.8	7.3	1.6	0.0	100.0	2.5	19.8	41.9	23.7	12.2	0.0	100.0	30.2	40.0	1,395
24-35	51.6	21.5	19.1	5.9	1.7	0.3	100.0	2.1	26.1	47.8	19.6	4.4	0.1	100.0	38.9	47.3	970
36-47	48.2	22.7	22.5	4.7	1.2	0.6	100.0	1.7	24.8	51.5	18.2	3.6	0.2	100.0	35.0	45.1	712
48-59	43.5	25.1	22.1	7.0	1.1	1.2	100.0	1.9	34.0	48.1	13.0	2.5	0.4	100.0	35.4	44.9	509
Sex																	
Male	44.9	23.4	22.9	6.6	1.8	0.4	100.0	1.8	24.1	42.7	17.8	13.3	0.3	100.0	30.7	40.1	2,510
Female	44.9	23.9	22.3	6.4	2.1	0.4	100.0	2.6	23.0	42.7	18.2	13.3	0.1	100.0	29.7	39.2	2,223
Type of diarrhea																	
Non-bloody	43.7	25.1	22.5	6.3	2.1	0.3	100.0	2.3	24.6	42.6	17.1	13.2	0.1	100.0	29.9	39.5	3,883
Bloody	49.8	16.3	23.9	8.1	1.2	0.6	100.0	1.8	17.1	45.5	22.2	13.4	0.0	100.0	31.5	40.8	776
Missing	58.6	22.9	13.1	0.0	0.0	5.4	100.0	0.0	36.1	20.8	18.8	19.0	5.4	100.0	30.7	37.4	74
Residence																	
Urban	43.2	29.8	20.4	5.2	1.0	0.4	100.0	2.5	28.3	39.1	15.6	14.3	0.1	100.0	29.9	39.8	1,161
Rural	45.5	21.6	23.3	6.9	2.2	0.4	100.0	2.1	22.0	43.9	18.8	13.0	0.2	100.0	30.3	39.6	3,572
Governorate																	
Ibb	58.9	8.6	25.8	4.7	0.6	1.4	100.0	0.9	13.7	51.8	20.9	12.3	0.5	100.0	37.8	41.8	619
Abyan	9.0	33.6	45.4	10.5	1.0	0.4	100.0	1.4	21.7	46.9	21.1	8.5	0.4	100.0	3.7	21.6	78
Sana'a City	40.4	40.4	14.3	2.0	2.4	0.6	100.0	4.8	50.5	26.2	5.1	13.4	0.0	100.0	29.8	41.2	298
Al-Baidha	56.1	20.7	17.3	5.6	0.3	0.0	100.0	2.0	24.5	40.2	20.7	12.6	0.0	100.0	37.9	45.4	242
Taiz	52.0	28.6	8.5	2.1	8.3	0.4	100.0	1.7	29.3	34.3	18.3	16.4	0.0	100.0	35.1	40.2	663
Al-Jawf	25.3	13.8	37.9	20.1	2.6	0.3	100.0	2.6	13.0	49.3	24.6	10.4	0.0	100.0	20.8	38.2	50
Hajjah	28.4	17.5	35.9	17.9	0.3	0.0	100.0	3.2	23.9	37.2	24.9	10.7	0.0	100.0	13.7	22.8	289
Al-Hodiedah	38.5	25.1	25.5	10.1	0.4	0.3	100.0	2.9	18.9	40.5	20.4	17.3	0.0	100.0	28.3	37.5	557
Hadramout	2.7	59.1	37.1	0.0	1.2	0.0	100.0	0.0	52.4	44.5	0.0	3.1	0.0	100.0	1.0	15.7	98
Dhamar	55.1	11.0	23.1	10.2	0.6	0.0	100.0	1.9	8.1	48.8	27.6	13.1	0.6	100.0	33.1	44.4	388
Shabwah	14.6	38.9	35.6	10.3	0.0	0.6	100.0	1.9	28.6	42.6	8.3	18.6	0.0	100.0	12.4	22.9	71
Sadah	49.9	16.3	22.0	10.6	0.5	0.7	100.0	3.9	18.5	42.1	24.6	10.2	0.7	100.0	28.8	45.4	159
Sana'a	50.2	29.9	15.9	1.9	2.2	0.0	100.0	3.2	27.4	41.7	12.6	14.8	0.3	100.0	34.2	46.1	297
Aden	8.0	44.8	37.5	9.8	0.0	0.0	100.0	1.0	34.4	39.9	20.8	4.0	0.0	100.0	7.3	26.6	73
Lahj	30.4	23.4	38.7	6.7	0.8	0.0	100.0	2.2	16.1	65.7	7.5	8.5	0.0	100.0	26.6	42.7	105
Mareb	30.4	28.8	35.2	3.1	1.9	0.7	100.0	2.3	21.8	55.2	10.3	10.4	0.0	100.0	22.3	40.7	39
Al-Mhweit	37.4	31.6	28.0	2.3	0.5	0.3	100.0	0.5	19.6	44.3	17.5	17.7	0.0	100.0	21.1	32.1	212
Al-Mhrah	25.1	32.3	31.3	11.4	0.0	0.0	100.0	0.0	38.3	39.3	20.6	1.9	0.4	100.0	12.6	16.6	12
Amran	67.5	17.9	9.9	3.2	1.6	0.0	100.0	2.5	25.6	46.4	19.2	6.3	0.0	100.0	52.2	59.2	227
Aldhalae	31.5	23.5	37.8	4.6	1.5	1.1	100.0	0.3	22.3	56.9	8.1	12.4	0.0	100.0	25.0	41.2	133
Reimah	50.3	21.9	13.9	12.4	0.7	0.7	100.0	3.8	25.6	41.4	8.9	19.5	0.7	100.0	36.8	45.9	123

Table 10.8—Continued

Background characteristic	Amount of liquids given							Amount of food given							Percentage given increased fluids and continued feeding[1]	Percentage who continued feeding and were given ORT and/or increased fluids[1]	Number of children with diarrhea
	More	Same as usual	Some-what less	Much less	None	Don't know/missing	Total	More	Same as usual	Some-what less	Much less	Never gave food	Don't know/missing	Total			
Mother's education																	
No education	45.5	21.6	22.6	7.9	2.1	0.3	100.0	2.1	22.2	42.4	20.0	13.1	0.2	100.0	29.3	38.9	2,612
Fundamental	43.4	24.6	24.4	5.6	1.3	0.7	100.0	2.2	24.7	42.9	16.9	13.0	0.3	100.0	30.1	39.2	1,559
Secondary	46.7	29.2	17.9	2.6	3.5	0.0	100.0	1.4	28.2	45.4	10.9	14.2	0.0	100.0	35.9	46.3	436
Higher	44.2	35.2	16.7	3.2	0.7	0.0	100.0	6.3	22.0	38.4	14.4	18.8	0.0	100.0	30.4	38.6	126
Wealth quintile																	
Lowest	43.2	20.1	25.8	8.9	1.7	0.2	100.0	2.7	19.5	42.9	21.3	13.6	0.1	100.0	27.0	36.3	1,106
Second	46.5	22.9	21.7	5.8	2.8	0.3	100.0	1.9	23.0	42.9	16.1	15.9	0.3	100.0	31.6	40.0	1,097
Middle	47.6	17.2	23.1	8.5	2.6	1.0	100.0	1.5	20.0	47.2	18.9	11.8	0.6	100.0	32.1	41.7	1,014
Fourth	43.6	30.3	20.7	4.2	1.0	0.2	100.0	2.2	27.7	43.6	16.1	10.5	0.0	100.0	32.2	44.2	856
Highest	42.5	32.2	20.4	3.6	0.9	0.3	100.0	2.9	31.7	34.1	16.7	14.5	0.0	100.0	27.8	35.9	660
Total	44.9	23.6	22.6	6.5	1.9	0.4	100.0	2.2	23.6	42.7	18.0	13.3	0.2	100.0	30.2	39.7	4,733

Note: It is recommended that children should be given more liquids to drink during diarrhea and food should not be reduced.
[1] Continued feeding practices includes children who were given more, same as usual, or somewhat less food during the diarrhea episode.

10.5.4 Knowledge of ORS Packets for Diarrhea

To ascertain respondents' knowledge of ORS in Yemen, ever-married women were asked whether they had heard of a special product called oral rehydration salt packets or solution that can be used to treat diarrhea. Table 10.9 presents information on the percentage of mothers with a birth in the five years preceding the survey that had heard of ORS packets. Almost three in four mothers (74 percent) had heard of ORS. Knowledge of ORS packets is lower among mothers age 15-19, among mothers in rural areas, and among those with less education and in the lower wealth quintiles.

Table 10.9 Knowledge of ORS packets or pre-packaged liquids

Percentage of women age 15-49 with a live birth in the five years preceding the survey who know about ORS packets or ORS pre-packaged liquids for treatment of diarrhea by background characteristics, Yemen 2013

Background characteristic	Percentage of women who know about ORS packets or ORS pre-packaged liquids	Number of women
Age		
15-19	58.9	514
20-24	70.7	2,308
25-34	75.6	4,932
35-49	75.0	2,615
Residence		
Urban	83.3	3,077
Rural	69.4	7,292
Governorate		
Ibb	67.8	1,147
Abyan	50.7	207
Sana'a City	85.3	933
Al-Baidha	68.9	446
Taiz	79.0	1,274
Al-Jawf	95.7	95
Hajjah	68.2	620
Al-Hodiedah	74.4	1,257
Hadramout	62.6	543
Dhamar	72.8	802
Shabwah	67.8	194
Sadah	74.6	320
Sana'a	75.1	598
Aden	84.7	291
Lahj	60.1	276
Mareb	81.1	78
Al-Mhweit	65.4	304
Al-Mhrah	46.6	42
Amran	89.7	445
Aldhalae	76.0	251
Reimah	63.1	246
Education		
No education	68.2	5,475
Fundamental	76.4	3,463
Secondary	84.9	1,025
Higher	92.4	407
Wealth quintile		
Lowest	59.2	2,097
Second	71.4	2,136
Middle	74.7	2,107
Fourth	78.9	2,016
Highest	84.0	2,014
Total	73.5	10,369

ORS = Oral rehydration salts

10.6 DISPOSAL OF CHILDREN'S STOOLS

The proper disposal of children's feces is important in preventing the spread of disease. If feces are left uncontained, disease may spread by direct contact or through animal contact. Children's stools are considered to be safely disposed of if the child uses a toilet or latrine, the child's stool is put or rinsed into a toilet or latrine, or the stool is buried.

Table 10.10 presents information on the disposal of fecal matter of children under 5, according to background characteristics. The information was derived from asking ever-married women what was done to dispose of the stools the last time their youngest child under age 5 passed stools. Overall, 37 percent of children had their last stool disposed of safely. As expected, the stools of older children are much more likely to be disposed of safely than those of younger children, mainly because older children are more likely to use a toilet or latrine. Children in urban areas were more likely than those in rural areas to have had their last stool safely disposed of (40 and 23 percent, respectively).

At the governorate level, the proportion of children whose last stool was properly disposed of ranged broadly: more than half of children in Aden, Hadramout, and Al-Mhrah governorates had their stools disposed of safely; in contrast, only 20 percent of children from Hajjah Governorate had their stools disposed of safely, ranking it last among all governorates. The proportion of children whose last stool was disposed of safely rises with the mother's education and the wealth quintile.

Table 10.10 Disposal of children's stools

Percent distribution of youngest children under age five living with the mother by the manner of disposal of the child's last fecal matter, and percentage of children whose stools are disposed of safely, according to background characteristics, Yemen 2013

Background characteristic	Child used toilet or latrine	Put/rinsed into toilet or latrine	Buried	Put/rinsed into drain or ditch	Thrown into garbage	Left in the open	Other	Missing	Total	Percentage of children whose stools are disposed of safely[1]	Number of children
Age in months											
<6	0.9	12.9	0.3	15.1	60.9	8.1	0.3	1.3	100.0	14.2	1,643
6-11	1.4	16.5	0.3	13.0	55.5	11.5	0.3	1.5	100.0	18.2	1,534
12-23	6.8	14.5	1.0	11.1	47.4	16.8	0.5	2.0	100.0	22.2	2,729
24-35	37.3	11.2	0.7	5.3	23.9	20.1	0.0	1.4	100.0	49.3	1,947
36-47	61.6	8.3	0.8	3.4	8.0	15.9	0.1	1.9	100.0	70.8	1,284
48-59	70.2	6.6	0.8	2.5	4.6	13.6	0.0	1.7	100.0	77.6	998
Residence											
Urban	38.3	8.4	0.1	3.5	47.4	1.2	0.1	1.0	100.0	46.9	3,010
Rural	18.0	14.0	0.9	11.5	32.7	20.6	0.3	2.0	100.0	32.9	7,125
Governorate											
Ibb	29.2	6.1	0.3	9.7	45.1	9.4	0.0	0.2	100.0	35.7	1,121
Abyan	24.9	11.1	2.7	8.0	41.2	11.1	0.3	0.6	100.0	38.7	204
Sana'a City	41.2	3.7	0.0	2.6	51.2	0.0	0.0	1.4	100.0	44.8	917
Al-Baidha	19.1	13.7	0.1	3.4	49.9	12.6	0.0	1.2	100.0	32.8	436
Taiz	25.4	15.6	0.0	5.1	32.1	18.4	0.6	2.8	100.0	41.0	1,250
Al-Jawf	14.5	8.8	0.2	20.2	36.4	18.1	0.0	1.8	100.0	23.4	93
Hajjah	8.7	10.8	0.7	21.3	16.6	40.6	0.0	1.4	100.0	20.2	609
Al-Hodiedah	14.8	12.2	2.4	5.0	50.7	13.1	0.2	1.7	100.0	29.4	1,215
Hadramout	40.2	10.9	0.3	3.1	38.1	5.9	0.8	0.6	100.0	51.5	530
Dhamar	16.3	23.9	0.9	23.9	18.0	13.7	0.7	2.6	100.0	41.1	779
Shabwah	33.2	10.0	0.2	2.7	45.3	4.6	0.0	4.0	100.0	43.4	189
Sadah	21.9	10.9	0.5	9.7	39.2	15.5	0.0	2.3	100.0	33.3	315
Sana'a	22.2	13.4	0.2	13.1	24.9	24.8	0.5	0.9	100.0	35.8	584
Aden	39.4	12.6	0.0	0.4	44.3	0.3	0.0	3.1	100.0	52.0	288
Lahj	18.8	19.7	0.3	8.6	37.3	13.9	0.0	1.5	100.0	38.8	273
Mareb	31.5	3.9	0.0	7.3	45.1	11.2	0.0	0.9	100.0	35.5	77
Al-Mhweit	13.1	14.5	1.2	12.0	20.5	38.5	0.0	0.2	100.0	28.8	294
Al-Mhrah	28.6	22.6	0.0	0.0	39.0	8.1	0.0	1.7	100.0	51.2	41
Amran	22.0	17.4	2.0	16.1	23.1	17.4	0.2	1.8	100.0	41.4	433
Aldhalae	26.8	10.2	0.0	6.7	38.7	11.8	0.7	5.0	100.0	37.1	248
Reimah	14.6	11.6	0.0	8.0	40.5	22.9	0.5	1.9	100.0	26.2	239
Mother's education											
No education	20.1	13.2	1.0	12.2	28.9	22.5	0.2	1.9	100.0	34.3	5,336
Fundamental	27.2	12.3	0.4	6.2	44.3	7.6	0.3	1.7	100.0	39.9	3,387
Secondary	29.8	9.4	0.2	4.4	50.7	4.2	0.3	1.1	100.0	39.4	1,017
Higher	35.9	8.6	0.0	3.6	50.4	0.2	0.8	0.5	100.0	44.5	396
Wealth quintile											
Lowest	6.4	9.1	1.8	15.3	25.6	39.6	0.2	1.9	100.0	17.3	2,055
Second	16.0	15.5	0.9	13.1	29.5	22.3	0.3	2.3	100.0	32.4	2,071
Middle	24.0	17.7	0.5	9.2	37.7	9.0	0.2	1.7	100.0	42.1	2,064
Fourth	34.4	13.2	0.1	6.1	43.2	1.7	0.3	0.9	100.0	47.7	1,959
Highest	40.6	6.1	0.0	1.3	50.2	0.2	0.2	1.4	100.0	46.7	1,986
Total	24.1	12.3	0.7	9.1	37.1	14.8	0.3	1.7	100.0	37.1	10,135

[1] Children's stools are considered to be disposed of safely if the child used a toilet or latrine, if the fecal matter was put/rinsed into a toilet or latrine, or if it was buried.

NUTRITION OF CHILDREN AND WOMEN

11

> **Key Findings**
>
> - Almost half of children under age 5 (47 percent) are stunted (short for their age), 16 percent are wasted (thin for their height), and 39 percent are underweight (thin for their age).
> - Although there has been a decline in stunting, the level of wasting and underweight has not changed over the past decade.
> - Almost all children (97 percent) are breastfed at some time; however, only 10 percent of children under age 6 months are exclusively breastfed. The median duration of breastfeeding is 18 months.
> - Only 15 percent of children age 6-23 months are fed in accordance with all three infant and young child feeding (IYCF) practices.
> - Almost nine in ten children (86 percent) age 6-59 months are anemic.
> - Fifty-five percent of Yemeni children age 6-59 months received vitamin A supplements in the six months prior to the survey, 6 percent received iron supplements in the preceding seven days, and 12 percent received deworming medication in the preceding six months.
> - Half of households in Yemen use iodized salt.
> - About half of women have a body mass index (BMI) in the normal range, one-quarter are thin, and about one-quarter are overweight or obese.
> - Seven in ten women age 15-49 are anemic.
> - Among women with a child born in the past five years, 17 percent received a vitamin A dose postpartum; during the pregnancy of their last birth, 6 percent of women took iron tablets for the recommended period of time, and 3 percent took deworming medication.

This chapter describes the nutritional status of children under age 5; infant and young child feeding practices, including breastfeeding and feeding with solid/semisolid foods; diversity of foods fed and frequency of feeding; and micronutrient status, supplementation, and fortification. The discussion also covers the nutritional status of women age 15-49 and the prevalence of iodized salt in households. Finally, both children age 6-59 months and all women age 15-49 were eligible to provide a finger prick drop of blood that was tested in the field to determine the prevalence of anemia.

11.1 NUTRITIONAL STATUS OF CHILDREN

The anthropometric data on height and weight collected in the 2013 YNHDS permit an evaluation of the nutritional status of young children in Yemen. This assessment allows identification of subgroups of the child population that are at increased risk of faltered growth, disease, impaired mental development, and death. Marked differences, especially with regard to height-for-age, weight-for-height, and weight-for-age, are often seen among subgroups of children.

11.1.1 Measurement of Nutritional Status among Young Children

The 2013 YNHDS collected data on the nutritional status of children by measuring the height and weight of children under age 5 listed in the sampled household. Data were collected to calculate three indices: height-for-age, weight-for-height, and weight-for-age. Weight measurements were obtained using a SECA 872 digital scale, designed for weighing children and adults. Height measurements were carried out using

locally manufactured measuring boards. Children younger than age 24 months were measured lying down on the board (recumbent length), and standing height was measured for older children.

For the 2013 YNHDS, the nutritional status of children was calculated using growth standards published by WHO in 2006. These standards were generated through data collected in the WHO Multicentre Growth Reference Study (WHO, 2006). That study, which involved a sample of 8,440 children drawn from six countries across the world, was designed to describe how children should grow under optimal conditions. The WHO child growth standards can therefore be used to assess children all over the world, regardless of ethnicity, social and economic influences, and feeding practices. Each of the three nutritional status indicators described below is expressed in standard deviation units from the median of the Multicentre Growth Reference Study sample.

Each of these indices—height-for-age, weight-for-height, and weight-for-age—provides different information about growth and body composition that can be used to assess nutritional status. The height-for-age index is an indicator of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age (stunted), or chronically malnourished. Children who are below minus three standard deviations (-3 SD) are considered severely stunted. Stunting reflects failure to receive adequate nutrition over a long period and is also affected by recurrent and chronic illness. Height-for age, therefore, represents the long-term effects of malnutrition (specifically, undernutrition) in a population and is not sensitive to recent, short-term changes in dietary intake.

The weight-for-height index measures body mass in relation to body height or length and describes current nutritional status. Children whose Z-scores are below -2 SD from the median of the reference population are considered thin (wasted), or acutely malnourished. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey. It may result from inadequate food intake or a recent episode of illness causing loss of weight and the onset of malnutrition. Children whose weight-for-height is below -3 SD from the reference median are considered severely wasted.

Overweight and obesity are other forms of malnutrition that are becoming concerns for some children in developing countries. Children whose Z-scores are +2 SD above the median for weight-for-height are considered overweight.

Weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic malnutrition. Children whose weight-for-age is below -2 SD from the median of the reference population are classified as underweight. Children whose weight-for-age is below -3 SD from the median are considered severely underweight. Data are also presented on the percentage of children who are +2 SD above the median of weight-for-age.

Z-score means are also calculated as summary statistics representing the nutritional status of children in a population. These mean scores describe the nutritional status of the entire population without the use of a cutoff. A mean Z-score of less than 0 (i.e., a negative value for stunting, wasting, or underweight) suggests that the distribution of an index has shifted downward and, on average, children in the population are less well nourished than children in the WHO Multicentre Growth Reference Study.

While 16,100 children were eligible for anthropometric measurements, data on nutritional status are available for only 87 percent of the eligible children: among almost 9 percent of children weight and/or height was not measured, and among 4 percent of children the measurements were obviously incorrect (out of possible range) and/or information on the age of the child was incomplete. The proportion of children with correct anthropometric data was not uniform across the country; several governorates—notably Hadramout, Shabwah, and Sadah governorates—had credible data for less than 80 percent of children. Consequently, the information from these areas should be interpreted with caution.

11.1.2 Levels of Child Malnutrition

Table 11.1 shows the percentage of children under age 5 classified as malnourished according to the three anthropometric indices of nutritional status (height-for-age, weight-for-height, and weight-for-age). Forty-seven percent of children are stunted (below -2 SD from the reference median), and about half of these children (23 percent) are severely stunted.

Table 11.1 Nutritional status of children

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Yemen 2013

Background characteristic	Height-for-age[1]			Weight-for-height				Weight-for-age				
	Percent-age below -3 SD	Percent-age below -2 SD[2]	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Number of children
Age in months												
<6	7.9	19.2	-0.7	9.2	20.1	6.1	-0.7	8.5	24.6	1.5	-1.1	1,421
6-8	10.4	27.6	-1.1	11.0	28.4	2.8	-1.2	17.3	37.0	0.2	-1.6	723
9-11	11.3	26.4	-1.1	8.6	21.9	1.8	-1.1	9.1	30.7	0.3	-1.4	661
12-17	18.5	38.0	-1.6	6.8	23.3	1.9	-1.0	12.6	36.0	0.7	-1.5	1,649
18-23	24.9	49.8	-2.0	4.8	14.6	1.4	-0.8	12.8	36.7	0.4	-1.6	1,130
24-35	30.2	55.5	-2.2	3.8	13.6	1.4	-0.8	14.8	40.0	0.2	-1.8	2,782
36-47	28.5	57.8	-2.3	3.6	12.8	1.4	-0.8	15.0	43.4	0.2	-1.9	2,664
48-59	25.6	54.0	-2.2	2.9	12.4	1.4	-0.9	14.5	46.4	0.1	-1.9	2,793
Sex												
Male	24.4	47.6	-1.9	5.7	17.8	2.0	-0.9	13.9	39.9	0.3	-1.7	7,019
Female	21.3	45.4	-1.8	4.7	14.7	2.1	-0.8	13.2	38.2	0.5	-1.7	6,804
Birth interval in months[3]												
First birth[4]	18.6	40.0	-1.7	4.4	15.1	2.0	-0.8	9.6	34.1	0.3	-1.5	2,687
<24	29.8	55.1	-2.2	5.4	17.6	1.4	-0.9	18.5	46.6	0.3	-1.9	3,103
24-47	24.1	48.1	-1.9	5.6	16.7	1.9	-0.9	14.4	40.9	0.5	-1.7	5,093
48+	16.3	39.3	-1.6	4.9	15.7	3.1	-0.8	10.0	31.1	0.3	-1.5	2,564
Size at birth[3]												
Smaller than average	25.3	49.2	-2.0	6.9	21.4	1.4	-1.1	18.2	47.8	0.2	-1.9	4,280
Average or larger	21.7	45.0	-1.8	4.4	14.1	2.3	-0.8	11.4	34.8	0.5	-1.6	9,069
Missing	21.4	53.9	-2.0	6.6	13.3	0.9	-1.0	9.1	39.1	0.0	-1.9	97
Mother's interview status												
Interviewed	22.8	46.4	-1.9	5.2	16.4	2.0	-0.9	13.6	39.0	0.4	-1.7	13,447
Not interviewed but in household	23.9	50.7	-2.0	4.9	13.2	3.3	-0.8	13.0	40.2	0.8	-1.7	262
Not interviewed and not in the household[5]	26.5	46.8	-2.0	5.5	13.8	1.9	-0.8	16.9	41.6	0.5	-1.7	115
Mother's nutritional status[6]												
Thin (BMI <18.5)	28.8	52.7	-2.2	8.3	24.6	1.3	-1.2	22.0	53.5	0.3	-2.1	2,458
Normal (BMI 18.5-24.9)	22.9	47.2	-1.9	5.1	16.1	1.9	-0.8	13.2	38.1	0.2	-1.7	5,731
Overweight/obese (BMI ≥25)	15.3	35.8	-1.5	3.7	11.3	2.6	-0.6	6.7	26.9	0.7	-1.3	2,703
Residence												
Urban	13.1	33.7	-1.5	4.4	14.4	2.4	-0.8	7.7	28.9	0.6	-1.4	3,813
Rural	26.6	51.4	-2.0	5.5	17.0	1.9	-0.9	15.8	42.9	0.3	-1.8	10,010
Governorate												
Ibb	23.2	47.3	-1.8	2.7	10.9	3.5	-0.6	10.4	30.7	0.3	-1.5	1,555
Abyan	7.6	23.4	-1.1	3.9	21.6	1.1	-1.0	4.8	26.4	0.8	-1.3	284
Sana'a City	10.4	30.7	-1.3	3.5	11.2	2.6	-0.6	4.6	22.8	0.6	-1.2	1,180
Al-Baidha	17.1	35.6	-1.5	6.1	13.6	0.9	-0.8	9.7	29.5	0.2	-1.4	543
Taiz	19.3	46.8	-1.8	3.8	14.6	1.2	-1.0	13.4	40.1	0.7	-1.7	1,873
Al-Jawf	31.7	57.1	-2.2	4.9	12.1	2.7	-0.7	11.3	37.0	0.1	-1.7	130
Hajjah	33.9	58.8	-2.3	6.5	21.1	1.3	-1.1	23.3	55.0	0.3	-2.2	926
Al-Hodiedah	24.4	48.6	-2.1	9.8	26.2	1.0	-1.3	20.5	54.4	0.0	-2.1	1,798
Hadramout	12.2	30.1	-1.2	6.0	18.0	3.6	-0.8	7.3	26.5	0.2	-1.3	519
Dhamar	34.4	59.2	-2.3	4.6	15.1	2.6	-0.7	18.2	45.0	0.9	-1.8	1,101
Shabwah	14.9	28.6	-1.1	9.7	21.5	5.6	-0.8	6.8	25.3	0.8	-1.2	215
Sadah	35.1	58.5	-2.3	7.9	17.0	1.9	-0.8	20.4	49.7	0.4	-1.9	365
Sana'a	23.4	47.8	-1.9	4.8	14.0	2.5	-0.7	10.7	34.1	0.2	-1.6	735
Aden	6.9	23.7	-1.1	3.7	18.2	1.8	-0.9	8.0	27.2	0.6	-1.3	347
Lahj	14.5	37.9	-1.6	2.6	14.3	2.1	-0.9	8.9	34.2	0.0	-1.6	330
Mareb	18.9	41.3	-1.7	5.1	13.8	1.8	-0.7	10.6	31.3	0.4	-1.5	101
Al-Mhweit	28.0	54.9	-2.1	5.1	16.2	2.2	-0.8	13.9	41.0	0.2	-1.8	450
Al-Mhrah	9.0	23.1	-1.0	4.3	17.2	1.3	-0.8	3.9	22.8	0.5	-1.1	48
Amran	30.4	57.7	-2.2	3.7	13.2	1.1	-0.7	13.6	40.4	0.1	-1.8	602
Aldhalae	27.5	51.9	-2.1	4.0	13.6	2.5	-0.7	12.5	39.4	0.3	-1.7	333
Reimah	36.1	62.7	-2.4	5.4	15.3	1.8	-0.8	20.8	50.9	0.1	-2.0	388

Continued…

Table 11.1—*Continued*

Background characteristic	Height-for-age[1]			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	
Mother's education[7]												
No education	28.5	53.7	-2.1	5.7	17.4	1.9	-0.9	16.6	44.7	0.3	-1.9	7,571
Fundamental	17.5	40.1	-1.6	4.7	15.3	2.4	-0.8	10.8	33.3	0.3	-1.5	4,396
Secondary	14.3	34.4	-1.5	4.4	14.8	1.4	-0.8	8.3	31.0	0.7	-1.5	1,272
Higher	4.7	23.7	-1.1	3.6	13.8	2.9	-0.7	3.2	22.2	1.1	-1.1	466
Wealth quintile												
Lowest	33.2	59.2	-2.3	7.7	20.7	1.3	-1.1	23.6	54.0	0.1	-2.1	3,118
Second	28.8	55.5	-2.1	5.4	17.8	2.0	-0.9	15.8	45.1	0.2	-1.9	2,976
Middle	24.7	48.1	-1.9	3.9	14.2	1.9	-0.8	12.4	37.9	0.4	-1.6	2,791
Fourth	15.3	38.3	-1.6	4.2	15.0	2.8	-0.8	8.1	31.0	0.6	-1.5	2,516
Highest	8.1	25.9	-1.2	4.2	12.5	2.4	-0.7	4.8	22.1	0.7	-1.2	2,422
Total[8]	22.9	46.5	-1.9	5.2	16.3	2.0	-0.9	13.6	39.0	0.4	-1.7	13,823

Note: Table is based on children who stayed in the household on the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO child growth standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used NCHS/CDC/WHO reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.
[1] Recumbent length is measured for children under age 2, or in the few cases when the age of the child is unknown and the child is less than 85 cm; standing height is measured for all other children.
[2] Includes children who are below -3 standard deviations (SD) from the WHO child growth standards population median
[3] Excludes children whose mothers were not interviewed
[4] First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.
[5] Includes children whose mothers are deceased
[6] Excludes children whose mothers were not weighed and measured, children whose mothers were not interviewed, and children whose mothers are pregnant or gave birth within the preceding 2 months. Mother's nutritional status in terms of BMI (body mass index) is presented in Table 11.10.
[7] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.
[8] Total includes 3 children with missing information on mother's education.

The percentage of children who are stunted initially increases with age, with the prevalence peaking in the age range of 36-47 months (58 percent) before declining somewhat as children approach their fifth birthday (54 percent of children age 48-59 months are stunted) (Figure 11.1). The proportion of children who are stunted decreases as the interval between births lengthens; 55 percent of children born less than 24 months after a previous birth are stunted, as compared with only 39 percent of those born 48 months or more after a previous birth. A slightly higher proportion of male children (48 percent) than female children (45 percent) are stunted. In rural areas, 51 percent of children are stunted, compared with 34 percent of children in urban areas. Stunting steadily decreases with increasing mother's education, from a high of 54 percent among children of mothers with no education to a low of 24 percent among children of mothers with a higher education. There is a similar pattern by wealth quintile; the proportion of children under age 5 who are stunted ranges from 26 percent in the highest quintile to 59 percent in the lowest quintile.

Overall, 16 percent of children under age 5 are wasted, and 5 percent are severely wasted. The prevalence of wasting is highest among children age 6-8 months (28 percent). The results show a slightly higher proportion of male than female children who are wasted (18 percent versus 15 percent). Also, children who were reported to have been smaller than average at birth are more likely to be wasted than children who were average or larger at birth (21 percent and 14 percent, respectively). In addition, the prevalence of wasting is higher among children born to underweight mothers than among those born to normal-weight or overweight mothers. In rural areas, 17 percent of children are wasted, as compared with 14 percent of children in urban areas. Only 2 percent of children are overweight.

Figure 11.1 Nutritional status of children by age
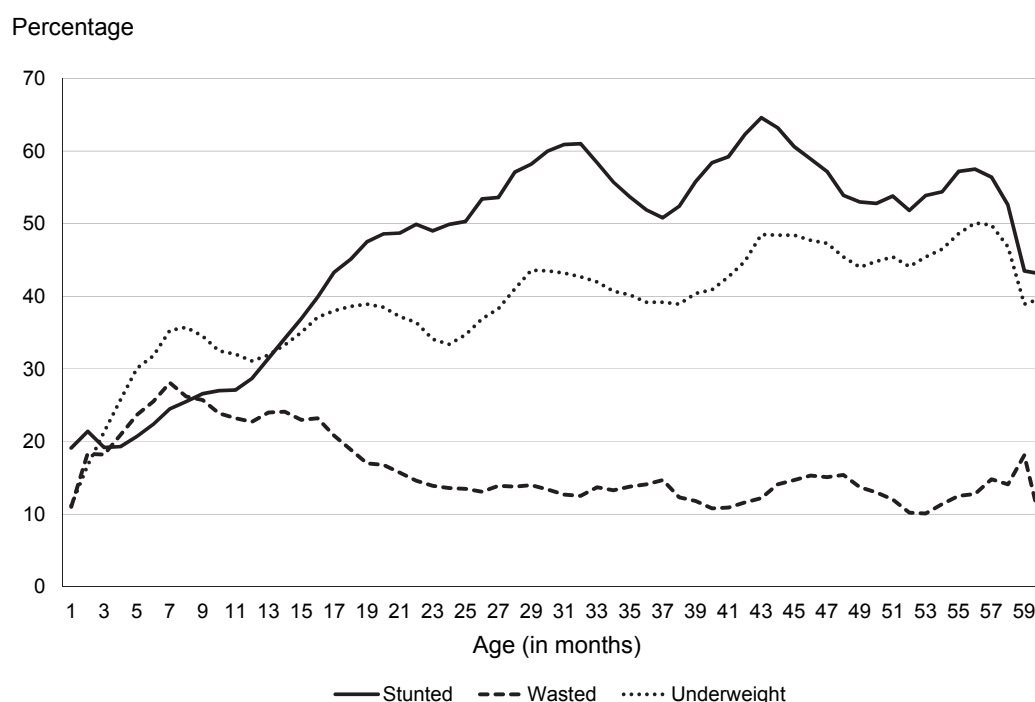
Percentage

Note: Plotted values are smoothed by a 5-month moving average

YNHDS 2013

Overall, 39 percent of children are underweight, and about one-third of them (14 percent) are severely underweight. The proportion of children who are underweight generally rises with age, to a high of 46 percent among those age 48-59 months. A slightly higher percentage of male than female children are underweight (40 percent and 38 percent, respectively). Forty-three percent of rural children are underweight, as compared with 29 percent of urban children. Children born to uneducated mothers are twice as likely to be underweight as children born to mothers with a higher education (45 percent versus 22 percent). Similarly, children in the highest wealth quintile are less than half as likely to be underweight as those in the lowest wealth quintile (22 percent and 54 percent, respectively).

The mean stunting, wasting, and underweight Z-scores for children under age 5 are -1.9, -0.9, and -1.7, respectively. Scores of less than 0 on these indices suggest that nutritional status is poorer on average than that of the reference population.

11.1.3 Trends in Child Malnutrition

The three indices presented in this report are expressed in standard deviation units from the median of the WHO child growth standards adopted in 2006. These indices are not comparable to those reported in the 1997 YDMCHS and the 2003 YFHS, which were based on the previously used 1977 NCHS/CDC/WHO reference. In order to compare the current results with those of the previous surveys, the 2013 indices have been recalculated using the 1977 reference. The findings are presented in Figure 11.2.

The results show that the prevalence of stunting has greatly decreased in the past 10 years, from 53 percent in 2003 to 41 percent in 2013. However, the percentage of children who are underweight (which decreased from 46 percent to 44 percent) and the prevalence of wasting (which increased from 13 percent to 14 percent) have not significantly changed since 1997.

Figure 11.2 Trends in nutritional status of children, Yemen 1997-2013

Percentage

	Height-for-age (Stunting)	Weight-for-height (Wasting)	Weight-for-age (Underweight)
1997 YDMCHS	52	13	46
2003 YFHS	53	12	46
2013 YNHDS	41	14	44

☐ 1997 YDMCHS   ▨ 2003 YFHS   ■ 2013 YNHDS
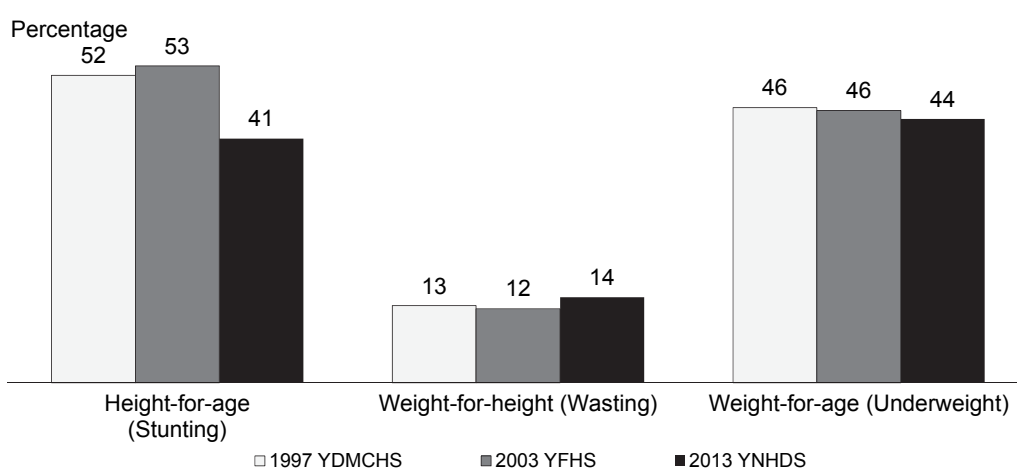
Note: For comparison purpose, the 2013 indices have been recalculated using the 1977 NCHS/CDC/WHO Reference

11.2 BREASTFEEDING

The YNHDS data can be used to evaluate infant feeding practices, including breastfeeding duration, introduction of complementary weaning foods, and use of feeding bottles. The pattern of infant feeding has important influences on both the child and the mother. Feeding practices are the principal determinants of a child's nutritional status. Poor nutritional status in young children exposes them to a greater risk of morbidity. Biologically, breastfeeding suppresses the mother's return to fertile status and affects the length of the birth interval as well as the level of fertility. These effects are influenced by both the duration and frequency of breastfeeding and the age at which the child receives foods and liquids to complement breast milk.

11.2.1 Initiation of Breastfeeding

Early breastfeeding practices determine the successful establishment and duration of breastfeeding. Moreover, during the first three days after delivery, colostrum, an important source of nutrition and protection for the newborn, is produced and should be given to the newborn while awaiting the letdown of regular breast milk. Thus, it is recommended that children be put to the breast immediately or within one hour after birth and that prelacteal feeding (i.e., feeding newborns anything other than breast milk before breast milk is regularly given) be discouraged.

Table 11.2 shows that 97 percent of last-born children who were born in the two years preceding the survey were breastfed at some time. Differences by background characteristics are small.

Fifty-three percent of infants were breastfed within one hour of birth, and 76 percent began breastfeeding within one day of birth. The proportion of children breastfed within one hour of birth is slightly lower among those delivered in a health facility (46 percent) than among those born at home (57 percent).

Early initiation of breastfeeding has increased over the past few years. The proportion of newborns breastfed within one hour of birth increased from 30 percent in 2006 to 53 percent in 2013, and the proportion breastfed in the first day of life increased from 65 percent to 76 percent over the same period (Ministry of Public Health and Population [MOPHP] and UNICEF, 2008).

The practice of giving prelacteal feeds limits the frequency of suckling by the infant and exposes the baby to the risk of infection. Table 11.2 shows that two-thirds of newborns in Yemen received prelacteal feeds, with the practice being more common among infants born in health facilities than those born at home.

The proportion of infants given prelacteal feeds increases steadily with increasing mother's education and wealth quintile.

Table 11.2 Initial breastfeeding

Among last-born children who were born in the two years preceding the survey, the percentage who were ever breastfed and the percentages who started breastfeeding within one hour and within one day of birth; and among last-born children born in the two years preceding the survey who were ever breastfed, the percentage who received a prelacteal feed, by background characteristics, Yemen 2013

Background characteristic	Among last-born children born in the past two years:				Among last-born children born in the past two years who were ever breastfed:	
	Percentage ever breastfed	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Number of last-born children	Percentage who received a prelacteal feed[2]	Number of last-born children ever breastfed
Sex						
Male	96.3	52.2	74.6	3,092	66.9	2,978
Female	97.1	53.2	76.4	3,018	67.3	2,931
Assistance at delivery						
Health professional[3]	96.0	49.5	74.4	2,897	70.5	2,783
Traditional birth attendant	96.8	54.5	75.7	701	66.3	678
Other	98.3	56.4	77.7	2,402	63.3	2,362
No one	100.0	57.6	76.5	76	67.9	76
Place of delivery						
Health facility	95.0	45.6	70.8	1,905	72.0	1,810
At home	98.2	56.5	78.2	4,093	64.9	4,017
Other	92.9	45.5	75.7	88	68.5	81
Residence						
Urban	96.2	55.2	78.0	1,590	70.9	1,529
Rural	96.9	51.8	74.6	4,520	65.8	4,380
Governorate						
Ibb	95.0	49.7	75.2	686	61.0	651
Abyan	98.4	52.9	83.9	126	74.9	124
Sana'a City	96.1	67.5	80.4	473	68.7	455
Al-Baidha	94.8	32.5	69.9	247	81.3	234
Taiz	97.6	34.8	52.4	762	84.8	743
Al-Jawf	97.0	67.6	82.8	54	64.7	52
Hajjah	97.1	58.3	81.9	390	46.9	379
Al-Hodiedah	96.5	48.3	78.0	757	70.4	730
Hadramout	96.1	56.4	84.5	255	60.8	245
Dhamar	98.5	63.5	80.8	557	67.0	549
Shabwah	98.4	51.8	86.3	102	84.8	100
Sadah	97.1	65.9	89.0	183	46.1	177
Sana'a	96.6	62.3	75.3	374	72.4	361
Aden	94.6	58.2	75.6	153	78.4	145
Lahj	98.7	66.2	77.3	168	50.1	166
Mareb	98.5	62.0	83.1	45	55.8	44
Al-Mhweit	98.0	43.5	78.1	199	63.1	195
Al-Mhrah	96.5	63.5	92.9	23	77.3	22
Amran	96.6	51.6	83.4	261	68.5	252
Aldhalae	94.2	42.4	64.2	147	56.7	138
Reimah	97.0	58.9	78.6	150	40.8	146
Mother's education						
No education	96.8	54.2	76.1	3,194	64.3	3,091
Fundamental	96.5	50.7	74.3	2,101	69.3	2,027
Secondary	97.1	50.9	76.2	605	71.9	587
Higher	97.2	54.2	76.8	210	74.7	204
Wealth quintile						
Lowest	96.5	55.2	74.7	1,350	62.4	1,303
Second	97.6	49.1	73.3	1,375	64.5	1,342
Middle	97.1	52.8	75.7	1,274	68.3	1,238
Fourth	96.9	52.4	77.9	1,114	70.2	1,079
Highest	95.1	54.5	76.7	996	72.3	948
Total[4]	96.7	52.7	75.5	6,110	67.1	5,909

Note: Table is based on last-born children born in the two years preceding the survey regardless of whether the children are living or dead at the time of interview.
[1] Includes children who started breastfeeding within one hour of birth
[2] Children given something other than breast milk during the first three days of life
[3] Doctor, nurse, midwife, or auxiliary midwife
[4] Total includes children with missing information on assistance at delivery and place of delivery.

11.2.2 Breastfeeding Status by Age

Breast milk contains all of the nutrients needed by children in the first six months of life and is an uncontaminated nutritional source. Therefore, complementing breast milk before age 6 months is discouraged as the likelihood of contamination and resulting risk of diarrheal disease are high. Early initiation of complementary feeding also reduces breast milk output because the production and release of breast milk is modulated by the frequency and intensity of suckling.

Table 11.3 shows breastfeeding status among the youngest children under age 2 who live with their mothers. Only 10 percent of infants under age 6 months are exclusively breastfed, about the same as the 12 percent reported in the 2003 YFHS. Table 11.3 shows that, contrary to the recommendation that children under age 6 months be exclusively breastfed, 27 percent of infants consume plain water, 3 percent consume non-milk liquids, 32 percent consume other milk, and 21 percent consume complementary foods in addition to breast milk. Sixty percent of children age 6-8 months receive timely complementary foods, and almost half of children age 18-23 months have been weaned.

Table 11.3 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under age 2 using a bottle with a nipple, according to age in months, Yemen 2013

| Age in months | Not breast-feeding | Breastfeeding status | | | | | Total | Percentage currently breast-feeding | Number of youngest child under age 2 living with their mother | Percentage using a bottle with a nipple | Number of all children under age 2 |
		Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming non-milk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming comple-mentary foods					
0-1	6.3	21.0	37.8	4.7	26.1	4.2	100.0	93.7	445	32.9	445
2-3	5.5	7.5	28.0	2.1	38.8	18.0	100.0	94.5	645	46.9	648
4-5	8.2	5.0	18.4	3.2	27.3	37.9	100.0	91.8	554	49.0	561
6-8	12.5	1.0	9.3	1.4	16.2	59.7	100.0	87.5	794	49.5	806
9-11	19.8	0.1	4.3	1.7	5.3	68.9	100.0	80.2	739	45.2	743
12-17	30.0	0.2	2.0	0.5	2.5	64.8	100.0	70.0	1,697	40.2	1,797
18-23	49.0	0.5	0.6	0.3	0.8	48.9	100.0	51.0	1,032	31.7	1,231
0-3	5.8	13.0	32.0	3.2	33.6	12.4	100.0	94.2	1,089	41.2	1,093
0-5	6.6	10.3	27.4	3.2	31.5	21.0	100.0	93.4	1,643	43.8	1,654
6-9	14.1	0.8	8.2	1.5	12.9	62.6	100.0	85.9	1,112	48.2	1,124
12-15	28.8	0.3	2.2	0.7	2.4	65.5	100.0	71.2	1,234	41.6	1,299
12-23	37.2	0.3	1.5	0.4	1.8	58.8	100.0	62.8	2,729	36.8	3,028
20-23	54.7	0.7	0.7	0.3	0.8	42.8	100.0	45.3	664	31.6	812

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids, other milk, and complementary foods (solids and semisolids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus, children who receive breast milk and non-milk liquids and who do not receive other milk and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.
[1] Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

Feeding children using a bottle with a nipple is discouraged. However, bottle feeding is a common practice in Yemen; 44 percent of children below age 6 months are fed using a bottle with a nipple, very similar to the figure of 46 percent reported in 2006. Even among the youngest infants under age 2 months, one-third are fed using a bottle with a nipple.

Figure 11.3 depicts the transition of feeding practices among children up to age 2. The very low level of exclusive breastfeeding is notable.

Figure 11.3 Infant feeding practices by age

YNHDS 2013
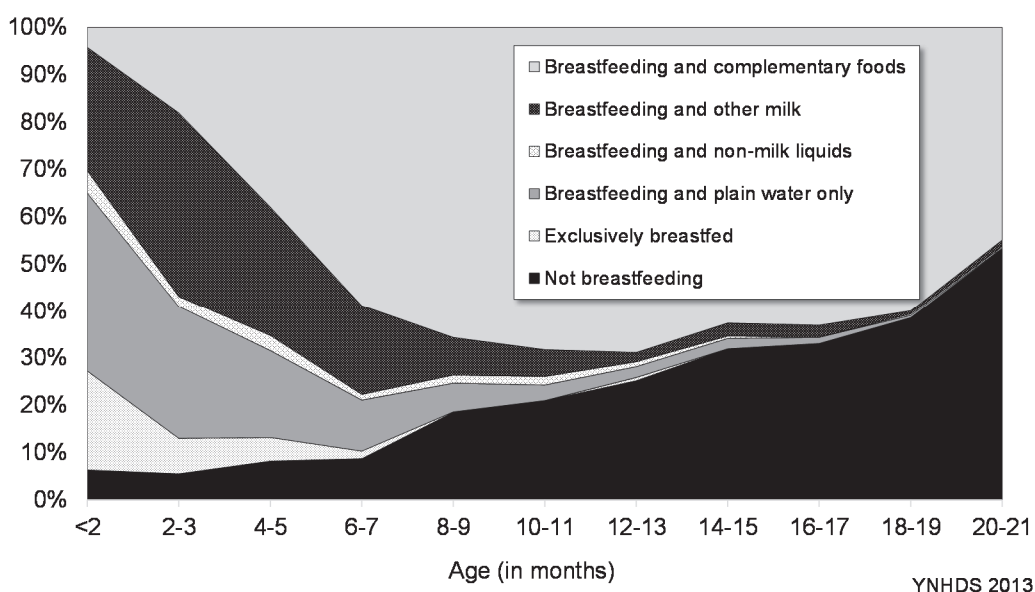
Figure 11.4 presents the 2013 YNHDS results on infant and young child feeding (IYCF) indicators related to breastfeeding status. Detailed descriptions of these indicators can be found in WHO publications (WHO, 2008; WHO, 2010).

Figure 11.4 IYCF indicators on breastfeeding status

YNHDS 2013
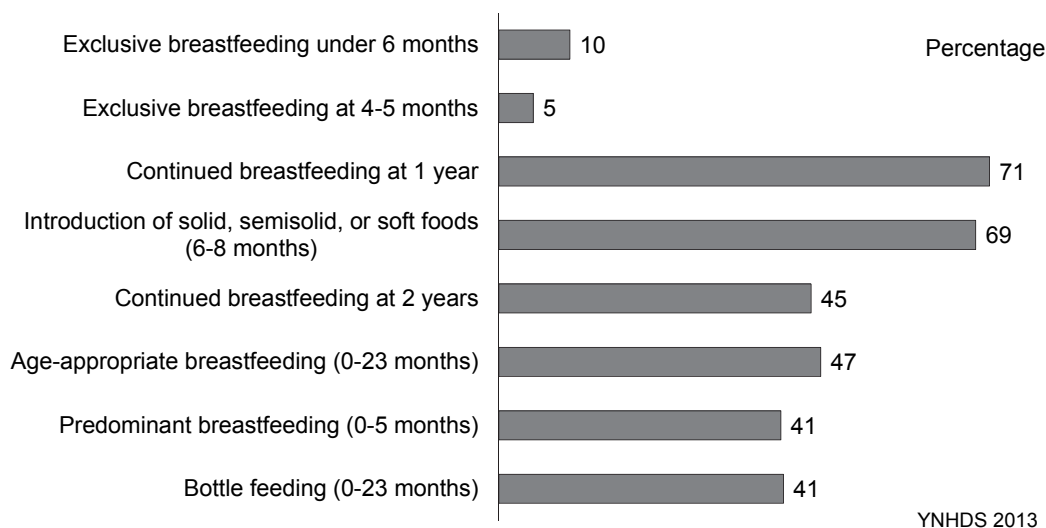
11.2.3 Median Duration of Breastfeeding

Table 11.4 shows that the median duration of any breastfeeding (i.e., the length of time in months for which half of children are breastfed) is 18.4 months. Large differences are observed by governorate, with median duration of any breastfeeding being highest in Hajjah Governorate (23 months) and lowest in Mareb and Aldhalae governorates (15 months each). Median durations of any breastfeeding are shorter for children whose mothers have some education (17-18 months) than for children of mothers with no education (20 months). Median duration of breastfeeding generally declines as wealth quintile increases.

The median duration of any breastfeeding has fluctuated over time, increasing from 17.8 months in the 1997 YDMCHS to 21.7 months in the 2003 YFHS and then decreasing to 18.4 months in the 2013 YNHDS.

11.3 DIETARY DIVERSITY AMONG YOUNG CHILDREN

In the 2013 YNHDS, women who had at least one child living with them who was born in 2011 or later were asked questions about the types of liquids and foods the child had consumed during the day or night preceding the interview. Mothers who had more than one child born in 2011 or later were asked questions about the youngest child living with them. Mothers were also asked about the number of times the child had eaten solid or semisolid food during the period. Dietary data on children are subject to recall errors on the mother's part, especially if the child was fed by other individuals during the 24 hours before the interview.

11.3.1 Foods and Liquids Consumed by Infants and Young Children

Appropriate nutrition includes feeding children a variety of foods to ensure that nutrient requirements are met. Fruits and vegetables rich in vitamin A should be consumed daily. Although eating a range of fruits and vegetables, especially those rich in vitamin A, is important, studies have shown that plant-based complementary foods by themselves are insufficient to meet the needs for certain micronutrients. Therefore, it has been recommended that meat, poultry, fish, or eggs be eaten daily or as often as possible (WHO, 1998).

Table 11.5 is based on information from mothers about the foods and liquids consumed by their youngest child during the day or night preceding the interview. As expected, the proportions of children consuming foods or liquids in the various food groups generally increase with age, except for infant formula and baby foods. Children who are still breastfed are less likely than children who are not being breastfed to consume other types of liquids and solid/semisolid foods. For example, 84 percent of nonbreastfeeding children age 6-23 months consumed foods made from grains the day or night preceding the interview, as compared with 72 percent of breastfeeding children in that age group. Similarly, 33 percent of nonbreastfeeding children age 6-23 months consumed foods rich in vitamin A, compared with 26 percent of breastfeeding children in the same age group. Over one-third of nonbreastfeeding children (37 percent) and 23 percent of breastfeeding children age 6-23 months consumed meat, fish, and poultry, and 56 percent of nonbreastfeeding children and 47 percent of breastfeeding children consumed cheese, yogurt, or other milk products.

Table 11.4 Median duration of breastfeeding

Median duration of any breastfeeding among children born in the three years preceding the survey, by background characteristics, Yemen 2013

Background characteristic	Median duration (months) of any breastfeeding among children born in the past three years[1]
Sex	
Male	18.5
Female	18.3
Residence	
Urban	18.3
Rural	18.4
Governorate	
Ibb	16.9
Abyan	18.7
Sana'a City	17.4
Al-Baidha	15.7
Taiz	17.8
Al-Jawf	17.2
Hajjah	23.0
Al-Hodiedah	20.2
Hadramout	20.7
Dhamar	16.8
Shabwah	18.8
Sadah	(20.6)
Sana'a	18.9
Aden	(17.9)
Lahj	20.6
Mareb	14.6
Al-Mhweit	18.1
Al-Mhrah	(20.7)
Amran	19.4
Aldhalae	14.7
Reimah	18.2
Mother's education	
No education	19.8
Fundamental	17.3
Secondary	17.4
Higher	(17.8)
Wealth quintile	
Lowest	20.8
Second	18.3
Middle	17.2
Fourth	18.1
Highest	17.7
Total	18.4
Mean for all children	18.0

Note: Median and mean durations are based on the distributions at the time of the survey of the proportion of births by months since birth. Includes children living and deceased at the time of the survey. Figures in parentheses are based on 25-49 unweighted cases.
[1] It is assumed that non-last-born children and last-born children not currently living with their mother are not currently breastfeeding.

Table 11.5 Foods and liquids consumed by children in the day or night preceding the interview

Percentage of youngest children under age 2 who are living with their mother by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Yemen 2013

	Liquids			Solid or semisolid foods											Number of children
Age in months	Infant formula	Other milk[1]	Other liquids[2]	Fortified baby foods	Food made from grains[3]	Fruits and vegetables rich in vitamin A[4]	Other fruits and vege- tables	Food made from roots and tubers	Food made from legumes and nuts	Meat, fish, poultry	Eggs	Cheese, yogurt, other milk products	Oil, fat, butter	Any solid or semisolid food	
BREASTFEEDING CHILDREN															
0-1	21.9	10.8	10.3	1.1	1.3	0.2	0.4	0.3	0.2	0.6	0.0	2.0	0.4	5.4	417
2-3	36.0	21.0	10.6	12.1	2.4	2.0	0.0	2.0	0.0	0.0	0.1	3.6	1.4	21.6	609
4-5	33.7	22.0	14.6	19.5	17.9	6.7	1.0	11.8	1.7	0.7	2.2	12.9	9.1	42.5	508
6-8	30.9	30.7	35.2	19.8	44.9	13.1	3.9	30.4	4.9	7.7	7.1	30.8	17.1	65.1	695
9-11	21.6	36.4	56.0	17.5	69.3	29.8	11.2	44.9	16.2	18.6	11.7	45.2	28.3	80.1	593
12-17	17.1	35.8	65.9	9.1	82.7	30.2	12.1	44.5	23.4	28.9	16.1	53.1	39.4	81.8	1,188
18-23	15.3	35.1	73.0	7.1	88.5	30.5	17.8	51.2	29.5	37.0	15.7	56.0	38.4	84.9	527
6-23	20.9	34.6	58.1	12.9	72.3	26.2	11.0	42.5	18.8	23.4	13.1	46.9	31.9	78.1	3,004
Total	24.4	29.2	42.4	12.4	50.3	18.4	7.4	29.8	12.6	15.6	8.9	33.1	22.3	59.9	4,537
NONBREASTFEEDING CHILDREN															
0-1	(38.0)	(18.1)	(18.8)	(0.0)	(16.5)	(3.1)	(0.0)	(9.4)	(1.7)	(7.1)	(1.7)	(15.1)	(7.1)	(9.4)	28
2-3	(45.8)	(13.7)	(11.8)	(8.3)	(6.0)	(0.0)	(0.0)	(2.2)	(0.0)	(2.2)	(0.0)	(2.2)	(0.0)	(26.3)	36
4-5	64.7	40.4	20.6	22.8	26.1	9.4	3.3	9.5	1.0	7.8	7.9	17.0	6.4	51.2	46
6-8	51.7	46.6	45.1	22.3	48.5	19.2	6.1	22.4	9.0	16.5	7.2	43.6	22.6	67.3	99
9-11	51.8	44.5	62.2	28.4	77.8	33.9	14.3	48.4	7.4	34.3	20.7	45.1	41.6	80.0	146
12-17	37.1	45.8	72.6	9.8	84.2	31.8	12.8	44.8	29.1	33.8	15.7	58.4	40.8	83.7	509
18-23	18.6	43.5	86.4	5.7	91.7	36.4	19.0	53.2	36.5	44.3	20.3	59.3	44.1	88.5	505
6-23	32.6	44.8	74.8	11.3	83.7	32.9	14.9	46.8	28.0	36.7	17.4	56.0	40.8	83.9	1,259
Total	34.1	43.3	70.2	11.4	78.4	30.6	13.8	43.6	25.8	34.2	16.3	52.5	37.9	79.8	1,369

Note: Breastfeeding status and food consumed refer to a 24-hour period (yesterday and last night). Figures in parentheses are based on 25-49 unweighted cases.
[1] Other milk includes fresh, tinned, and powdered cow or other animal milk.
[2] Does not include plain water
[3] Includes fortified baby food
[4] Includes pumpkin, carrots, squash, sweet potatoes that are yellow or orange inside, dark green leafy vegetables, ripe mangoes, papayas, melons, and other fruits that are rich in vitamin A

11.3.2 Infant and Young Child Feeding (IYCF) Practices

Appropriate IYCF practices include breastfeeding through age 2, introduction of solid and semisolid foods at age 6 months, and gradual increases in the amount of food given and frequency of feeding as the child gets older. According to recommendations, breastfed children age 6-23 months should receive animal-source foods and vitamin A-rich fruits and vegetables daily (PAHO/WHO, 2003). Because first foods almost always include a grain- or tuber-based staple, it is unlikely that young children who eat food from less than three groups will receive both an animal-source food and a vitamin A-rich fruit or vegetable. Therefore, three food groups are considered the minimum number appropriate for breastfed children (Arimond and Ruel, 2004). Breastfed infants age 6-8 months should receive complementary foods two to three times a day with one or two snacks; breastfed children age 9-23 months should receive meals three to four times a day with one or two snacks (PAHO/WHO, 2003; WHO, 2008; WHO, 2010).

Nonbreastfed children age 6-23 months should receive milk or milk products two or more times a day to ensure that their calcium needs are met. In addition, they need animal-source foods and vitamin A-rich fruits and vegetables. Four food groups are considered the minimum number appropriate for nonbreastfed young children. Nonbreastfed children age 12-23 months should be fed meals four to five times each day, with one or two snacks (WHO, 2005; WHO, 2008; WHO, 2010).

The results presented in the right-hand columns of Table 11.6 indicate that 87 percent of Yemeni children age 6-23 months received breast milk or breast milk substitutes during the day or night preceding the interview. Twenty-seven percent of children had an adequately diverse diet—that is, they had been given foods from at least four food groups—and 59 percent had been fed the minimum number of times appropriate for their age. Only 15 percent of Yemeni children age 6-23 months are fed in accordance with all three IYCF practices.

Children age 9-23 months are more likely than children age 6-8 months to be fed according to all three recommended IYCF guidelines. Urban children (27 percent) are more than twice as likely as rural children (12 percent) to be fed according to the guidelines. Variations in the percentage of children fed according to the recommended IYCF feeding practices are also observed at the governorate level, but these results should be interpreted with caution because of the relatively small number of children in some governorates with reported data. There is a steady increase in the proportion of children fed according to IYCF practices as mother's education increases. As expected, children in the highest wealth quintile (28 percent) are more likely to be fed according to the recommended three IYCF practices than children in the lower two wealth quintiles (9 percent each).

Table 11.6 Infant and young child feeding (IYCF) practices

Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based on breastfeeding status, number of food groups, and times they are fed during the day or night preceding the survey, by background characteristics, Yemen 2013

| Background characteristic | Among breastfed children 6-23 months, percentage fed: | | | | Among non-breastfed children 6-23 months, percentage fed: | | | | | | Among all children 6-23 months, percentage fed: | | | |
	4+ food groups[1]	Minimum meal frequency[2]	Both 4+ food groups and minimum meal frequency	Number of breastfed children 6-23 months	Milk or milk products[3]	4+ food groups[1]	Minimum meal frequency[4]	With 3 IYCF practices[5]	Number of non-breastfed children 6-23 months	Breast milk, milk, or milk products[6]	4+ food groups[1]	Minimum meal frequency[7]	With 3 IYCF practices	Number of all children 6-23 months
Age in months														
6-8	7.7	49.9	7.0	695	70.7	13.0	61.2	2.8	99	96.3	8.4	51.3	6.4	794
9-11	22.1	48.4	15.6	593	65.6	27.7	74.8	11.8	146	93.2	23.2	53.6	14.8	739
12-17	26.8	57.0	21.1	1,188	65.5	36.9	73.6	10.3	509	89.6	29.9	62.0	17.9	1,697
18-23	32.4	60.4	24.4	527	42.7	43.4	63.5	12.8	505	72.0	37.8	61.9	18.7	1,032
Sex														
Male	20.9	52.7	15.5	1,545	57.2	36.2	68.2	10.3	618	87.8	25.3	57.1	14.0	2,163
Female	24.0	56.0	19.3	1,458	56.4	36.9	69.3	11.4	641	86.7	28.0	60.0	16.9	2,100
Residence														
Urban	37.3	60.9	27.7	752	68.3	58.4	80.3	24.3	367	89.6	44.2	67.3	26.6	1,119
Rural	17.5	52.1	13.9	2,251	52.0	27.6	64.0	5.4	892	86.4	20.4	55.4	11.5	3,144
Governorate														
Ibb	11.2	48.3	10.5	307	60.5	18.0	60.8	2.1	163	86.3	13.6	52.6	7.6	469
Abyan	22.1	41.7	11.5	65	(60.3)	(50.5)	(63.6)	(23.9)	22	90.1	29.2	47.2	14.6	86
Sana'a City	46.3	68.0	36.4	217	72.7	64.1	86.0	35.6	121	90.2	52.7	74.4	36.1	338
Al-Baidha	12.8	67.5	11.7	104	58.6	43.1	85.5	20.8	65	84.0	24.5	74.4	15.2	169
Taiz	22.1	68.8	19.3	361	51.5	35.6	76.5	1.2	167	84.6	26.4	71.2	13.5	528
Al-Jawf	26.4	56.6	21.2	23	(73.0)	(30.4)	(72.9)	(10.3)	15	89.5	28.0	62.9	17.0	38
Hajjah	15.1	47.4	12.2	220	(40.2)	(22.5)	(56.9)	(1.6)	50	89.0	16.5	49.1	10.2	270
Al-Hodiedah	28.9	58.1	24.9	439	(55.0)	(60.8)	(76.2)	(21.2)	94	92.0	34.6	61.3	24.3	534
Hadramout	19.9	28.2	12.6	128	75.8	23.2	73.2	10.0	61	92.2	20.9	42.7	11.8	189
Dhamar	16.1	42.1	9.3	260	46.4	29.1	50.8	5.8	127	82.4	20.4	44.9	8.1	386
Shabwah	19.3	45.9	8.6	50	72.4	44.8	54.8	11.9	22	91.5	27.1	48.7	9.6	72
Sadah	30.1	64.7	26.0	100	(39.4)	(47.8)	(63.7)	(7.3)	26	87.6	33.7	64.5	22.2	126
Sana'a	27.8	62.6	22.3	177	57.6	36.5	68.1	11.0	85	86.2	30.7	64.4	18.6	262
Aden	45.9	46.4	24.6	70	(64.1)	(45.4)	(78.5)	(10.7)	32	88.8	45.7	56.4	20.3	101
Lahj	27.3	43.9	14.1	78	(66.4)	(40.0)	(71.5)	(15.0)	30	90.6	30.8	51.6	14.3	109
Mareb	16.4	66.0	12.9	19	52.0	35.4	64.3	6.6	12	81.2	23.8	65.3	10.4	31
Al-Mhweit	13.0	54.4	9.1	108	49.1	35.1	71.4	7.4	37	87.1	18.6	58.7	8.7	144
Al-Mhrah	44.9	48.0	25.1	13	(68.7)	(39.6)	(52.9)	(6.3)	4	91.9	43.5	49.3	20.2	17
Amran	12.8	49.2	8.9	132	43.0	27.4	45.4	6.3	51	84.2	16.9	48.2	8.2	183
Aldhalae	11.1	54.3	11.1	56	44.5	24.1	73.4	9.1	48	74.5	17.1	63.1	10.2	103
Reimah	12.5	42.9	9.7	78	62.0	24.8	63.1	3.1	28	89.8	15.8	48.3	7.9	106
Mother's education														
No education	15.6	51.5	12.6	1,655	51.0	24.6	64.1	5.3	590	87.1	17.9	54.8	10.7	2,245
Fundamental	28.4	56.1	21.0	976	62.7	41.2	69.9	14.6	474	87.8	32.6	60.6	18.9	1,449
Secondary	33.7	59.5	24.9	278	55.2	53.4	76.1	15.1	147	84.5	40.5	65.3	21.5	425
Higher	48.6	69.1	39.4	95	(73.9)	(86.6)	(90.6)	(29.8)	49	91.2	61.5	76.4	36.2	143

Continued…

Table 11.6—Continued

Background characteristic	Among breastfed children 6-23 months, percentage fed:				Among non-breastfed children 6-23 months, percentage fed:					Among all children 6-23 months, percentage fed:				
	4+ food groups[1]	Minimum meal frequency[2]	Both 4+ food groups and minimum meal frequency	Number of breastfed children 6-23 months	Milk or milk products[3]	4+ food groups[1]	Minimum meal frequency[4]	With 3 IYCF practices[5]	Number of non-breastfed children 6-23 months	Breast milk, milk, or milk products[6]	4+ food groups[1]	Minimum meal frequency[7]	With 3 IYCF practices[7]	Number of all children 6-23 months
Wealth quintile														
Lowest	12.8	49.8	10.4	744	41.9	19.5	51.8	2.6	195	87.9	14.2	50.2	8.8	939
Second	13.9	50.1	11.1	684	48.5	20.2	58.3	3.5	277	85.1	15.7	52.5	8.9	961
Middle	22.6	58.9	19.5	606	53.5	30.4	70.2	5.3	269	85.7	25.0	62.4	15.1	875
Fourth	32.1	55.4	22.8	508	59.7	51.2	79.2	15.0	251	86.7	38.5	63.3	20.2	759
Highest	39.8	60.3	28.9	463	76.8	58.5	80.6	26.4	266	91.5	46.7	67.7	28.0	729
Total	22.5	54.3	17.3	3,004	56.8	36.6	68.7	10.9	1,259	87.2	26.6	58.5	15.4	4,263

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

[1] Food groups: a) infant formula, milk other than breast milk, cheese or yogurt or other milk products; b) foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c) vitamin A-rich fruits and vegetables; d) other fruits and vegetables; e) eggs; f) meat, poultry, fish, and shellfish (and organ meats); g) legumes and nuts.
[2] For breastfed children, minimum meal frequency is receiving solid or semisolid food at least twice a day for infants age 6-8 months and at least three times a day for children age 9-23 months.
[3] Includes two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[4] For nonbreastfed children age 6-23 months, minimum meal frequency is receiving solid or semisolid food or milk feeds at least four times a day.
[5] Nonbreastfed children age 6-23 months are considered to be fed with a minimum standard of three infant and young child feeding practices if they receive other milk or milk products at least twice a day, receive the minimum meal frequency, and receive solid or semisolid foods from at least four food groups not including the milk or milk products food group.
[6] Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[7] Children are fed the minimum recommended number of times per day according to their age and breastfeeding status as described in footnotes 2 and 4.

11.4 PREVALENCE OF ANEMIA IN CHILDREN

Anemia, characterized by a low level of hemoglobin in the blood, is a major health problem in Yemen, especially among young children and pregnant women. Anemia may be an underlying cause of maternal mortality, spontaneous abortions, premature births, and low birth weight. The most common cause of anemia is inadequate dietary intake of nutrients necessary for synthesis of hemoglobin, such as iron, folic acid, and vitamin B12. Anemia also results from sickle cell disease, malaria, and parasitic infections.

Measurement of hemoglobin (Hb) is the standardized method of screening for anemia. To measure Hb, the 2013 YNHDS used a new rapid testing methodology, the AVIE™ Total Hb analyzer, instead of the HemoCue analyzer widely used in DHS surveys. The AVIE system consists of a battery-operated, portable analyzer and a disposable microcuvette, a small transparent laboratory vessel that serves as the blood collection device. For the test, a drop of capillary blood was taken from a child's fingertip or heel (in the case of young children with small fingers) and drawn into the microcuvette. The microcuvette was placed in the analyzer, which takes about one minute to display the hemoglobin concentration. Results were recorded on the questionnaire and explained verbally to the child's parent or caretaker. Parents of children whose hemoglobin level was lower than the recommended cutoff point for severe anemia were advised to take the child to a health facility for follow-up testing and/or treatment. Given that hemoglobin requirements differ substantially depending on altitude, information on the altitude of each selected cluster from the 2004 census was used to make adjustments to sea-level equivalents before classifying children according to level of anemia; CDC formulas were used in making these adjustments (CDC, 1998).

Hemoglobin testing was carried out among children age 6-59 months in one-third of the households selected for the survey. Only children whose parent or caretaker gave voluntary, verbal consent were tested. Hemoglobin levels were successfully measured for 84 percent of the children eligible for testing. However, less than 80 percent of eligible children were tested in Sana'a City (79 percent) and the governorates of Al-Mhrah (71 percent), Lahj (63 percent), Shabwah (57 percent), and Hadramout (55 percent), and thus the results for these areas should be interpreted with caution.

Table 11.7 shows the anemia status of children according to selected background characteristics. Almost nine in ten children (86 percent) suffer from some level of anemia (Hb <11.0 g/dl); 14 percent have mild anemia (Hb 10.0–10.9 g/dl), 57 percent have moderate anemia, (Hb 7.0—9.9 g/dl) and 16 percent have severe anemia (Hb < 7.0 g/dl). The prevalence of anemia peaks at age 9-23 months (92-96 percent). Rural children are more likely to be anemic than urban children. Anemia prevalence generally declines as mother's education and wealth increase. Variations by governorate are large: 74 percent of children in Ibb Governorate suffer from some level of anemia, as compared with 99 percent of those in Al-Jawf and Sadah governorates.

Table 11.7 Prevalence of anemia in children

Percentage of children age 6-59 months classified as having anemia, by background characteristics, Yemen 2013

| Background characteristic | Anemia status by hemoglobin level | | | | Number of children |
	Any anemia (<11.0 g/dl)	Mild anemia (10.0-10.9 g/dl)	Moderate anemia (7.0-9.9 g/dl)	Severe anemia (<7.0 g/dl)	
Age in months					
6-8	87.8	11.8	59.8	16.2	227
9-11	95.8	10.1	63.9	21.7	204
12-17	92.0	10.4	60.6	21.0	503
18-23	93.4	13.1	60.0	20.3	342
24-35	88.0	14.0	57.4	16.6	874
36-47	84.0	16.9	54.4	12.6	780
48-59	78.0	16.8	51.3	10.0	855
Sex					
Male	85.9	13.5	56.5	16.0	1,899
Female	86.7	15.2	56.7	14.9	1,887
Mother's interview status					
Interviewed	86.5	14.3	56.8	15.5	3,681
Not interviewed but in household	80.2	15.5	51.0	13.7	70
Not interviewed and not in the household[1]	(76.6)	(19.6)	(42.1)	(14.9)	35
Residence					
Urban	81.2	17.2	53.7	10.3	1,063
Rural	88.3	13.2	57.7	17.5	2,722
Governorate					
Ibb	74.3	18.7	48.0	7.6	358
Abyan	97.8	5.1	55.9	36.8	82
Sana'a City	76.1	18.7	49.7	7.7	318
Al-Baidha	83.7	14.7	49.9	19.1	184
Taiz	79.0	19.4	51.8	7.8	513
Al-Jawf	98.7	5.6	68.0	25.1	35
Hajjah	92.2	9.9	65.9	16.4	287
Al-Hodiedah	94.0	12.4	59.8	21.8	478
Hadramout	90.1	12.0	67.6	10.5	124
Dhamar	87.0	18.6	51.8	16.5	312
Shabwah	93.6	7.4	62.3	23.9	46
Sadah	99.0	6.7	68.8	23.5	127
Sana'a	83.5	15.1	52.7	15.6	205
Aden	94.0	12.9	70.2	10.9	82
Lahj	95.0	2.7	61.1	31.1	65
Mareb	83.3	15.7	55.4	12.2	31
Al-Mhweit	95.8	10.1	64.4	21.3	137
Al-Mhrah	92.5	12.3	68.4	11.7	14
Amran	91.4	9.1	56.3	26.0	165
Aldhalae	80.7	12.3	58.2	10.3	106
Reimah	89.4	16.5	62.4	10.6	116
Mother's education[2]					
No education	88.7	12.9	57.9	17.9	2,104
Fundamental	84.6	15.7	55.9	13.0	1,133
Secondary	84.7	18.4	53.2	13.0	382
Higher	72.1	12.4	54.5	5.3	133
Wealth quintile					
Lowest	90.7	9.8	60.9	20.0	897
Second	90.8	14.3	59.4	17.0	836
Middle	86.6	14.9	53.4	18.2	719
Fourth	83.7	15.7	56.6	11.5	667
Highest	77.3	18.5	50.4	8.4	665
Total	86.3	14.3	56.6	15.5	3,785

Note: Table is based on children who stayed in the household on the night before the interview and who were tested for anemia. Prevalence of anemia, based on hemoglobin levels, is adjusted for altitude using formulas in CDC, 1998. Hemoglobin is in grams per deciliter (g/dl). Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes children whose mothers are deceased
[2] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

11.5 MICRONUTRIENT INTAKE AND SUPPLEMENTATION AMONG CHILDREN

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Micronutrients are available in foods and can also be provided through direct supplementation. Breastfeeding children benefit from supplements given to their mother.

Iron deficiency is one of the primary causes of anemia, which has serious health consequences for both women and children. Vitamin A is an essential micronutrient for the immune system and plays an important role in maintaining the epithelial tissue in the body. Severe vitamin A deficiency (VAD) can cause eye damage and is the leading cause of childhood blindness. VAD also increases the severity of infections, such as measles and diarrheal disease in children, and slows recovery from illness. VAD is common in dry environments where fresh fruits and vegetables are not readily available. Vitamin A supplementation is an important tool in preventing VAD among young children.

In the 2013 YNHDS, information was collected on food consumption during the day and night preceding the interview among the youngest children under age 2 living with their mothers; these data are useful in assessing the extent to which children are consuming food groups rich in two key micronutrients—vitamin A and iron—in their daily diet. In addition, the survey included questions designed to ascertain whether young children had received vitamin A supplements or deworming medication in the six months preceding the survey or iron supplements in the seven days preceding the survey.

Table 11.8 presents data on intake of foods rich in vitamin A and iron among the youngest children age 6-23 months living with their mother. Less than half (47 percent) of children consumed vitamin A-rich foods in the 24 hours preceding the interview, and 35 percent consumed iron-rich foods. As expected, intake of both vitamin A-rich and iron-rich foods increases as children get older and are weaned. Nonbreastfeeding children are more likely to consume foods rich in vitamin A and iron than breastfeeding children. Also, urban children are more likely than rural children to consume foods rich in vitamin A and iron. Intake of these two micronutrients increases with increasing mother's education and wealth quintile.

Among all children age 6-59 months, 55 percent received a vitamin A supplement in the six months preceding the survey. Variations by governorate are large. For example, only 18 percent of children in Al-Jawf Governorate received a vitamin A supplement in the six months before the survey, as compared with 74 percent of those in Dhamar Governorate. The likelihood of a child being given a vitamin A dose rises with increasing mother's education and wealth quintile.

The survey results indicate that iron supplementation is not common among children. Only 6 percent of children age 6-59 months received iron supplements in the seven days before the survey. Differences by background characteristics are not large, although children whose mothers have a higher education and those in the highest wealth quintile are somewhat more likely to receive iron supplements than other children.

Twelve percent of children age 6-59 months received deworming medication in the six months preceding the survey, with only minimal differences by background characteristics.

Almost half (49 percent) of children age 6-59 months live in households using iodized salt. This proportion is higher among urban (71 percent) than rural (40 percent) children. It also increases substantially as mother's education and wealth quintile increase.

Table 11.8 Micronutrient intake among children

Among youngest children age 6-23 months who are living with their mother, the percentages who consumed vitamin A-rich and iron-rich foods in the day or night preceding the survey, and among all children age 6-59 months, the percentages who were given vitamin A supplements in the six months preceding the survey, who were given iron supplements in the past seven days, and who were given deworming medication in the six months preceding the survey, and among all children age 6-59 months who live in households that were tested for iodized salt, the percentage who live in households with iodized salt, by background characteristics, Yemen 2013

Background characteristic	Among youngest children age 6-23 months living with their mother:			Among all children age 6-59 months:				Among children age 6-59 months living in households tested for iodized salt	
	Percentage who consumed foods rich in vitamin A in last 24 hours[1]	Percentage who consumed foods rich in iron in last 24 hours[2]	Number of children	Percentage given vitamin A supplements in last 6 months	Percentage given iron supplements in last 7 days	Percentage given deworming medication in last 6 months[3]	Number of children	Percentage living in households with iodized salt[4]	Number of children
Age in months									
6-8	22.8	14.0	794	36.2	6.5	4.6	806	47.1	767
9-11	44.2	29.4	739	59.5	6.4	5.7	743	47.7	713
12-17	52.7	38.5	1,697	61.9	6.9	6.5	1,797	48.5	1,705
18-23	59.4	48.2	1,032	60.4	6.2	9.8	1,231	49.6	1,167
24-35	na	na	na	57.0	5.5	13.4	3,066	48.6	2,931
36-47	na	na	na	52.0	5.5	15.2	2,894	48.4	2,762
48-59	na	na	na	54.1	5.7	15.5	2,978	50.6	2,867
Sex									
Male	47.8	34.8	2,163	55.2	5.9	12.2	6,942	49.2	6,628
Female	46.8	34.6	2,100	55.1	5.9	11.9	6,574	48.7	6,283
Breastfeeding status									
Breastfeeding	43.7	30.9	3,004	55.2	6.1	7.5	3,527	46.1	3,360
Not breastfeeding	55.6	43.8	1,249	55.3	5.7	13.7	9,774	50.0	9,361
Missing	*	*	11	48.0	10.6	13.3	215	45.4	190
Mother's age at birth									
15-19	45.1	31.7	267	52.8	4.3	7.5	426	51.4	404
20-29	48.5	35.4	2,364	55.8	6.2	11.6	7,091	49.9	6,769
30-39	46.1	34.7	1,355	55.0	5.8	13.2	4,817	49.3	4,600
40-49	44.6	31.3	277	52.8	5.1	11.9	1,183	41.2	1,139
Residence									
Urban	66.3	49.7	1,119	60.7	9.5	14.6	3,696	71.4	3,563
Rural	40.5	29.3	3,144	53.1	4.6	11.1	9,820	40.4	9,349
Governorate									
Ibb	31.2	19.3	469	46.8	4.1	10.9	1,459	46.7	1,383
Abyan	51.4	45.8	86	31.3	6.0	14.6	260	89.5	258
Sana'a City	74.1	52.6	338	59.0	11.9	9.6	1,115	73.4	1,089
Al-Baidha	39.3	35.0	169	61.5	1.9	9.1	537	75.1	516
Taiz	46.9	31.2	528	67.4	5.2	15.3	1,698	59.5	1,630
Al-Jawf	41.0	39.4	38	18.1	4.2	6.0	125	30.8	89
Hajjah	40.7	23.3	270	41.7	2.4	9.3	877	17.6	858
Al-Hodiedah	59.2	44.5	534	64.3	10.3	19.5	1,737	41.9	1,614
Hadramout	46.1	38.5	189	48.8	5.0	3.2	655	42.4	636
Dhamar	39.6	30.7	386	73.7	3.8	8.7	1,096	53.2	1,077
Shabwah	51.5	41.0	72	28.0	4.0	6.4	239	29.0	223
Sadah	55.6	42.7	126	42.4	4.6	12.9	407	56.8	384
Sana'a	48.8	32.7	262	55.7	5.0	8.9	777	34.6	752
Aden	74.7	61.0	101	67.0	11.6	16.6	326	76.8	318
Lahj	55.8	48.3	109	61.8	7.8	18.4	347	74.0	324
Mareb	42.0	38.1	31	32.6	5.5	8.3	102	34.9	100
Al-Mhweit	33.0	24.1	144	42.3	4.9	14.2	443	37.5	420
Al-Mhrah	61.8	56.4	17	53.3	7.6	15.4	55	77.6	51
Amran	32.5	24.7	183	52.7	3.7	10.2	565	23.1	532
Aldhalae	31.8	26.3	103	30.9	4.3	11.9	333	41.5	313
Reimah	40.7	27.1	106	46.8	3.7	11.8	363	22.0	345
Mother's education									
No education	38.9	28.2	2,245	51.4	4.7	11.0	7,519	39.2	7,164
Fundamental	53.1	39.2	1,449	57.6	6.1	13.2	4,296	58.5	4,114
Secondary	61.9	46.4	425	63.3	9.0	13.0	1,230	65.6	1,180
Higher	74.9	55.3	143	71.6	14.4	16.3	471	73.1	453
Wealth quintile									
Lowest	34.0	23.6	939	47.4	5.0	10.4	3,046	26.9	2,871
Second	36.9	25.7	961	55.0	4.4	11.4	2,892	37.0	2,741
Middle	45.7	35.5	875	55.6	4.1	11.4	2,709	53.4	2,624
Fourth	59.0	46.0	759	58.2	6.7	13.2	2,499	62.5	2,381
Highest	67.6	48.2	729	61.6	10.2	14.7	2,370	71.8	2,295
Total	47.3	34.7	4,263	55.2	5.9	12.1	13,516	48.9	12,912

Note: Information on vitamin A is based on both mother's recall and the immunization card (where available). Information on iron supplements and deworming medication is based on the mother's recall. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, carrots, squash, sweet potatoes that are yellow or orange inside, dark green leafy vegetables, ripe mangoes, papayas, melons, and other fruits that are rich in vitamin A
[2] Includes meat (and organ meat), fish, poultry, and eggs
[3] Deworming for intestinal parasites is commonly done for helminthes and for schistosomiasis.
[4] Excludes children in households in which salt was not tested

11.6 PRESENCE OF IODIZED SALT IN HOUSEHOLDS

Iodine is an essential micronutrient, and iodized salt prevents goiter among children and adults. Salt used in the household is the most common vehicle for iodine fortification to prevent iodine deficiency disorders. In 1996, the government regulated the iodine content in salt, mandating a minimum content of 40 parts per million (Qaed, 2014). According to the World Health Organization, a country's salt iodization program is considered to be on a good track toward eliminating iodine deficiency when 90 percent of households use iodized salt.

In the 2013 YNHDS, salt was tested for iodine in 95 percent of all households interviewed (Table 11.9). Among households in which salt was tested, 50 percent were consuming iodized salt. It should be noted that household salt was tested for the presence or absence of iodine only; the iodine level of the salt was not measured. There are large variations in the percentages of households with iodized salt by residence, governorate, and wealth quintile. Urban households are more likely to consume iodized salt than rural households (72 percent and 40 percent, respectively). Abyan and Al-Mhrah governorates have the highest proportion of households consuming iodized salt (88 percent and 83 percent, respectively), while Hajjah Governorate has the lowest (16 percent). The percentage of households with iodized salt increases with increasing wealth, from 25 percent of households in the lowest quintile to 74 percent of those in the highest quintile.

Table 11.9 Presence of iodized salt in household

Among all households, the percentage with salt tested for iodine content and the percentage with no salt in the household; and among households with salt tested, the percentage with iodized salt, according to background characteristics, Yemen 2013

Background characteristic	Among all households, the percentage:			Among households with tested salt:	
	With salt tested	With no salt in the household	Number of households	Percentage with iodized salt	Number of households
Residence					
Urban	95.6	4.4	5,413	71.9	5,175
Rural	94.1	5.9	11,938	39.8	11,231
Governorate					
Ibb	95.8	4.2	1,827	45.2	1,751
Abyan	97.6	2.4	374	87.8	365
Sana'a City	95.3	4.7	1,640	75.3	1,562
Al-Baidha	96.8	3.2	533	76.2	516
Taiz	93.9	6.1	2,306	56.1	2,164
Al-Jawf	71.8	28.2	142	30.5	102
Hajjah	96.8	3.2	1,094	15.6	1,059
Al-Hodiedah	90.6	9.4	2,487	41.2	2,254
Hadramout	97.7	2.3	822	49.2	803
Dhamar	97.2	2.8	1,246	54.6	1,211
Shabwah	93.3	6.7	271	28.7	253
Sadah	94.1	5.9	493	53.3	464
Sana'a	95.7	4.3	779	34.2	745
Aden	96.0	4.0	620	77.1	595
Lahj	94.3	5.7	601	73.8	567
Mareb	96.9	3.1	103	30.8	100
Al-Mhweit	92.4	7.6	488	36.8	451
Al-Mhrah	94.0	6.0	85	82.9	80
Amran	94.3	5.7	622	27.2	587
Aldhalae	94.6	5.4	397	42.7	376
Reimah	95.4	4.6	423	20.6	403
Wealth quintile					
Lowest	91.1	8.9	3,849	25.3	3,506
Second	94.4	5.6	3,493	38.2	3,296
Middle	96.3	3.7	3,286	50.4	3,163
Fourth	94.5	5.5	3,220	64.1	3,043
Highest	97.0	3.0	3,503	73.6	3,398
Total	94.6	5.4	17,351	49.9	16,406

11.7 NUTRITIONAL STATUS OF WOMEN

The 2013 YNHDS collected anthropometric data on height and weight for 94 percent of all women age 15-49 in interviewed households. Data on height and body mass index (BMI) were used to assess women's nutritional status.

Height is an outcome of genetics combined with the effects of nutrition during childhood and adolescence. For women, height helps to predict risk of difficult delivery because small stature is frequently associated with small pelvic size. The risk of low birthweight babies is also higher for short women. The cutoff point—that is, the height below which a woman is considered to be at risk for poor birth outcomes and obstetric complications—is defined as 145 centimeters. Table 11.10 shows that 7 percent of Yemeni women age 15-49 are below this height.

Information on BMI is also presented in Table 11.10. BMI is calculated by dividing weight in kilograms by height in meters squared (kg/m^2). Pregnant women and women who had a birth in the two months preceding the survey were excluded from BMI calculations. A BMI cutoff point of 18.5 has been recommended for assessing chronic energy deficiency among nonpregnant women. At the other end of the BMI scale, women are considered overweight if their BMI falls between 25.0 and 29.9 and obese if their BMI is 30.0 or greater.

Overall, half of women (51 percent) have a BMI in the normal range, 25 percent are thin, and 24 percent are overweight or obese. Fourteen percent of women are classified as mildly thin and 11 percent as moderately or severely thin. Eight percent are classified as obese. Hence, among Yemeni women of reproductive age, overweight and obesity may be as much of a concern as underweight. Women in the 15-19 age group are more likely than other women to be thin (BMI below 18.5). The proportion of women who are overweight or obese increases with age. For example, only 7 percent of women age 15-19 are overweight or obese, as compared with 44 percent of women age 40-49. Thirty-six percent of urban women are overweight or obese, compared with 17 percent of rural women. Conversely, rural women are more likely than urban women to be thin. Al-Mhrah Governorate (46 percent) has the highest proportion of overweight or obese women, and Reimah and Hajjah governorates (10 percent each) have the lowest. The proportion of women who are overweight or obese increases with increasing wealth, from 6 percent among those in the lowest quintile to 39 percent among those in the highest quintile.

In addition to height and weight, women's mid-upper-arm circumference (MUAC) was also measured in the 2013 YNHDS, using UNICEF tapes. This measure—taken from midway between the elbow and shoulder—can provide an indicator of level of undernutrition. Although there is controversy as to what cutoff points to use to best distinguish undernutrition (Tang et al., 2011), the survey categorized women with an MUAC of less than 21 cm as having severe acute malnutrition and those with an MUAC of 21-22.9 cm as having moderate acute malnutrition; the nutritional status of women with an MUAC of 23 cm or more was considered to be normal.

Table 11.10 Nutritional status of women

Among all women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Yemen 2013

Background characteristic	Height Percent-age below 145 cm	Number of women	Body mass index[1] Mean body mass index (BMI)	18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17 (moder-ately and severely thin)	≥25.0 (total over-weight or obese)	25.0-29.9 (over-weight)	≥30.0 (obese)	Number of women
Age											
15-19	9.4	6,135	19.9	56.9	36.4	20.5	15.9	6.7	4.9	1.8	5,852
20-29	5.9	9,595	21.6	55.3	25.4	14.5	10.9	19.3	13.9	5.4	8,142
30-39	6.8	5,828	23.8	45.1	17.3	9.4	7.9	37.6	25.0	12.6	5,125
40-49	7.7	3,200	24.7	41.4	14.5	7.5	7.0	44.1	25.4	18.7	3,088
Residence											
Urban	6.5	8,354	23.8	46.9	17.1	9.0	8.1	35.9	21.9	14.0	7,672
Rural	7.6	16,404	21.2	53.8	29.0	16.5	12.5	17.2	12.4	4.8	14,535
Governorate											
Ibb	7.9	2,691	22.3	55.2	20.2	12.4	7.8	24.6	17.2	7.4	2,410
Abyan	3.7	533	23.2	45.4	21.3	10.2	11.0	33.3	21.3	12.0	493
Sana'a City	6.1	2,452	23.8	48.0	15.7	9.3	6.5	36.3	23.4	12.9	2,235
Al-Baidha	2.4	1,066	24.1	54.7	10.9	8.4	2.5	34.4	19.5	14.9	958
Taiz	6.8	3,488	21.6	50.5	28.6	16.2	12.5	20.9	14.0	7.0	3,153
Al-Jawf	5.7	174	22.2	56.3	20.3	12.4	7.9	23.4	16.9	6.5	158
Hajjah	7.3	1,359	20.3	50.6	40.0	21.8	18.1	9.5	5.9	3.6	1,202
Al-Hodiedah	10.5	3,193	20.7	43.8	40.3	18.5	21.8	15.9	10.0	6.0	2,880
Hadramout	4.7	1,293	23.4	44.6	20.1	10.2	9.9	35.2	21.9	13.4	1,187
Dhamar	8.4	1,621	21.5	58.8	23.2	14.8	8.4	18.0	13.7	4.3	1,418
Shabwah	4.8	495	22.7	52.2	20.6	11.6	9.1	27.1	19.2	8.0	450
Sadah	6.0	773	21.6	63.8	19.2	10.9	8.2	17.0	14.2	2.8	675
Sana'a	6.1	1,236	22.0	56.0	21.7	14.9	6.8	22.3	16.3	6.0	1,094
Aden	5.0	877	24.3	44.6	15.7	6.9	8.7	39.8	23.4	16.3	807
Lahj	5.6	645	22.6	50.9	21.4	12.6	8.7	27.8	18.8	8.9	587
Mareb	3.7	177	22.9	51.5	20.7	14.0	6.7	27.8	18.1	9.7	159
Al-Mhweit	8.7	622	20.8	54.2	32.1	19.0	13.1	13.7	10.7	3.0	543
Al-Mhrah	5.1	92	25.1	37.2	17.3	10.5	6.8	45.5	22.6	22.8	82
Amran	8.7	834	21.3	58.5	25.0	15.0	10.0	16.5	11.3	5.1	711
Aldhalae	5.5	620	22.1	56.2	21.0	12.3	8.7	22.8	15.7	7.1	556
Reimah	18.8	516	20.6	64.7	25.5	15.7	9.8	9.8	8.6	1.2	448
Education											
No education	7.8	10,433	22.0	51.1	25.8	14.1	11.7	23.1	15.4	7.7	9,153
Fundamental	7.6	9,061	22.2	51.8	24.2	13.9	10.3	24.0	15.6	8.3	8,161
Secondary	6.2	3,687	21.7	51.5	27.7	15.5	12.2	20.8	14.5	6.2	3,419
Higher	3.5	1,577	23.2	51.4	16.7	8.9	7.8	31.9	20.5	11.3	1,474
Wealth quintile											
Lowest	9.5	4,334	19.6	51.4	42.2	21.5	20.7	6.4	5.0	1.4	3,771
Second	8.6	4,725	20.7	56.7	30.5	17.6	12.9	12.8	10.0	2.9	4,149
Middle	6.6	4,897	21.9	55.2	23.8	14.7	9.1	20.9	14.8	6.1	4,348
Fourth	6.7	5,140	23.2	49.1	18.3	10.4	8.0	32.5	21.8	10.7	4,690
Highest	5.3	5,662	24.2	46.3	14.8	8.0	6.8	38.9	23.1	15.8	5,248
Total	7.2	24,758	22.1	51.4	24.9	13.9	11.0	23.6	15.7	8.0	22,207

Note: Body mass index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^{2}).
[1] Excludes pregnant women and women with a birth in the preceding 2 months

As shown in Table 11.11, the mean MUAC among women age 15-49 was 25 cm. Twelve percent of women have severe acute malnutrition, and 20 percent have moderate acute malnutrition. More than three-fifths of women (68 percent) have an MUAC that falls in the normal range and are not considered malnourished. Younger women, rural women, women in Hajjah Governorate, and women in the lowest wealth quintile are most likely to have severe acute malnutrition.

Table 11.11 Mid-upper-arm circumference among women

Among all women age 15-49, mean and standard deviation of mid-upper-arm circumference (MUAC) and percent distribution by specific MUAC levels, by background characteristics, Yemen 2013

Background characteristic	Mean MUAC	Standard deviation	<21 cm (severe acute malnutrition)	21-22.9 cm (moderate acute malnutrition)	≥23 cm (normal)	Total	Number of women
Age							
15-19	23.4	3.4	18.7	28.9	52.4	100.0	6,079
20-29	25.0	4.0	11.0	21.4	67.6	100.0	9,505
30-39	26.5	4.8	7.4	14.7	77.9	100.0	5,766
40-49	27.2	4.7	7.4	11.7	80.9	100.0	3,176
Residence							
Urban	26.6	4.7	8.2	13.9	77.9	100.0	8,253
Rural	24.5	4.0	13.3	23.7	63.0	100.0	16,273
Maternity status							
Pregnant	24.8	3.7	10.3	23.9	65.8	100.0	2,061
Breastfeeding	25.1	4.1	10.5	20.4	69.1	100.0	4,660
Neither	25.3	4.5	12.0	20.0	68.0	100.0	17,804
Nutritional status[1]							
Thin (BMI <18.5)	24.4	3.9	14.5	24.7	60.8	100.0	3,779
Normal (BMI 18.5-24.9)	25.2	4.2	11.5	20.7	67.8	100.0	9,718
Overweight/obese (BMI ≥25)	26.1	4.7	9.1	16.3	74.6	100.0	5,442
Governorate							
Ibb	25.3	4.2	8.2	20.4	71.5	100.0	2,674
Abyan	26.5	4.8	8.9	14.8	76.3	100.0	526
Sana'a City	26.6	4.4	6.8	14.4	78.7	100.0	2,419
Al-Baidha	27.2	4.2	3.0	11.9	85.0	100.0	1,046
Taiz	24.9	4.1	13.2	22.1	64.7	100.0	3,494
Al-Jawf	25.0	4.3	8.9	19.9	71.1	100.0	173
Hajjah	23.1	4.1	23.8	32.4	43.8	100.0	1,357
Al-Hodiedah	24.8	4.5	14.2	21.1	64.6	100.0	3,197
Hadramout	25.9	4.6	11.0	15.1	74.0	100.0	1,288
Dhamar	25.0	4.3	10.0	18.9	71.1	100.0	1,610
Shabwah	25.1	4.3	15.5	19.9	64.6	100.0	451
Sadah	23.8	3.2	13.8	30.5	55.6	100.0	763
Sana'a	24.8	3.7	10.6	21.9	67.4	100.0	1,225
Aden	27.6	5.3	6.6	9.8	83.6	100.0	860
Lahj	25.9	4.3	8.8	17.1	74.0	100.0	618
Mareb	26.2	4.0	5.1	14.8	80.1	100.0	168
Al-Mhweit	24.3	3.5	11.6	26.1	62.2	100.0	619
Al-Mhrah	28.3	6.0	5.4	11.6	83.0	100.0	88
Amran	23.7	3.5	20.4	28.1	51.6	100.0	838
Aldhalae	25.4	4.1	11.3	18.6	70.2	100.0	597
Reimah	23.2	2.8	15.6	32.2	52.2	100.0	516
Education							
No education	25.1	4.3	11.7	21.7	66.6	100.0	10,343
Fundamental	25.4	4.5	11.2	19.6	69.3	100.0	8,955
Secondary	24.9	4.1	13.5	21.3	65.2	100.0	3,660
Higher	26.1	4.5	8.8	14.8	76.3	100.0	1,567
Wealth quintile							
Lowest	23.2	3.4	20.1	31.0	48.9	100.0	4,328
Second	24.2	3.5	12.7	25.3	62.1	100.0	4,689
Middle	25.0	4.3	11.2	20.5	68.3	100.0	4,867
Fourth	26.1	4.4	8.4	15.5	76.1	100.0	5,066
Highest	27.0	4.8	7.3	12.5	80.2	100.0	5,576
Total	25.2	4.4	11.6	20.4	68.0	100.0	24,526

[1] Excludes women who are pregnant or who gave birth in the 2 months preceding the interview as well as those for whom BMI is not available

11.8 PREVALENCE OF ANEMIA IN WOMEN

Anemia is a key health status indicator for maternal nutrition. It is estimated that one-fifth of perinatal mortality and one-tenth of maternal mortality are attributable to iron deficiency anemia. Anemia also results in an increased risk of premature delivery and low birth weight. Iron deficiency, a major cause of anemia, is one of the top 10 risk factors in developing countries for "lost years of healthy life" (Benoist et al., 2008). Information on the prevalence of anemia can be useful for the development of health intervention programs designed to prevent and control anemia, such as iron supplementation and fortification programs. Iron supplementation of women during pregnancy protects the mother and the infant.

Anemia was measured in the 2013 YNHDS among all consenting women age 15-49 in one-third of the survey households using a procedure similar to that used for children, with capillary blood collected from a finger prick. Anemia measurements were obtained from 87 percent of women age 15-49 (Appendix Table C.3). As with children, results were returned to the woman, and those with severe anemia were advised to seek medical attention. Table 11.12 shows anemia prevalence based on hemoglobin levels (adjusted for pregnancy status and altitude), by selected background characteristics. The formulas recommended by the CDC were used to adjust hemoglobin levels according to altitude (CDC, 1998).

Table 11.12 Prevalence of anemia in women

Percentage of all women age 15-49 with anemia, by background characteristics, Yemen 2013

Background characteristic	Not pregnant / Pregnant	Anemia status by hemoglobin level				Number of women
		Any <12.0 g/dl <11.0 g/dl	Mild 10.0-11.9 g/dl 10.0-10.9 g/dl	Moderate 7.0-9.9 g/dl 7.0-9.9 g/dl	Severe <7.0 g/dl <7.0 g/dl	
Age						
15-19		68.2	38.9	26.8	2.5	1,837
20-29		71.5	38.4	29.7	3.4	2,887
30-39		72.5	37.3	32.0	3.2	1,723
40-49		68.9	36.1	28.7	4.1	965
Number of children ever born						
0		71.4	38.2	29.6	3.5	617
1		72.4	37.7	31.3	3.5	649
2-3		71.3	37.2	30.3	3.8	1,309
4-5		73.3	39.8	29.1	4.5	963
6+		69.2	37.8	28.8	2.6	3,875
Maternity status						
Pregnant		78.2	20.6	49.2	8.5	595
Breastfeeding		74.6	39.1	31.4	4.1	1,421
Neither		68.7	39.6	26.7	2.4	5,396
Using IUD						
Yes		63.2	37.9	24.4	0.9	289
No		70.9	38.0	29.6	3.3	7,123
Residence						
Urban		65.5	40.3	23.7	1.5	2,490
Rural		73.2	36.8	32.3	4.1	4,922
Governorate						
Ibb		46.3	32.4	13.2	0.7	778
Abyan		92.4	27.1	54.3	10.9	155
Sana'a City		58.5	42.9	14.4	1.2	695
Al-Baidha		54.5	35.4	18.7	0.4	318
Taiz		63.3	37.8	22.8	2.7	1,017
Al-Jawf		88.2	46.5	38.2	3.4	59
Hajjah		81.5	38.2	39.7	3.5	462
Al-Hodiedah		84.9	33.8	45.5	5.7	1,014
Hadramout		75.2	38.1	35.0	2.1	345
Dhamar		65.5	39.2	24.0	2.2	509
Shabwah		89.2	36.2	49.2	3.8	126
Sadah		83.6	44.9	34.5	4.2	235
Sana'a		65.1	36.8	23.9	4.4	384
Aden		88.5	49.6	34.9	4.0	242
Lahj		90.3	38.9	42.6	8.8	172
Mareb		78.6	40.0	36.8	1.8	59
Al-Mhweit		86.6	42.4	41.0	3.2	201
Al-Mhrah		82.1	34.1	44.9	3.1	31
Amran		74.8	37.9	33.3	3.5	263
Aldhalae		67.8	44.8	20.7	2.4	193
Reimah		78.3	40.4	33.9	4.0	153
Education						
No education		74.8	36.5	33.8	4.5	3,085
Fundamental		68.0	38.5	26.9	2.6	2,650
Secondary		66.6	39.4	25.2	2.0	1,189
Higher		67.7	41.2	25.1	1.4	487
Wealth quintile						
Lowest		80.1	34.6	39.4	6.1	1,294
Second		72.2	35.5	32.5	4.2	1,457
Middle		71.9	40.4	28.7	2.8	1,501
Fourth		65.7	36.3	27.2	2.3	1,573
Highest		64.9	42.4	21.2	1.3	1,586
Total		70.6	38.0	29.4	3.2	7,412

Note: Prevalence is adjusted for altitude using formulas in CDC, 1998.

Table 11.12 shows that 71 percent of women age 15-49 are anemic; 38 percent are mildly anemic, 29 percent are moderately anemic, and 3 percent are severely anemic. There is no clear pattern in anemia levels by women's age or number of children. The prevalence of anemia is associated with maternity status; pregnant (78 percent) and lactating (75 percent) women are somewhat more likely to be anemic than women who are neither pregnant nor lactating (69 percent). Interestingly, women using an intrauterine device (IUD) are less likely to be anemic than non-IUD users.

Anemia is slightly more prevalent in rural areas (73 percent) than in urban areas (66 percent). Anemia levels are highest among women in Abyan Governorate (92 percent) and lowest among those in Ibb Governorate (46 percent). Anemia is most prevalent among women with no education and women in the lowest wealth quintile.

11.9 Micronutrient Intake among Mothers

Adequate micronutrient intake by women has important benefits for both women and their children. Breastfeeding children benefit from the micronutrient supplementation that mothers receive, especially vitamin A. The YNHDS included questions to ascertain whether mothers had received iron supplements during pregnancy and vitamin A supplements within two months postpartum. Table 11.13 includes measures of vitamin A and iron supplementation among recent mothers and also presents the proportion of women who took deworming medication while pregnant and who live in households with iodized salt.

Table 11.13 shows that 17 percent of women with a child born in the five years before the survey received a vitamin A dose in the first two months after the birth of their last child. Supplementation rates were highest among urban women (27 percent), women living in Sana'a City (43 percent), women with a higher education (27 percent), and women in the highest wealth quintile (28 percent).

As mentioned earlier, pregnant women are more likely to be anemic than other women. Iron status among pregnant women can be improved by means of iron supplements as well as by increased consumption of iron-rich foods and control of parasites and malaria. Table 11.13 shows the percent distribution of women who gave birth during the five years prior to the survey by the number of days they took iron tablets during the pregnancy for their last-born child. Seven in ten women (69 percent) did not take iron supplements at all. The majority of women who took supplements took them for less than 60 days; only 6 percent took iron supplements for the recommended period of time (90 days or more). Urban women, those with a higher education, and those in the highest wealth quintile were more likely than other women to take iron supplements for 90 days or more during their pregnancy.

Three percent of women took deworming medication during their last pregnancy. Differences by background characteristics are minimal.

Half of women with a child born in the past five years live in households using iodized salt. Urban women, those with a higher education, and those in the higher wealth quintiles are more likely than other women to live in households with iodized salt.

Table 11.13 Micronutrient intake among mothers

Among women age 15-49 with a child born in the past five years, the percentage who received a vitamin A dose in the first two months after the birth of the last child, the percent distribution by number of days they took iron tablets or syrup during the pregnancy of the last child, and the percentage who took deworming medication during the pregnancy of the last child; and among women age 15-49 with a child born in the past five years and who live in households that were tested for iodized salt, the percentage who live in households with iodized salt, by background characteristics, Yemen 2013

| Background characteristic | Percentage who received vitamin A dose postpartum[1] | Number of days women took iron tablets or syrup during pregnancy of last birth | | | | | | Percentage of women who took deworming medication during pregnancy of last birth | Number of women | Among women with a child born in the last five years who live in households that were tested for iodized salt: | |
		None	<60	60-89	90+	Don't know/ missing	Total			Percentage living in households with iodized salt[2]	Number of women
Age											
15-19	16.4	67.9	20.0	4.7	5.5	1.8	100.0	3.0	514	51.4	491
20-29	17.1	67.9	19.7	3.7	5.6	3.2	100.0	3.0	5,259	50.9	5,025
30-39	17.9	70.0	17.4	3.7	6.0	2.9	100.0	4.2	3,588	51.2	3,433
40-49	15.3	74.7	15.6	3.0	3.4	3.3	100.0	2.7	1,009	43.4	970
Residence											
Urban	26.6	54.9	24.1	5.9	11.7	3.5	100.0	2.2	3,077	71.6	2,971
Rural	13.2	75.3	16.2	2.7	2.9	2.9	100.0	4.0	7,292	41.1	6,947
Governorate											
Ibb	11.2	71.8	18.1	2.7	2.9	4.6	100.0	4.1	1,147	48.1	1,095
Abyan	14.7	61.6	25.9	5.4	5.4	1.7	100.0	3.2	207	89.9	205
Sana'a City	43.0	47.3	23.9	6.8	18.8	3.3	100.0	1.4	933	75.3	906
Al-Baidha	13.7	76.8	12.1	4.2	5.0	1.8	100.0	3.4	446	76.8	431
Taiz	14.7	65.4	22.0	3.7	7.2	1.7	100.0	5.4	1,274	59.9	1,223
Al-Jawf	6.1	73.6	10.2	5.5	8.1	2.6	100.0	4.2	95	34.3	69
Hajjah	10.5	81.2	11.2	1.3	1.5	4.8	100.0	3.0	620	17.8	605
Al-Hodiedah	14.3	74.6	18.0	2.3	3.2	1.9	100.0	2.3	1,257	43.5	1,173
Hadramout	13.1	56.0	26.8	6.0	2.8	8.4	100.0	1.3	543	41.4	526
Dhamar	25.7	80.9	14.1	1.3	2.5	1.2	100.0	4.0	802	53.1	787
Shabwah	13.2	43.3	35.8	10.6	8.9	1.4	100.0	1.0	194	27.6	181
Sadah	6.8	74.6	8.2	3.7	5.0	8.4	100.0	1.6	320	57.1	304
Sana'a	11.1	82.4	11.8	1.2	1.9	2.8	100.0	3.0	598	35.3	578
Aden	30.2	38.3	32.1	12.7	13.9	3.1	100.0	1.2	291	77.1	282
Lahj	21.9	55.9	26.8	7.3	8.3	1.7	100.0	4.1	276	72.6	259
Mareb	8.0	58.4	26.8	6.2	7.5	1.1	100.0	3.2	78	35.5	76
Al-Mhweit	6.8	83.7	10.6	1.3	1.5	2.9	100.0	5.9	304	36.5	288
Al-Mhrah	27.7	54.9	35.0	3.5	3.0	3.5	100.0	2.8	42	76.8	39
Amran	13.0	84.6	10.6	2.1	1.5	1.1	100.0	7.3	445	24.8	420
Aldhalae	16.0	61.0	29.1	2.6	4.7	2.6	100.0	2.1	251	42.7	236
Reimah	18.0	88.7	6.4	0.9	1.8	2.2	100.0	5.9	246	21.9	235
Education											
No education	13.9	77.3	14.9	2.5	2.6	2.7	100.0	3.9	5,475	39.8	5,226
Fundamental	19.0	65.0	22.0	4.2	5.5	3.3	100.0	3.1	3,463	58.9	3,319
Secondary	24.4	55.0	22.8	6.8	12.0	3.4	100.0	2.5	1,025	67.0	983
Higher	27.3	33.6	26.4	7.0	27.7	5.3	100.0	2.1	407	74.5	391
Wealth quintile											
Lowest	11.0	81.5	12.4	1.7	1.7	2.7	100.0	3.9	2,097	26.8	1,982
Second	13.2	80.1	14.4	1.8	2.2	1.5	100.0	4.3	2,136	38.3	2,027
Middle	13.8	74.0	15.8	3.3	3.6	3.3	100.0	4.4	2,107	52.0	2,038
Fourth	20.0	62.0	23.6	5.1	5.0	4.2	100.0	2.3	2,016	62.7	1,921
Highest	28.4	47.5	27.0	6.6	15.4	3.5	100.0	2.1	2,014	72.5	1,951
Total	17.2	69.3	18.5	3.7	5.5	3.1	100.0	3.4	10,369	50.3	9,919

[1] In the first two months after delivery of last birth
[2] Excludes women in households where salt was not tested

11.10 HOUSEHOLD FOOD SECURITY

In order to gather information about food security, households interviewed in the 2013 YNHDS were asked a series of three questions. Specifically, they were asked how often in the four weeks before the survey the household experienced times when (1) there was no food to eat because of lack of resources, (2) a family member went to bed hungry because there was not enough food, and (3) any family member spent the whole day without eating because there was not enough food. Results are shown in Table 11.14.

The findings indicate that food insecurity is not widespread in Yemen. Three-quarters of households reported that they never experienced a time in the previous four weeks when there was no food to eat. Eight percent of households experienced such food shortages rarely, while 11 percent of households experienced shortages sometimes and 6 percent experienced them often in the previous four weeks.

The vast majority of households (84 percent) reported that there was never a time in the four weeks before the survey when a member of the household went to bed hungry. Only 4 percent of households reported that such an event occurred often. Similarly, 90 percent of households reported that, in the previous four weeks, no family member went for a whole day without eating because there was not enough food.

There are only small differentials in food security by urban-rural residence. By governorate, households in Hadramout Governorate appear to be the most secure in terms of availability of food, while those in Ibb Governorate are the least secure. As expected, wealthier households tend to experience food insecurity less frequently than poorer households.

Table 11.14 Food security

Percentage of households that did not have any food to eat at any time during the past four weeks due to lack of resources, percentage of households in which one or more members went to bed hungry at any time during the four past weeks because there was not enough food, and percentage of households in which one or more members spent at least one entire day during the past four weeks without eating because there was not enough food, by background characteristics, Yemen 2013

Background characteristic	Household had no food to eat in the past four weeks						One or more members went to bed hungry in the past four weeks						One or more members went at least one entire day without food in the past four weeks						Number of households
	Not once	Rarely	From time to time	Often	Missing	Total	Not once	Rarely	From time to time	Often	Missing	Total	Not once	Rarely	From time to time	Often	Missing	Total	
Residence																			
Urban	78.5	6.2	11.3	3.9	0.1	100.0	85.9	4.2	6.8	2.9	0.2	100.0	90.3	2.5	5.0	2.0	0.1	100.0	5,413
Rural	74.6	8.2	10.1	7.0	0.1	100.0	82.7	5.4	6.7	5.0	0.2	100.0	90.4	2.3	3.8	3.4	0.1	100.0	11,938
Governorate																			
Ibb	54.3	8.8	15.7	21.2	0.0	100.0	75.3	4.8	8.0	11.9	0.0	100.0	80.0	2.0	7.1	10.9	0.0	100.0	1,827
Abyan	71.5	11.1	13.8	3.6	0.0	100.0	83.5	6.5	5.9	3.7	0.3	100.0	94.4	2.9	1.6	1.1	0.0	100.0	374
Sana'a City	78.4	5.2	13.3	3.1	0.0	100.0	80.6	4.4	11.8	3.2	0.0	100.0	83.6	3.8	10.4	2.3	0.0	100.0	1,640
Al-Baidha	82.2	2.8	8.3	6.6	0.0	100.0	85.9	1.4	6.4	6.1	0.1	100.0	93.7	0.5	2.3	3.3	0.1	100.0	533
Taiz	85.2	6.1	5.1	3.4	0.2	100.0	88.9	3.2	4.0	3.4	0.4	100.0	93.9	0.8	3.2	1.8	0.3	100.0	2,306
Al-Jawf	90.8	3.3	2.0	3.4	0.4	100.0	92.8	2.6	2.0	1.7	0.9	100.0	95.7	1.6	0.8	1.3	0.6	100.0	142
Hajjah	73.2	6.1	7.1	13.4	0.1	100.0	78.2	4.4	5.1	12.0	0.3	100.0	88.3	2.2	2.3	7.2	0.1	100.0	1,094
Al-Hodiedah	80.7	9.0	9.5	0.6	0.2	100.0	86.6	8.0	4.1	1.1	0.2	100.0	95.3	3.2	0.9	0.5	0.2	100.0	2,487
Hadramout	95.1	1.0	3.2	0.6	0.1	100.0	96.1	0.9	2.4	0.4	0.2	100.0	96.0	0.7	2.8	0.4	0.1	100.0	822
Dhamar	60.4	15.0	16.4	8.1	0.1	100.0	81.0	4.6	9.4	4.7	0.3	100.0	89.2	2.4	5.4	2.8	0.1	100.0	1,246
Shabwah	79.7	5.2	12.2	2.9	0.0	100.0	90.2	2.5	6.1	1.3	0.0	100.0	95.9	2.2	1.2	0.7	0.0	100.0	271
Sadah	92.6	4.3	1.9	1.1	0.2	100.0	93.5	1.8	3.3	0.8	0.5	100.0	97.3	0.7	1.1	0.6	0.3	100.0	493
Sana'a	76.3	7.0	11.4	5.0	0.2	100.0	86.8	3.9	5.7	3.4	0.2	100.0	92.2	2.4	3.4	1.8	0.2	100.0	779
Aden	72.9	8.4	14.9	3.8	0.0	100.0	83.5	6.9	7.8	1.8	0.0	100.0	92.0	3.0	4.1	0.8	0.1	100.0	620
Lahj	73.2	6.2	15.7	4.8	0.0	100.0	78.4	6.0	10.4	5.2	0.0	100.0	82.9	5.8	7.8	3.5	0.0	100.0	601
Mareb	64.7	4.7	25.1	5.2	0.3	100.0	75.7	3.9	15.5	4.6	0.3	100.0	87.0	1.2	7.4	4.1	0.3	100.0	103
Al-Mhweit	78.4	10.1	6.6	4.9	0.0	100.0	81.9	7.1	6.8	4.2	0.0	100.0	90.7	4.1	3.7	1.5	0.0	100.0	488
Al-Mhrah	82.6	7.4	8.1	1.6	0.4	100.0	82.8	7.4	7.0	2.0	0.7	100.0	88.6	5.5	3.5	2.1	0.2	100.0	85
Amran	62.2	13.3	16.6	7.8	0.2	100.0	69.2	11.3	16.9	2.4	0.2	100.0	87.3	2.3	8.2	2.0	0.2	100.0	622
Aldhalae	87.4	2.6	6.4	3.5	0.0	100.0	91.4	2.5	3.4	2.6	0.1	100.0	94.1	2.1	1.9	1.9	0.0	100.0	397
Reimah	77.3	11.2	8.5	3.0	0.0	100.0	83.8	9.4	3.7	3.2	0.0	100.0	97.9	1.3	0.5	0.2	0.0	100.0	423
Wealth quintile																			
Lowest	61.6	11.5	16.1	10.7	0.1	100.0	69.1	10.1	11.6	9.1	0.2	100.0	83.1	4.7	6.4	5.8	0.1	100.0	3,849
Second	73.3	9.1	9.3	8.2	0.1	100.0	83.3	5.0	6.2	5.4	0.2	100.0	90.8	1.8	3.5	3.8	0.1	100.0	3,493
Middle	81.5	6.2	7.8	4.4	0.0	100.0	90.9	2.5	4.2	2.3	0.1	100.0	94.5	1.3	2.5	1.7	0.1	100.0	3,286
Fourth	78.7	6.5	10.6	4.1	0.1	100.0	85.3	5.0	6.1	3.5	0.2	100.0	90.4	2.6	4.6	2.3	0.1	100.0	3,220
Highest	86.0	4.1	7.7	2.0	0.1	100.0	92.0	1.9	4.8	1.1	0.2	100.0	94.3	1.2	3.6	0.8	0.1	100.0	3,503
Total	75.8	7.6	10.5	6.0	0.1	100.0	83.7	5.0	6.7	4.4	0.2	100.0	90.4	2.3	4.2	2.9	0.1	100.0	17,351

HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOR

12

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Key Findings

- Awareness of AIDS is widespread in Yemen; 73 percent of all women age 15-49 have heard of AIDS.
- Knowledge about AIDS transmission is limited: whereas two-thirds of all women know that HIV can be transmitted through blood transfusions, contaminated instruments, and sexual intercourse, only about one-quarter know that HIV is not spread by sharing food and only one-fifth know that it is not spread by mosquito bites.
- Only about three in ten women know that HIV can be prevented by using condoms or that a healthy-looking person can have HIV.
- Half of all women age 15-49 know that HIV can be transmitted by breastfeeding, and one-quarter know that the risk of mother-to-child transmission can be reduced by a mother taking special drugs during pregnancy.
- Half of ever-married women believe a woman is justified in asking her husband to use a condom if she knows he has a sexually transmitted infection (STI).
- Eighteen percent of women know where to get an HIV test.
- Almost one-third of ever-married women reported having an STI or symptoms of an STI in the 12 months preceding the survey.

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HIV is not a major epidemic in Yemen. The prevalence among the adult population is estimated to be very low, at about 0.1 percent (UNICEF, 2014; UNAIDS, 2014; Index Mundi, 2014). However, the actual prevalence may be higher as a result of undetected infections and may be growing due to the recent influx of refugees, immigrants, and Yemenis returning from overseas.

In Yemen, the main route of HIV transmission is heterosexual contact. The 2009-2015 strategy for controlling HIV/AIDS is being implemented through integrating HIV/AIDS control activities within existing health programs to enable the best use of existing human and financial resources. Fourteen health sites in selected governorates offer voluntary counseling and testing services (Ministry of Public Health and Population [MOPHP], 2011). Prevention of mother-to-child transmission (PMTCT) is also an important component of the HIV/AIDS strategy. In 2010, PMTCT services were available in Sana'a and Aden. These services are to be integrated into an antenatal care package (MOPHP, 2011).

The future course of Yemen's AIDS situation depends on many variables: levels of HIV/AIDS-related knowledge among the general population, social stigmatization, risk behavior modification, access to high-quality services for sexually transmitted infections (STIs), provision and uptake of HIV counseling and testing, and access to care and antiretroviral therapy (ART), including prevention and treatment of opportunistic infections. The principal objective of this chapter is to establish the prevalence of relevant knowledge, perceptions, and behaviors at the national level as well as within geographic and socioeconomic subpopulations. This information will help the government better target those groups of individuals most in need of information and most at risk of HIV infection.

The 2013 YNHDS included a series of questions that addressed respondents' knowledge about HIV and AIDS, their awareness of modes of HIV transmission, and their behaviors to prevent the spread of HIV. These questions were asked of both ever-married and never-married women age 15-49.

12.1   HIV/AIDS Knowledge, Transmission, and Prevention Methods

Table 12.1 provides information on women's awareness of AIDS. The table shows that just under three-quarters (73 percent) of women age 15-49 in Yemen have heard of AIDS. The proportion of women who have heard of HIV/AIDS is especially low among those in rural areas (64 percent versus 91 percent in urban areas) and those who have not attended school (57 percent versus 99 percent among those with a higher education). The percentage of women who have heard of AIDS increases with increasing wealth and ranges from a low of 27 percent among those in Sadah Governorate to 95 percent among those in Sana'a City and in Aden Governorate.

Awareness of HIV/AIDS among ever-married women has increased over time, from 44 percent in 2003 and 61 percent in 2006 to 73 percent in 2013.[1]

Table 12.2 shows that about two-thirds of all women (65 percent) know that HIV can be transmitted through blood transfusions; 66 percent of women know that HIV can be transmitted by having sexual intercourse with an infected husband, and the same percentage know that it can be transmitted by using contaminated sharp instruments. Knowledge of means of HIV transmission varies widely by residence and education. Women residing in urban areas are more likely to be knowledgeable about means of HIV transmission (84-85 percent) than their counterparts residing in rural areas (55-56 percent). Similarly, women with a secondary or higher education are more likely to know means of HIV transmission (93-98 percent) than their counterparts with no education (47-49 percent). Women's knowledge of means of HIV transmission increases with increasing wealth, from 38-40 percent among those in the lowest quintile to 89-90 percent among those in the highest quintile.

Table 12.1 Knowledge of AIDS

Percentage of all women age 15-49 who have heard of AIDS, by background characteristics, Yemen 2013

Background characteristic	Has heard of AIDS	Number of respondents
Age		
15-24	72.7	11,539
15-19	69.7	6,342
20-24	76.3	5,197
25-29	74.4	4,634
30-39	73.8	5,986
40-49	70.1	3,275
Marital status		
Never married	73.0	8,870
Married	72.6	15,566
Divorced/widowed	76.9	998
Residence		
Urban	90.6	8,619
Rural	63.9	16,815
Governorate		
Ibb	69.7	2,739
Abyan	71.7	551
Sana'a City	95.2	2,487
Al-Baidha	78.5	1,101
Taiz	79.9	3,512
Al-Jawf	62.2	181
Hajjah	58.9	1,374
Al-Hodiedah	73.6	3,261
Hadramout	74.1	1,427
Dhamar	67.0	1,670
Shabwah	72.7	528
Sadah	27.4	823
Sana'a	64.4	1,265
Aden	95.1	921
Lahj	75.7	678
Mareb	76.3	183
Al-Mhweit	65.7	623
Al-Mhrah	70.4	95
Amran	68.6	852
Aldhalae	62.8	641
Reimah	56.2	520
Education		
No education	57.1	10,705
Fundamental	77.1	9,339
Secondary	96.2	3,767
Higher	99.3	1,623
Wealth quintile		
Lowest	47.4	4,435
Second	59.6	4,808
Middle	71.4	5,046
Fourth	84.9	5,320
Highest	93.8	5,825
Total	72.9	25,434

Table 12.2 also shows that only 28 percent of women know that people can reduce their risk of getting HIV by using condoms every time they have sexual intercourse. Again, women residing in urban areas are more likely to be knowledgeable about this means of HIV prevention (39 percent) than their counterparts in rural areas (23 percent). Similarly, women with a higher education are more likely to know that using condoms reduces the risk of HIV transmission (49 percent) than their counterparts with no education (19 percent). Knowledge that using condoms can prevent HIV increases with increasing wealth. The proportion of ever-married women who know that using condoms reduces the risk of HIV transmission has increased from 21 percent in 2006 to 31 percent in 2013.

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[1] Previous surveys covered ever-married women only.

Table 12.2 Knowledge of HIV transmission and prevention methods

Percentage of all women age 15-49 who know that HIV can be transmitted through blood transfusions, sexual intercourse with an infected husband, and contaminated sharp instruments, and percentage who say that HIV can be prevented by using condoms, by background characteristics, Yemen 2013

Background characteristic	Percentage of women who know that HIV can be transmitted through:			Percentage who say HIV can be prevented by using condoms[1]	Number of women
	Blood transfusions	Sexual intercourse with infected husband	Contaminated sharp instruments		
Age					
15-24	65.4	64.9	66.3	25.8	11,539
15-19	62.5	60.9	63.4	22.7	6,342
20-24	68.9	69.9	69.9	29.4	5,197
25-29	65.7	67.8	66.7	31.0	4,634
30-39	65.2	67.7	66.3	31.0	5,986
40-49	59.5	64.4	61.7	29.3	3,275
Marital status					
Never married	66.9	64.9	67.5	24.3	8,870
Married	63.2	66.3	64.7	30.6	15,566
Divorced/widowed	67.4	71.0	68.3	31.3	998
Residence					
Urban	83.9	85.2	85.1	39.1	8,619
Rural	54.8	56.2	55.9	22.9	16,815
Governorate					
Ibb	57.6	61.7	62.3	24.3	2,739
Abyan	62.4	61.9	61.0	31.1	551
Sana'a City	90.8	91.4	91.4	50.4	2,487
Al-Baidha	69.3	70.5	70.3	28.2	1,101
Taiz	72.8	75.1	74.7	36.7	3,512
Al-Jawf	55.0	57.1	55.6	20.7	181
Hajjah	50.4	49.8	48.1	15.3	1,374
Al-Hodiedah	64.4	66.9	68.0	22.2	3,261
Hadramout	66.2	65.8	62.8	29.1	1,427
Dhamar	58.4	57.1	57.4	26.7	1,670
Shabwah	67.9	70.0	69.4	30.8	528
Sadah	23.7	23.8	24.3	7.1	823
Sana'a	51.1	52.3	51.4	15.6	1,265
Aden	88.7	90.6	89.9	38.5	921
Lahj	64.2	61.3	64.2	30.2	678
Mareb	68.5	69.9	71.4	34.9	183
Al-Mhweit	51.2	56.4	56.9	24.9	623
Al-Mhrah	61.5	62.3	59.9	36.3	95
Amran	62.7	62.7	61.1	22.9	852
Aldhalae	59.0	60.9	60.9	31.6	641
Reimah	50.7	52.5	49.7	14.8	520
Education					
No education	46.6	49.0	47.9	19.0	10,705
Fundamental	68.0	69.2	69.7	30.6	9,339
Secondary	93.4	92.9	93.2	40.9	3,767
Higher	97.9	98.2	98.1	48.9	1,623
Wealth quintile					
Lowest	37.7	39.9	39.3	13.3	4,435
Second	49.7	50.7	50.5	19.9	4,808
Middle	62.6	64.3	64.3	27.1	5,046
Fourth	75.9	77.8	77.3	34.9	5,320
Highest	88.9	89.5	89.5	42.1	5,825
Total	64.7	66.0	65.8	28.4	25,434

[1] Using condoms every time they have sexual intercourse

12.2 MISCONCEPTIONS ABOUT HIV/AIDS

As part of the effort to assess HIV/AIDS knowledge, the 2013 YNHDS also obtained information on several common misconceptions about HIV transmission. Respondents were asked whether they think it is possible for a healthy-looking person to have HIV and whether HIV can be transmitted through mosquito bites, from sharing food with a person who has AIDS, or from swimming with an infected person.

Table 12.3 shows the percentage of women who reject these misconceptions about HIV. Thirty percent of all women know that a healthy-looking person can be carrying the HIV virus. Nineteen percent of women know that HIV cannot be transmitted through mosquito bites, 27 percent know that people cannot

be infected by sharing food with a person who has AIDS, and 24 percent know that HIV cannot be transmitted by swimming with an infected person.

Table 12.3 Knowledge and misconceptions about AIDS

Percentage of all women age 15-49 who say that a healthy-looking person can have the AIDS virus and who correctly reject local misconceptions about transmission of the AIDS virus, by background characteristics, Yemen 2013

Background characteristic	Percentage of respondents who know that:				Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Number of women
	A healthy-looking person can have the AIDS virus	The AIDS virus cannot be transmitted by mosquito bites	A person cannot become infected by sharing food with a person who has AIDS	The AIDS virus cannot be transmitted by swimming with an infected person		
Age						
15-24	29.8	19.8	27.1	24.3	6.1	11,539
15-19	28.4	18.0	25.1	22.7	5.3	6,342
20-24	31.5	22.0	29.6	26.3	7.1	5,197
25-29	29.5	20.2	27.9	24.8	6.5	4,634
30-39	30.6	18.8	29.1	24.5	6.6	5,986
40-49	27.0	16.0	23.8	18.2	5.2	3,275
Marital status						
Never married	31.7	22.0	30.8	27.7	7.2	8,870
Married	28.3	17.6	25.2	21.4	5.6	15,566
Divorced/widowed	31.2	17.8	29.3	24.2	7.0	998
Residence						
Urban	41.6	34.2	47.7	41.7	12.4	8,619
Rural	23.5	11.5	16.8	14.4	3.0	16,815
Governorate						
Ibb	21.1	11.4	17.1	15.1	1.8	2,739
Abyan	30.3	19.4	23.6	19.2	5.4	551
Sana'a City	46.8	36.7	53.6	45.8	14.3	2,487
Al-Baidha	38.5	30.0	32.4	29.7	11.9	1,101
Taiz	33.3	17.6	26.2	23.6	5.4	3,512
Al-Jawf	22.2	17.9	24.6	24.7	4.7	181
Hajjah	22.3	15.9	20.3	18.1	4.4	1,374
Al-Hodiedah	32.9	17.6	24.1	20.7	5.4	3,261
Hadramout	29.5	28.3	36.3	33.6	7.6	1,427
Dhamar	30.4	18.0	22.6	19.4	7.4	1,670
Shabwah	36.3	14.1	31.5	27.7	5.4	528
Sadah	8.7	7.6	8.2	6.7	2.6	823
Sana'a	13.5	9.5	13.0	10.6	1.2	1,265
Aden	46.8	32.1	53.3	47.1	14.7	921
Lahj	30.5	20.5	32.2	27.2	7.3	678
Mareb	29.6	13.3	20.5	17.1	2.8	183
Al-Mhweit	21.0	10.8	17.9	12.7	1.9	623
Al-Mhrah	38.9	33.1	39.5	36.4	15.9	95
Amran	18.5	12.8	20.7	16.3	1.8	852
Aldhalae	23.3	13.9	23.1	20.9	5.2	641
Reimah	14.4	9.8	21.7	12.9	2.4	520
Education						
No education	19.8	8.4	13.0	10.4	1.9	10,705
Fundamental	30.2	20.1	27.4	24.5	5.8	9,339
Secondary	44.4	34.1	48.9	42.7	12.5	3,767
Higher	56.9	50.0	71.0	62.7	22.5	1,623
Wealth quintile						
Lowest	17.1	6.5	9.4	7.4	1.5	4,435
Second	20.2	8.4	13.6	11.7	1.6	4,808
Middle	27.1	13.1	18.3	15.1	3.5	5,046
Fourth	34.4	25.9	34.4	30.0	7.6	5,320
Highest	44.6	36.8	53.5	47.6	14.6	5,825
Total	29.6	19.2	27.3	23.7	6.2	25,434

[1] Two most common local misconceptions: AIDS can be transmitted through mosquito bites and by swimming with an infected person.

Table 12.3 also includes a composite measure of HIV/AIDS knowledge. It indicates that only 6 percent of all women age 15-49 reject the two most common local misconceptions about HIV/AIDS (i.e., HIV can be transmitted by mosquito bites or by swimming with an infected person) and also are aware that a healthy-looking person can have HIV. Women residing in urban areas, women with a secondary or higher education, and women in the highest wealth quintile are much more likely than their counterparts to reject these misconceptions and to know that a healthy-looking person can have HIV.

Comparison of the 2013 YNHDS results with those from the 2006 YMICS shows no increase in knowledge about misconceptions regarding HIV transmission. The proportion of ever-married women who know that a healthy-looking person can have HIV has increased from 22 percent in 2006 to 28 percent in 2013; however, the proportion of ever-married women who know that HIV cannot be transmitted through mosquito bites has decreased from 24 percent to 18 percent over the same period, and the proportion who know that a person cannot become infected by sharing food with someone who has HIV has decreased from 28 percent to 25 percent.

12.3 KNOWLEDGE ABOUT MOTHER-TO-CHILD TRANSMISSION

As mentioned above, prevention of mother-to-child transmission is a component of Yemen's HIV/AIDS strategy. One element in this strategy is to increase the level of general knowledge about PMTCT. To assess PMTCT knowledge, both ever-married and never-married women interviewed in the 2013 YNHDS were asked whether HIV can be transmitted from a mother to a child during pregnancy, during delivery, and through breastfeeding and whether a mother with HIV can reduce the risk of transmission to her baby by taking certain drugs during pregnancy.

About half of all women know that HIV can be transmitted from mother to child: 58 percent know that HIV can be transmitted during pregnancy, 47 percent know that it can be transmitted during delivery, and 49 percent know that it can be transmitted through breastfeeding (Table 12.4). One-quarter of women know that the risk of mother-to-child transmission can be reduced if the mother takes special drugs during pregnancy. A composite indicator shows that 20 percent of women age 15-49 in Yemen know that HIV can be transmitted by breastfeeding and that transmission can be reduced if the mother takes drugs during pregnancy. This combined indicator of knowledge of mother-to-child transmission of HIV varies little by background characteristics, with the only sizeable differences being by governorate.

A comparison of data from the 2013 YNHDS and the 2006 YMICS shows some improvement in knowledge about mother-to-child transmission of HIV. For example, the proportion of ever-married women who know that HIV can be transmitted during pregnancy has increased from 47 percent in 2006 to 57 percent in 2013. The proportion of ever-married women who know that HIV can be transmitted during delivery has increased from 39 percent to 48 percent, and the proportion who know that HIV can be transmitted through breastfeeding has increased from 41 percent to 49 percent.

Table 12.4 Knowledge of prevention of mother-to-child transmission of HIV

Percentage of all women age 15-49 who know that HIV can be transmitted from mother to child during pregnancy, during delivery, and by breastfeeding and that the risk of mother-to-child transmission (MTCT) of HIV can be reduced by the mother taking special drugs during pregnancy, by background characteristics, Yemen 2013

Background characteristic	Percentage who know that:					Number of women
	HIV can be transmitted during pregnancy	HIV can be transmitted during delivery	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	
Age						
15-24	58.5	46.1	50.4	26.8	21.9	11,539
15-19	56.8	44.6	49.7	26.5	22.0	6,342
20-24	60.5	47.9	51.4	27.1	21.9	5,197
25-29	59.0	48.3	48.2	24.8	19.3	4,634
30-39	58.1	48.9	47.8	23.2	18.4	5,986
40-49	55.1	47.2	46.8	22.9	18.5	3,275
Marital status						
Never married	59.6	46.9	49.2	27.5	21.5	8,870
Married	57.0	47.1	48.8	23.7	19.4	15,566
Divorced/widowed	60.7	53.8	50.1	24.5	19.7	998
Currently pregnant						
Pregnant	53.9	45.4	46.0	22.8	19.0	2,127
Not pregnant or not sure	57.7	47.8	49.3	23.9	19.5	14,436
Missing	59.6	46.9	49.2	27.5	21.5	8,870
Residence						
Urban	73.5	58.2	53.3	30.0	20.5	8,619
Rural	50.1	41.7	46.7	22.5	20.0	16,815
Governorate						
Ibb	54.9	45.7	53.6	25.2	23.4	2,739
Abyan	52.9	37.1	46.6	33.3	27.9	551
Sana'a City	79.3	67.4	49.8	30.4	18.5	2,487
Al-Baidha	63.3	46.8	59.4	32.7	27.1	1,101
Taiz	63.1	48.4	57.3	37.0	30.6	3,512
Al-Jawf	46.6	39.9	43.4	19.1	14.6	181
Hajjah	49.1	38.5	36.4	11.4	7.9	1,374
Al-Hodiedah	59.5	50.9	55.6	24.8	21.3	3,261
Hadramout	64.5	42.0	41.2	15.4	11.2	1,427
Dhamar	47.1	43.9	43.6	24.4	20.7	1,670
Shabwah	52.9	56.4	50.6	22.7	19.3	528
Sadah	21.3	19.0	16.6	7.7	6.7	823
Sana'a	46.5	39.9	43.8	17.7	15.3	1,265
Aden	76.3	58.9	51.1	29.6	19.8	921
Lahj	57.8	35.4	41.9	32.8	21.9	678
Mareb	63.2	56.2	62.1	32.7	29.2	183
Al-Mhweit	49.1	38.9	46.2	21.2	19.3	623
Al-Mhrah	56.9	34.8	48.1	23.6	18.6	95
Amran	59.1	54.5	52.6	22.8	19.0	852
Aldhalae	53.5	45.9	48.8	16.0	15.0	641
Reimah	42.4	39.9	36.5	8.7	7.6	520
Education						
No education	43.2	37.0	40.5	18.1	16.3	10,705
Fundamental	60.9	48.7	53.6	27.5	22.9	9,339
Secondary	81.5	64.2	61.5	35.2	25.4	3,767
Higher	85.3	67.7	48.6	33.0	17.7	1,623
Wealth quintile						
Lowest	36.2	31.8	35.1	15.6	14.8	4,435
Second	46.8	40.3	46.0	22.5	21.1	4,808
Middle	55.8	45.7	52.4	25.2	22.0	5,046
Fourth	67.4	53.1	54.8	29.3	22.8	5,320
Highest	77.4	60.9	53.6	30.4	19.5	5,825
Total	58.1	47.3	49.0	25.1	20.2	25,434

12.4 ATTITUDES TOWARD PEOPLE LIVING WITH HIV/AIDS

Widespread stigma and discrimination against people living with HIV/AIDS can adversely affect both people's willingness to be tested for HIV and their adherence to antiretroviral therapy (ART). Indeed, HIV/AIDS-related stigma and discrimination undermine HIV prevention efforts by making people afraid to seek out information about how to reduce their risk of exposure to HIV and adopt safer behaviors, given that such inquiries may raise suspicion about their HIV status. Thus, reductions in stigma and discrimination are an important indicator of the success of programs targeting HIV/AIDS prevention and control.

In the 2013 YNHDS, both ever-married and never-married women who had heard of AIDS were asked a number of questions to assess the level of stigma associated with HIV/AIDS. Respondents were asked about their willingness or unwillingness to take care of a member of their family with AIDS in their own household, to buy vegetables from an infected shopkeeper or vendor, and to let others know the HIV status of family members. They were also asked whether an HIV-positive female teacher who is not sick should be allowed to continue teaching. Table 12.5 presents the results.

Table 12.5 Accepting attitudes toward those living with HIV/AIDS

Among all women age 15-49 who have heard of AIDS, percentage expressing specific accepting attitudes toward people with HIV/AIDS, by background characteristics, Yemen 2013

Background characteristic	Percentage of respondents who:					Number of respondents who have heard of AIDS
	Are willing to care for a family member with AIDS in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher who has the AIDS virus but is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing accepting attitudes on all four indicators	
Age						
15-24	88.2	20.7	30.1	40.3	4.4	8,389
15-19	87.6	20.8	29.4	42.3	4.5	4,422
20-24	89.0	20.5	30.7	38.1	4.2	3,967
25-29	88.4	18.3	27.3	36.3	4.1	3,448
30-39	86.5	17.8	24.8	36.7	4.2	4,416
40-49	88.4	16.1	21.7	35.9	3.9	2,294
Marital status						
Never married	88.0	24.0	33.7	40.0	5.6	6,479
Married	87.7	16.3	23.7	37.2	3.3	11,302
Divorced/widowed	88.6	17.0	25.6	36.8	5.0	767
Residence						
Urban	88.5	24.4	34.6	33.7	5.4	7,811
Rural	87.4	15.0	21.9	41.4	3.3	10,737
Governorate						
Ibb	91.6	18.9	24.5	32.3	3.0	1,909
Abyan	86.1	15.5	21.0	21.4	2.4	395
Sana'a City	86.0	27.0	35.6	35.7	6.1	2,369
Al-Baidha	93.8	14.2	28.8	29.3	4.0	864
Taiz	94.5	16.3	32.7	46.9	4.8	2,806
Al-Jawf	81.1	15.1	19.2	18.2	0.6	113
Hajjah	79.4	10.9	10.7	40.4	1.9	809
Al-Hodiedah	79.2	14.6	22.5	53.0	4.4	2,399
Hadramout	84.9	25.5	27.0	24.4	2.2	1,058
Dhamar	89.2	25.3	33.6	27.3	4.3	1,119
Shabwah	92.3	8.2	9.9	26.3	1.5	384
Sadah	76.4	11.8	12.4	25.6	5.9	226
Sana'a	83.2	16.8	20.4	37.3	3.8	814
Aden	92.5	32.7	42.4	31.2	6.9	876
Lahj	93.3	14.1	26.8	43.4	3.6	513
Mareb	88.4	13.3	16.8	43.7	3.4	139
Al-Mhweit	87.5	18.2	26.7	45.1	4.1	409
Al-Mhrah	82.6	12.2	22.1	42.3	4.1	67
Amran	94.4	14.8	17.3	32.7	3.2	584
Aldhalae	90.8	14.5	25.1	65.5	4.6	403
Reimah	80.7	23.8	32.1	31.3	6.1	292
Education						
No education	85.7	12.4	17.2	40.5	2.5	6,110
Fundamental	88.8	17.7	26.3	37.2	3.8	7,203
Secondary	88.9	24.6	36.1	39.2	5.5	3,623
Higher	89.8	36.8	49.9	31.2	9.5	1,612
Wealth quintile						
Lowest	84.9	11.4	15.7	45.7	2.4	2,101
Second	85.6	13.4	21.5	41.9	2.9	2,864
Middle	88.0	15.1	23.6	42.0	3.2	3,602
Fourth	88.0	20.2	27.4	36.9	4.6	4,518
Highest	90.1	26.4	37.0	31.8	5.9	5,462
Total	87.9	19.0	27.3	38.2	4.2	18,548

Women express more accepting attitudes toward HIV-infected relatives than toward shopkeepers or teachers. Eighty-eight percent of women would be willing to care for a relative with AIDS in their home. In contrast, only 19 percent of women indicate that they would buy vegetables from a shopkeeper with HIV, and 27 percent agree that a female teacher with HIV should be allowed to continue teaching. Almost four in ten women (38 percent) indicate that they would not want to keep secret that a family member was infected

with HIV. Overall, only 4 percent of women express accepting attitudes with regard to all four situations (i.e., they would care for a family member with AIDS in their own home, they would buy fresh vegetables from a shopkeeper with HIV, they would allow an HIV-positive female teacher to continue teaching, and they would not want to keep the HIV-positive status of a family member a secret). These results are very similar to those reported in the 2006 YMICS.

There is minimal variation in stigma levels by background characteristics. The proportion of women who express acceptance on all four indicators of stigma increases somewhat with increasing education and wealth, but the differences are not large. Accepting attitudes on two indicators (caring for a family member with AIDS in one's own home and not wanting to keep secret that a family member is infected with HIV) vary remarkably little across background characteristics. Differences are more apparent for the other two indicators (buying fresh food from a shopkeeper with HIV and allowing an HIV-positive female teacher to continue teaching). The percentage of women who express accepting attitudes on these two indicators is higher in urban areas and increases with increasing education and wealth. Women in Shabwah Governorate appear to have the least accepting attitudes with respect to these two indicators of stigma.

12.5 ATTITUDES TOWARD NEGOTIATING SAFER SEXUAL RELATIONS WITH HUSBANDS

Knowledge about HIV transmission and ways to prevent it is of little use if people feel powerless to negotiate safer sex practices with their partners. Therefore, in the 2013 YNHDS, ever-married women were asked if they thought a wife is justified in asking that her husband use condoms if she knows that he has a sexually transmitted infection (STI).

Table 12.6 shows that half of ever-married women (51 percent) believe that a wife is justified in asking her husband to use a condom if she knows he has an STI. Differences by age and marital status are generally small. However, acceptance of women's ability to advocate for condom use is higher among urban than rural women and increases with increasing education and wealth.

Table 12.6 Attitudes toward negotiating safer sexual relations with husband

Percentage of ever-married women age 15-49 who believe that a woman is justified in asking her husband to use a condom if she knows that he has a sexually transmitted infection (STI), by background characteristics, Yemen 2013

Background characteristic	Woman is justified in asking that they use a condom if she knows that her husband has an STI	Number of women
Age		
15-24	48.9	4,211
15-19	47.8	1,112
20-24	49.3	3,099
25-29	51.8	3,731
30-39	51.7	5,436
40-49	48.8	3,186
Marital status		
Married	50.5	15,566
Divorced/widowed	49.4	998
Residence		
Urban	63.0	5,322
Rural	44.5	11,242
Governorate		
Ibb	39.9	1,791
Abyan	58.7	345
Sana'a City	68.9	1,587
Al-Baidha	57.9	768
Taiz	68.9	2,196
Al-Jawf	36.6	141
Hajjah	33.9	895
Al-Hodiedah	29.1	2,023
Hadramout	53.5	958
Dhamar	47.1	1,188
Shabwah	74.4	315
Sadah	21.8	532
Sana'a	55.1	867
Aden	74.4	534
Lahj	49.2	425
Mareb	67.5	123
Al-Mhweit	40.9	445
Al-Mhrah	52.1	62
Amran	64.2	614
Aldhalae	40.0	404
Reimah	25.3	350
Education		
No education	40.2	8,887
Fundamental	58.4	5,416
Secondary	68.3	1,564
Higher	78.9	697
Wealth quintile		
Lowest	29.9	3,010
Second	41.4	3,248
Middle	47.8	3,330
Fourth	57.9	3,394
Highest	71.4	3,582
Total	50.5	16,564

12.6 AWARENESS OF HIV TESTING SERVICES

Knowledge of HIV status helps HIV-negative individuals make specific decisions to reduce risk and increase safer sex practices so that they can remain disease free. Among those who are HIV infected, knowledge of their status allows them to take action to protect their sexual partners, to access treatment, and to plan for the future. To assess awareness of HIV testing services, both ever-married and never-married women who were interviewed in the 2013 YNHDS were asked whether they knew a place where people can go to get tested for the AIDS virus.

Table 12.7 shows that only 18 percent of all women age 15-49 know of a place to get an HIV test. Urban women are more likely than rural women to know a place where they could go to be tested (26 percent and 15 percent, respectively). Knowledge of a place to get an HIV test increases with both increasing education and wealth quintile. The percentage of women who know of a place to get an HIV test is lowest in Reimah Governorate (6 percent) and highest in Al-Mhrah Governorate (53 percent).

There has been a rise in awareness of HIV testing services in the past few years, with the proportion of ever-married women who know where to get an HIV test increasing from 12 percent in 2006 to 18 percent in 2013.

12.7 SELF-REPORTING OF SEXUALLY TRANSMITTED INFECTIONS

In the 2013 YNHDS, ever-married women age 15-49 were asked whether they had had a sexually transmitted infection or symptoms of an STI (a bad-smelling, abnormal discharge from the vagina or a genital sore or ulcer) in the 12 months preceding the survey. Table 12.8 shows the self-reported prevalence of STIs and STI symptoms.

Eleven percent of ever-married women reported that they had an STI in the 12 months preceding the survey; 25 percent had a bad-smelling, abnormal discharge, and 8 percent had a genital sore or ulcer. In total, 32 percent of women reported having either an STI or STI symptoms.

Variations in self-reported prevalence of STIs or STI symptoms by background characteristics are also presented in Table 12.8. The prevalence of STIs or STI symptoms is higher among currently married women

Table 12.7 HIV testing		
Percentage of all women age 15-49 who know where to get an HIV test, according to background characteristics, Yemen 2013		
Background characteristic	Percentage who know where to get an HIV test	Number of women
Age		
15-24	18.9	11,539
15-19	18.4	6,342
20-24	19.6	5,197
25-29	18.4	4,634
30-39	18.1	5,986
40-49	17.3	3,275
Marital status		
Never married	20.0	8,870
Married	17.3	15,566
Divorced/widowed	21.2	998
Residence		
Urban	26.0	8,619
Rural	14.5	16,815
Governorate		
Ibb	7.2	2,739
Abyan	6.9	551
Sana'a City	30.5	2,487
Al-Baidha	21.6	1,101
Taiz	23.5	3,512
Al-Jawf	17.1	181
Hajjah	12.2	1,374
Al-Hodiedah	22.2	3,261
Hadramout	17.5	1,427
Dhamar	19.9	1,670
Shabwah	9.1	528
Sadah	7.7	823
Sana'a	8.4	1,265
Aden	36.0	921
Lahj	16.6	678
Mareb	25.7	183
Al-Mhweit	20.2	623
Al-Mhrah	53.4	95
Amran	15.0	852
Aldhalae	13.2	641
Reimah	5.5	520
Education		
No education	11.1	10,705
Fundamental	18.7	9,339
Secondary	30.8	3,767
Higher	36.6	1,623
Wealth quintile		
Lowest	9.8	4,435
Second	13.4	4,808
Middle	17.1	5,046
Fourth	21.6	5,320
Highest	27.5	5,825
Total	18.4	25,434

than among those who are divorced or widowed. The prevalence varies only slightly by age, residence, education, and wealth quintile. The largest differences occur by governorate, with the prevalence of STIs or STI symptoms ranging from 8 percent among ever-married women in Hadramout Governorate to 51 percent among those in Taiz Governorate.

Table 12.8 Self-reported prevalence of sexually transmitted infections (STIs) and STI symptoms

Among ever-married women age 15-49, the percentage reporting having an STI and/or symptoms of an STI in the past 12 months, by background characteristics, Yemen 2013

| Background characteristic | Percentage of ever-married women who reported having in the past 12 months: | | | | Number of ever-married women |
	STI	Bad-smelling/abnormal genital discharge	Genital sore/ulcer	STI/genital discharge/sore or ulcer	
Age					
15-24	11.7	25.8	6.7	31.7	4,211
15-19	10.4	22.9	5.9	27.9	1,112
20-24	12.1	26.8	7.0	33.1	3,099
25-29	11.0	26.8	8.5	33.7	3,731
30-39	11.9	25.7	9.0	32.3	5,436
40-49	9.0	22.1	8.3	27.3	3,186
Marital status					
Married	11.5	25.9	8.4	32.4	15,566
Divorced/widowed	4.3	15.0	5.1	17.5	998
Residence					
Urban	11.7	25.3	8.4	32.2	5,322
Rural	10.8	25.2	8.1	31.2	11,242
Governorate					
Ibb	5.9	22.1	6.2	27.1	1,791
Abyan	12.3	19.4	6.2	26.8	345
Sana'a City	6.7	30.4	12.0	35.8	1,587
Al-Baidha	10.2	24.7	11.5	34.3	768
Taiz	30.7	37.5	15.0	51.3	2,196
Al-Jawf	1.8	18.1	8.7	22.3	141
Hajjah	0.9	20.2	4.9	22.5	895
Al-Hodiedah	8.2	17.5	2.4	22.6	2,023
Hadramout	2.1	6.6	1.5	8.1	958
Dhamar	16.1	28.3	10.0	33.5	1,188
Shabwah	7.6	18.7	4.8	22.0	315
Sadah	8.2	42.6	6.8	43.3	532
Sana'a	10.0	38.3	7.9	43.9	867
Aden	15.6	16.0	2.9	24.2	534
Lahj	17.4	27.7	5.4	35.7	425
Mareb	13.9	23.8	10.8	33.1	123
Al-Mhweit	4.2	25.0	9.2	28.0	445
Al-Mhrah	7.4	14.3	2.4	20.6	62
Amran	11.2	30.0	18.0	40.4	614
Aldhalae	2.9	12.8	6.9	14.6	404
Reimah	2.8	17.5	7.7	20.7	350
Education					
No education	10.4	24.9	8.5	30.6	8,887
Fundamental	11.6	25.4	7.7	32.0	5,416
Secondary	12.4	25.8	8.9	32.6	1,564
Higher	13.2	28.6	7.0	36.9	697
Wealth quintile					
Lowest	11.7	26.2	8.6	31.9	3,010
Second	11.3	26.0	8.5	32.2	3,248
Middle	10.1	23.9	7.6	30.0	3,330
Fourth	10.2	24.9	7.8	30.5	3,394
Highest	12.1	25.4	8.4	33.0	3,582
Total	11.1	25.3	8.2	31.5	16,564

As shown in Figure 12.1, three-quarters of ever-married women (74 percent) who had an STI or STI symptoms sought advice or treatment from a clinic, hospital, private doctor, or other health professional. Few women sought advice or treatment from either a shop or pharmacy (2 percent) or any other source (1 percent). More than one in five women (22 percent) did not seek any treatment when they had an STI or STI symptoms.

Figure 12.1 Percentage of women seeking treatment for STIs

YNHDS 2013

12.8 INJECTIONS

Injection overuse in a health care setting can contribute to the transmission of blood-borne pathogens because it amplifies the effect of unsafe practices such as reuse of injection equipment. To measure the potential risk of transmission of HIV associated with medical injections, both ever-married and never-married women interviewed in the 2013 YNHDS were asked whether they had received any injections from a health worker in the 12 months preceding the survey and, if so, whether their last injection was administered with a syringe from a new, unopened package. It should be noted that self-administered medical injections (e.g., insulin injections for diabetes) were not included in the calculations.

Table 12.9 shows the reported prevalence of injections and of safe injection practices. Thirty-five percent of all women age 15-49 reported receiving an injection from a health worker during the 12 months preceding the survey. The prevalence of injections was lowest among those age 15-19 (28 percent) and those who had never been married (29 percent). Women in rural areas were less likely than those in urban areas to report receiving an injection. There was considerable variation by governorate; injection prevalence was highest in Al-Jawf Governorate (72 percent) and lowest in Al-Mhrah, Reimah, and Hadramout governorates (21 percent each). The reported prevalence of injections in the past 12 months varies little by education but increases somewhat with increasing wealth.

In the past 12 months, the average number of medical injections per woman was 3.3. Ninety-two percent of recent injections among women were administered with a syringe taken from a newly opened package.

Table 12.9 Prevalence of medical injections

Percentage of all women age 15-49 who received at least one medical injection in the last 12 months, the average number of medical injections per person in the last 12 months, and among those who received a medical injection, the percentage of last medical injections for which the syringe and needle were taken from a new, unopened package, by background characteristics, Yemen 2013

Background characteristic	Percentage who received a medical injection in the last 12 months	Average number of medical injections per person in the last 12 months	Number of respondents	For last injection, syringe and needle taken from a new, unopened package	Number of respondents receiving medical injections in the last 12 months
Age					
15-24	31.8	2.5	11,539	90.8	3,665
15-19	27.7	1.9	6,342	90.6	1,758
20-24	36.7	3.2	5,197	91.1	1,906
25-29	37.5	3.5	4,634	92.3	1,740
30-39	38.4	3.9	5,986	92.5	2,297
40-49	39.3	4.7	3,275	92.6	1,288
Marital status					
Never married	28.9	2.3	8,870	90.7	2,562
Married	38.9	3.8	15,566	92.2	6,059
Divorced/widowed	36.9	4.1	998	93.5	369
Residence					
Urban	40.9	3.8	8,619	92.1	3,527
Rural	32.5	3.0	16,815	91.6	5,463
Governorate					
Ibb	38.9	3.9	2,739	95.3	1,065
Abyan	27.6	2.8	551	97.4	152
Sana'a City	37.5	3.4	2,487	92.4	933
Al-Baidha	52.3	5.7	1,101	96.9	575
Taiz	34.1	3.6	3,512	91.0	1,199
Al-Jawf	72.4	9.7	181	89.7	131
Hajjah	34.2	3.2	1,374	89.8	470
Al-Hodiedah	44.5	3.9	3,261	92.8	1,451
Hadramout	20.9	1.2	1,427	88.7	298
Dhamar	23.4	1.4	1,670	75.7	390
Shabwah	24.4	1.4	528	92.6	129
Sadah	31.4	2.9	823	95.2	258
Sana'a	31.8	3.0	1,265	78.7	402
Aden	31.3	2.4	921	92.0	288
Lahj	33.2	3.3	678	98.9	225
Mareb	54.0	5.5	183	98.6	99
Al-Mhweit	36.0	4.2	623	94.4	224
Al-Mhrah	20.6	1.4	95	98.4	20
Amran	40.8	3.4	852	90.8	348
Aldhalae	34.9	4.1	641	95.8	224
Reimah	20.7	2.0	520	97.8	108
Education					
No education	35.0	3.6	10,705	90.7	3,744
Fundamental	34.9	3.2	9,339	92.6	3,256
Secondary	36.3	3.0	3,767	92.3	1,367
Higher	38.3	2.9	1,623	93.0	622
Wealth quintile					
Lowest	31.1	2.9	4,435	88.6	1,380
Second	33.7	3.1	4,808	91.4	1,621
Middle	32.7	3.2	5,046	93.0	1,648
Fourth	38.5	3.5	5,320	92.8	2,049
Highest	39.3	3.6	5,825	92.3	2,292
Total	35.3	3.3	25,434	91.8	8,989

Note: Medical injections are those given by a doctor, nurse, pharmacist, dentist, or other health worker.

FEMALE CIRCUMCISION   **13**

> **Key Findings**
>
> - Two-thirds of all women age 15-49 have heard of female circumcision.
> - Fewer than one in five Yemeni women have been circumcised.
> - Female circumcision occurs at a young age, with more than 80 percent of procedures taking place during the first week of life.
> - Three-quarters of women who have heard of female circumcision say that the practice should be stopped. Even among those who are circumcised, opposition is common, with one-third saying the procedure should be stopped.

Female circumcision (also called female genital cutting) is practiced in some communities in Yemen. It involves partial or total removal of the external female genitalia or other injury to the female organs for cultural or other nontherapeutic reasons. The practice is often condemned as harmful, because it poses a potential risk to the health and well-being of the women and girls who are subjected to it. It is also generally recognized as a violation of children's rights.

In the 2013 YNHDS, both ever-married and never-married women were asked a series of questions about female circumcision, including whether they had ever heard of female circumcision; whether they were circumcised and, if so, how severe the circumcision was; how old they were at the time; and whether they believe the practice should continue. Women who have daughters were asked if their daughters had been circumcised, and never-married women were asked if they intended to have their future daughters circumcised.

13.1 AWARENESS OF FEMALE CIRCUMCISION

Table 13.1 shows that two-thirds (67 percent) of all women age 15-49 have heard of female circumcision. Awareness of the practice is higher among older women, women who have ever been married, and urban women than among their counterparts in the other groups. The proportion of women who have heard of female circumcision generally increases with increasing education and wealth. Awareness of female circumcision varies substantially by governorate, from a low of 23 percent among women in Sadah Governorate to almost all women in Al-Hodiedah and Hadramout governorates (97 percent and 95 percent, respectively).

Awareness of female circumcision has increased over time. In the 2003 YFHS, 56 percent of ever-married women had heard of the practice, as compared with 71 percent of ever-married women in 2013.

Table 13.1 Knowledge of female circumcision

Percentage of all women age 15-49 who have heard of female circumcision, according to background characteristics, Yemen 2013

Background characteristic	Have heard of female circumcision	Number of respondents
Age		
15-19	55.9	6,342
20-24	67.6	5,197
25-29	70.8	4,634
30-34	72.1	3,225
35-39	73.7	2,761
40-44	75.0	1,807
45-49	73.3	1,468
Marital status		
Never married	61.4	8,870
Married	70.2	15,566
Divorced/widowed	75.5	998
Residence		
Urban	81.0	8,619
Rural	60.4	16,815
Governorate		
Ibb	44.6	2,739
Abyan	63.3	551
Sana'a City	80.7	2,487
Al-Baidha	55.2	1,101
Taiz	75.8	3,512
Al-Jawf	54.1	181
Hajjah	57.2	1,374
Al-Hodiedah	96.8	3,261
Hadramout	94.7	1,427
Dhamar	59.5	1,670
Shabwah	52.5	528
Sadah	22.8	823
Sana'a	41.7	1,265
Aden	91.1	921
Lahj	61.5	678
Mareb	67.9	183
Al-Mhweit	40.6	623
Al-Mhrah	91.1	95
Amran	65.7	852
Aldhalae	44.8	641
Reimah	65.1	520
Education		
No education	61.7	10,705
Fundamental	65.2	9,339
Secondary	78.1	3,767
Higher	92.5	1,623
Wealth quintile		
Lowest	60.1	4,435
Second	57.0	4,808
Middle	59.4	5,046
Fourth	74.0	5,320
Highest	82.2	5,825
Total	67.4	25,434

13.2 PREVALENCE OF FEMALE CIRCUMCISION

Table 13.2 shows that 19 percent of all women age 15-49 in Yemen have undergone some form of circumcision. For the overwhelming majority of circumcised women, the procedure involved removing flesh (90 percent), while 7 percent said no flesh was removed and 3 percent did not provide details as to the type of circumcision they had.

The proportion of circumcised women is slightly higher among those age 30-49 (21-23 percent) than among those under age 30 (16-17 percent). Differences in the prevalence of female circumcision by marital status and urban-rural residence are small. Women with no education or only a fundamental education are more likely to have been circumcised than women with a secondary or higher education. Wealth quintile is also somewhat related to circumcision status, with women in the lower two quintiles more likely to have undergone the procedure than those in the higher quintiles; however, the relationship is not uniform, with the prevalence being almost as high in the fourth quintile as in the second quintile.

Table 13.2 Prevalence of female circumcision

Percentage of all women age 15-49 who have been circumcised, and percent distribution of circumcised women by type of circumcision, according to background characteristics, Yemen 2013

Background characteristic	Percentage of women circumcised	Number of women	Type of circumcision			Total	Number of circumcised women
			Cut, no flesh removed	Cut, flesh removed	Don't know/ missing		
Age							
15-19	16.4	6,342	6.7	89.7	3.6	100.0	1,041
20-24	16.8	5,197	8.2	88.4	3.3	100.0	873
25-29	16.4	4,634	10.4	86.6	2.9	100.0	761
30-34	20.5	3,225	5.2	90.6	4.2	100.0	660
35-39	23.1	2,761	3.7	93.1	3.2	100.0	637
40-44	22.1	1,807	7.9	90.3	1.8	100.0	399
45-49	22.8	1,468	5.7	91.1	3.2	100.0	335
Marital status							
Never married	16.3	8,870	6.0	90.5	3.6	100.0	1,447
Married	19.7	15,566	7.1	89.8	3.1	100.0	3,067
Divorced/widowed	19.2	998	13.0	82.0	5.0	100.0	192
Residence							
Urban	17.1	8,619	4.5	91.8	3.8	100.0	1,470
Rural	19.2	16,815	8.2	88.8	3.1	100.0	3,235
Governorate							
Ibb	6.2	2,739	2.2	97.8	0.0	100.0	169
Abyan	5.1	551	(0.0)	(100.0)	(0.0)	100.0	28
Sana'a City	4.8	2,487	0.0	100.0	0.0	100.0	120
Al-Baidha	0.0	1,101	*	*	*	100.0	0
Taiz	13.2	3,512	0.0	99.5	0.5	100.0	464
Al-Jawf	0.4	181	*	*	*	100.0	1
Hajjah	7.7	1,374	0.0	100.0	0.0	100.0	106
Al-Hodiedah	62.3	3,261	9.8	89.8	0.4	100.0	2,030
Hadramout	79.9	1,427	7.8	83.4	8.8	100.0	1,140
Dhamar	13.5	1,670	1.8	95.4	2.8	100.0	225
Shabwah	0.6	528	*	*	*	100.0	3
Sadah	3.0	823	(2.5)	(59.2)	(38.2)	100.0	25
Sana'a	0.8	1,265	*	*	*	100.0	10
Aden	14.5	921	13.0	76.2	10.8	100.0	133
Lahj	3.9	678	(23.9)	(70.0)	(6.1)	100.0	27
Mareb	7.3	183	12.7	83.9	3.4	100.0	13
Al-Mhweit	0.3	623	*	*	*	100.0	2
Al-Mhrah	84.7	95	0.0	93.4	6.6	100.0	81
Amran	1.4	852	*	*	*	100.0	12
Aldhalae	0.5	641	*	*	*	100.0	3
Reimah	21.5	520	6.0	91.9	2.1	100.0	112
Education							
No education	22.5	10,705	6.5	90.5	3.1	100.0	2,405
Fundamental	18.0	9,339	7.3	89.3	3.4	100.0	1,681
Secondary	11.3	3,767	8.8	86.7	4.5	100.0	426
Higher	11.9	1,623	7.2	90.2	2.6	100.0	193
Wealth quintile							
Lowest	26.5	4,435	4.4	93.7	1.9	100.0	1,173
Second	21.0	4,808	9.0	89.1	1.9	100.0	1,010
Middle	13.3	5,046	8.5	88.5	3.0	100.0	672
Fourth	19.5	5,320	6.9	87.9	5.2	100.0	1,037
Highest	14.0	5,825	7.1	87.9	5.0	100.0	813
Total	18.5	25,434	7.0	89.7	3.3	100.0	4,705

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

The sharpest differentials in prevalence of female circumcision occur by governorate. As shown in Figure 13.1, the proportion of women who have been circumcised ranges from less than 1 percent in six governorates (Al-Baidha, Al-Jawf, Shabwah, Sana'a, Al-Mhweit, and Aldhalae) to 85 percent in Al-Mhrah Governorate. Levels are also relatively high in Hadramout (80 percent) and Al-Hodiedah (62 percent) governorates.

Figure 13.1 Prevalence of female circumcision by governorate

Percentage

Governorate	Percentage
Al-Mhrah	85
Hadramout	80
Al-Hodiedah	62
Reimah	22
Aden	15
Dhamar	14
Taiz	13
Hajjah	8
Mareb	7
Ibb	6
Abyan	5
Sana'a City	5
Iahj	4
Sadah	3
Amran	1
Sana'a	1
Shabwah	1
Aldhalae	1
Al-Jawf	0
Al-Mhweit	0
Al-Baidha	0
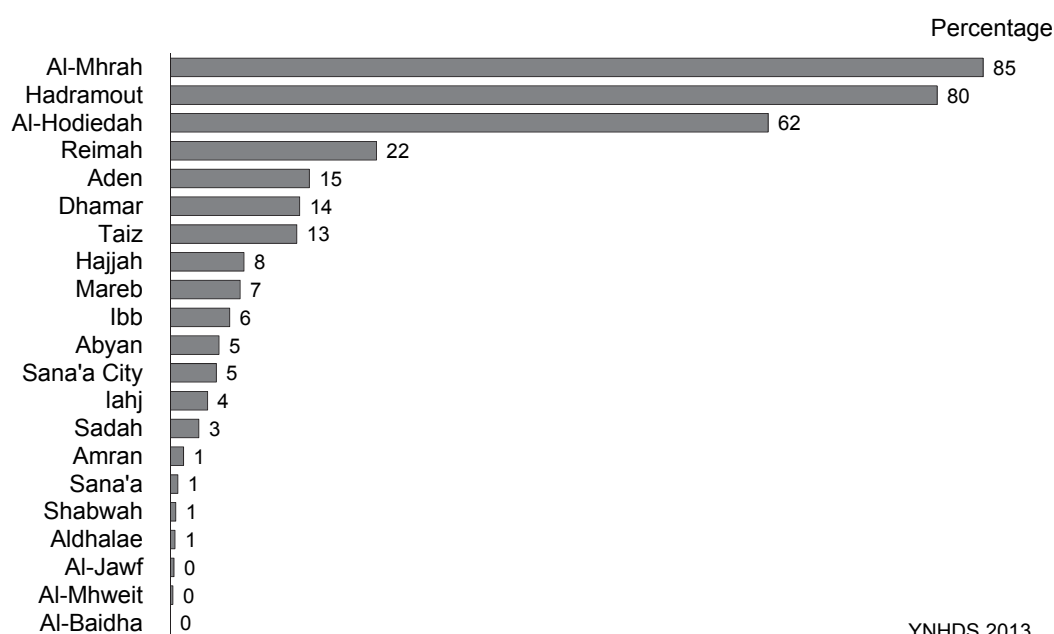
YNHDS 2013

A comparison with the 2003 YFHS indicates little change in the prevalence of female circumcision. The proportion of ever-married women who report having undergone circumcision has decreased only slightly, from 22 percent in 2003 to 20 percent in 2013.

13.3 AGE AT CIRCUMCISION

Table 13.3 shows that female circumcision is performed at a very young age in Yemen. The overwhelming majority of circumcised women (84 percent) say that the procedure was performed during their first week of life. Eleven percent say they were circumcised as infants but after the first week of life, while only 1 percent say they had the procedure when they were older than age 1. Differences by background characteristics are negligible.

Table 13.3 Age at circumcision

Percent distribution of circumcised women age 15-49 by age at circumcision, according to background characteristics, Yemen 2013

Background characteristic	Age at circumcision				Total	Number of circumcised women
	First week after birth	After 1st week but before 1 year	One year or older[1]	Don't know/missing		
Age						
15-19	87.4	8.9	0.2	3.5	100.0	1,041
20-24	83.9	11.7	1.4	3.0	100.0	873
25-29	84.3	8.9	1.9	4.9	100.0	761
30-34	82.4	14.0	0.8	2.8	100.0	660
35-39	84.9	9.8	1.0	4.3	100.0	637
40-44	79.8	8.4	2.4	9.4	100.0	399
45-49	76.8	13.1	2.2	7.9	100.0	335
Marital status						
Never married	84.1	11.2	0.9	3.8	100.0	1,447
Married	83.5	10.4	1.4	4.7	100.0	3,067
Divorced/widowed	86.5	6.4	1.1	6.0	100.0	192
Residence						
Urban	71.5	17.5	2.9	8.1	100.0	1,470
Rural	89.4	7.3	0.4	2.8	100.0	3,235
Governorate						
Ibb	91.3	0.0	1.1	7.6	100.0	169
Abyan	(85.7)	(12.6)	(1.7)	(0.0)	100.0	28
Sana'a City	81.7	3.1	15.2	0.0	100.0	120
Al-Baidha	*	*	*	*	*	0
Taiz	95.9	2.0	1.3	0.8	100.0	464
Al-Jawf	*	*	*	*	*	1

Continued…

Table 13.3—*Continued*

Background characteristic	Age at circumcision				Total	Number of circumcised women
	First week after birth	After 1st week but before 1 year	One year or older[1]	Don't know/Missing		
Governorate						
Hajjah	83.0	13.8	2.2	1.0	100.0	106
Al-Hodiedah	85.5	13.1	0.6	0.9	100.0	2,030
Hadramout	79.8	8.2	0.0	12.0	100.0	1,140
Dhamar	83.3	13.0	0.4	3.3	100.0	225
Shabwah	*	*	*	*	*	3
Sadah	(10.3)	(54.0)	(11.4)	(24.2)	100.0	25
Sana'a	*	*	*	*	*	10
Aden	60.8	24.5	7.4	7.3	100.0	133
Lahj	(40.9)	(46.8)	(0.0)	(12.3)	100.0	27
Mareb	85.9	5.8	4.3	4.0	100.0	13
Al-Mhweit	*	*	*	*	*	2
Al-Mhrah	92.8	0.9	0.8	5.5	100.0	81
Amran	*	*	*	*	*	12
Aldhalae	*	*	*	*	*	3
Reimah	89.7	8.1	0.4	1.9	100.0	112
Wealth quintile						
Lowest	89.8	8.0	0.3	2.0	100.0	1,173
Second	88.0	9.7	0.4	2.0	100.0	1,010
Middle	91.6	3.4	1.8	3.3	100.0	672
Fourth	76.0	16.2	0.7	7.1	100.0	1,037
Highest	73.6	13.8	3.9	8.8	100.0	813
Total	83.8	10.5	1.2	4.5	100.0	4,705

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Includes women who reported they were circumcised during infancy but did not provide a specific age

13.4 CIRCUMCISION OF DAUGHTERS

Young women under age 15 were not interviewed in the 2013 YNHDS. Consequently, in order to gain insight into recent trends with regard to female circumcision, ever-married women age 15-49 who were interviewed and who had any daughters were asked if any of their daughters had been circumcised. If so, they were asked several questions about their most recently circumcised daughter: how old she was when she was circumcised, who performed the circumcision, and the type of circumcision performed.

The results imply that there has been only a slight decline in the practice of female circumcision. Among ever-married women who have a daughter, 16 percent say that at least one of their daughters has been circumcised (Table 13.4), only slightly less than the 19 percent of all women age 15-49 who say they have been circumcised. Differences by background characteristics in the proportion of women with a circumcised daughter mirror those mentioned above for prevalence of circumcision among all respondents.

Similarly, Table 13.5 shows that results related to age at circumcision, person who performed the circumcision, and type of circumcision are similar for the most recently circumcised daughter and all circumcised women age 15-49. For example, 84 percent of circumcised women age 15-49 said they were circumcised within a week after birth, which is almost identical to the 85 percent of women who say their most recently circumcised daughter was circumcised at this age (Figure 13.2). There also seems to be no change in the type of operation performed, with 90 percent of circumcised women and 88 percent of circumcised daughters having been cut with flesh removed. Nevertheless, there does seem to be some evidence of a shift from traditional practitioners toward greater use of health professionals. Whereas 93 percent of circumcised women age 15-49 reported that a traditional practitioner performed their circumcision, only 85 percent of women reported that their daughters had the procedure performed by a traditional practitioner. In contrast, 13 percent of circumcised daughters were circumcised by health professionals, as compared with only 3 percent of circumcised women. In interpreting the data, it is important to remember that almost all women age 15-49 were circumcised during infancy and are therefore unlikely to remember the circumstances surrounding their own procedure.

Table 13.4 Daughter's circumcision experience

Among ever-married women with at least one living daughter, percentage with at least one circumcised daughter, according to background characteristics, Yemen 2013

Background characteristic	Percentage of women with at least one daughter circumcised	Number of women with at least one living daughter
Age		
15-19	13.4	287
20-24	12.0	1,536
25-29	12.8	2,669
30-34	15.6	2,324
35-39	18.6	2,299
40-44	19.4	1,553
45-49	19.0	1,338
Marital status		
Married	15.9	11,386
Divorced/widowed	16.3	619
Residence		
Urban	13.3	3,832
Rural	17.1	8,173
Governorate		
Ibb	5.7	1,295
Abyan	1.1	226
Sana'a City	3.2	1,145
Al-Baidha	0.0	555
Taiz	13.2	1,545
Al-Jawf	0.1	100
Hajjah	4.1	715
Al-Hodiedah	53.7	1,453
Hadramout	79.6	684
Dhamar	10.5	875
Shabwah	0.0	224
Sadah	1.3	397
Sana'a	0.4	617
Aden	9.4	365
Lahj	1.7	301
Mareb	4.7	91
Al-Mhweit	0.4	337
Al-Mhrah	88.1	48
Amran	1.1	450
Aldhalae	0.0	319
Reimah	18.2	263
Education		
No education	17.9	7,111
Fundamental	15.3	3,596
Secondary	7.3	898
Higher	5.1	401
Wealth quintile		
Lowest	22.4	2,304
Second	16.8	2,296
Middle	12.6	2,389
Fourth	16.5	2,471
Highest	11.8	2,545
Total	15.9	12,005

Table 13.5 Aspects of circumcision among circumcised women and daughters

Percent distribution of circumcised women age 15-49 and most recently circumcised daughters according to age at circumcision, person performing the circumcision, and type of circumcision, Yemen 2013

Background characteristic	Most recently circumcised daughters	Circumcised women age 15-49
Age at circumcision		
First week after birth	84.9	83.8
After 1st week but before 1 year	14.3	10.5
1 year or older	0.6	1.2
Don't know/missing	0.2	4.5
Total	100.0	100.0
Person who performed the circumcision		
Traditional practitioner	84.7	92.8
Traditional circumciser	80.4	91.0
Traditional birth attendant/other	4.3	1.8
Health professional	12.8	2.9
Doctor	7.0	2.4
Nurse/midwife/other health professional	5.8	0.6
Don't know/missing	2.5	4.3
Total	100.0	100.0
Type of circumcision		
Cut, no flesh removed	10.7	7.0
Cut, flesh removed	88.3	89.7
Don't know/missing	1.0	3.3
Total	100.0	100.0
Number	1,909	4,705

Figure 13.2 **Aspects of circumcision among circumcised women and daughters**

Percentage

AGE AT CIRCUMCISION

First week after birth — 85 / 84

After 1st week but before 1 year — 14 / 11

1 year or older — 1 / 1

PERSON WHO PERFORMED THE CIRCUMCISION

Traditional practitioner — 85 / 93

Health professional — 13 / 3

■ Daughters ▫ Women

YNHDS 2013
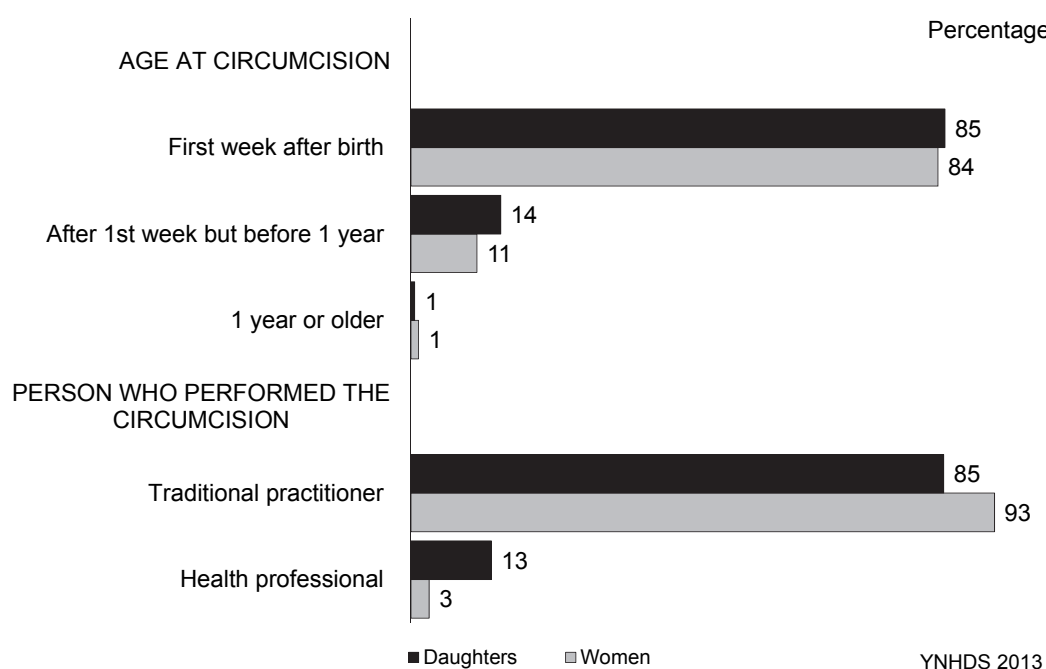
Another mechanism for obtaining insight into the future of female circumcision in Yemen is to determine whether women intend to have their daughters circumcised in the future. Table 13.6 shows that among never-married women who have heard of female circumcision, 16 percent say they intend to have their future daughters circumcised. As expected, the intention to circumcise future daughters is very low among never-married women who have not been circumcised (1 percent). However, it is interesting to note that only 57 percent of never-married women who have themselves been circumcised intend to circumcise their daughters. This implies some change in attitudes toward the practice. Otherwise, the intention to have future daughters circumcised follows similar patterns according to background characteristics as the prevalence of actual circumcision among women. For example, the proportion of never-married women who say they intend to circumcise their daughters in the future is highest in Al-Mhrah, Hadramout, and Al-Hodiedah governorates, as well as among women in the lower two education and wealth quintile categories.

13.5 ATTITUDES TOWARD FEMALE CIRCUMCISION

Both ever-married and never-married women age 15-49 who were interviewed in the 2013 YNHDS and who had heard of female circumcision were asked several questions about their beliefs regarding the practice. Specifically, they were asked if they believe that female circumcision is required by their religion, whether they think the practice should be continued or stopped, and, if stopped, why they think it should be stopped.

Table 13.7 shows that only one in five women age 15-49 who have heard of female circumcision believe that the practice is required

Table 13.6 Intention to have daughter circumcised

Percentage of never-married women who have heard of female circumcision and who intend to have their daughter circumcised in the future, according to background characteristics, Yemen 2013

Background characteristic	Percentage who intend to have their daughter circumcised	Number of never-married women who have heard of female circumcision
Age		
15-19	17.9	2,868
20-24	14.5	1,402
25-29	13.2	682
30-34	12.9	309
35-39	22.4	112
40-44	13.3	52
45-49	*	20
Female circumcision status		
Circumcised	57.4	1,447
Not circumcised	1.2	3,991
Residence		
Urban	10.2	2,509
Rural	21.3	2,936
Governorate		
Ibb	15.0	305
Abyan	3.1	130
Sana'a City	0.9	663
Al-Baidha	0.3	153
Taiz	7.2	871
Al-Jawf	0.0	18
Hajjah	5.7	251
Al-Hodiedah	32.5	1,175
Hadramout	62.3	415
Dhamar	12.9	290
Shabwah	0.0	102
Sadah	1.0	58
Sana'a	0.0	122
Aden	7.6	331
Lahj	1.7	139
Mareb	8.8	35
Al-Mhweit	0.0	56
Al-Mhrah	72.3	27
Amran	1.1	116
Aldhalae	0.4	93
Reimah	16.5	98
Education		
No education	31.6	940
Fundamental	19.9	2,105
Secondary	8.0	1,567
Higher	4.7	832
Wealth quintile		
Lowest	27.0	796
Second	27.9	790
Middle	14.5	875
Fourth	14.7	1,303
Highest	7.5	1,682
Total[1]	16.2	5,445

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Total includes 13 women with missing information on circumcision status.

by their religion. Seventy percent of women say female circumcision is not required by their religion, and 10 percent do not know. Circumcised women are 10 times more likely than uncircumcised women to say that the practice is required by their religion (60 percent and 6 percent, respectively). Differences by governorate tend to follow those for the proportion of women circumcised (Table 13.2); that is, the proportion of women who believe that female circumcision is required by their religion is highest in Hadramout, Al-Mhrah, Al-Hodiedah, and Reimah governorates, where the prevalence of female circumcision is also highest. Also mirroring the patterns found for circumcision prevalence, the proportion of women who believe that the practice is required by their religion is highest among those with no education or only a fundamental education and among those in the lower two wealth quintiles.

Table 13.7 Opinions of women about whether circumcision is required by religion

Percentage of all women age 15-49 who have heard of female circumcision, by opinion on whether their religion requires female circumcision, according to background characteristics, Yemen 2013

Background characteristic	Required	Not required	Don't know/missing	Total	Number of respondents
Age					
15-19	20.9	70.5	8.6	100.0	3,548
20-24	19.0	72.7	8.3	100.0	3,512
25-29	19.2	71.9	8.8	100.0	3,281
30-34	20.1	70.3	9.5	100.0	2,326
35-39	22.9	65.3	11.8	100.0	2,034
40-44	24.1	62.8	13.1	100.0	1,355
45-49	23.6	61.6	14.8	100.0	1,075
Marital status					
Never married	18.8	73.6	7.6	100.0	5,445
Married	21.9	67.3	10.8	100.0	10,933
Divorced/widowed	18.8	69.1	12.1	100.0	754
Female circumcision status					
Circumcised	59.8	29.9	10.3	100.0	4,705
Not circumcised	6.0	84.4	9.6	100.0	12,413
Residence					
Urban	15.7	77.0	7.3	100.0	6,977
Rural	24.2	64.2	11.6	100.0	10,155
Governorate					
Ibb	11.9	73.1	15.1	100.0	1,222
Abyan	6.6	70.0	23.4	100.0	349
Sana'a City	7.2	86.9	5.9	100.0	2,007
Al-Baidha	1.2	88.8	10.0	100.0	608
Taiz	11.9	82.1	6.1	100.0	2,663
Al-Jawf	1.0	91.1	7.9	100.0	98
Hajjah	5.3	85.8	8.9	100.0	787
Al-Hodiedah	41.4	49.6	9.0	100.0	3,157
Hadramout	71.9	20.5	7.6	100.0	1,351
Dhamar	20.8	67.6	11.6	100.0	993
Shabwah	2.5	86.6	10.9	100.0	277
Sadah	2.4	79.5	18.1	100.0	188
Sana'a	5.9	79.1	15.0	100.0	528
Aden	12.2	80.1	7.7	100.0	839
Lahj	8.1	80.0	11.9	100.0	417
Mareb	13.1	77.7	9.2	100.0	124
Al-Mhweit	4.6	84.9	10.4	100.0	253
Al-Mhrah	64.6	16.2	19.2	100.0	87
Amran	4.5	79.0	16.4	100.0	560
Aldhalae	9.9	86.0	4.1	100.0	287
Reimah	22.1	53.2	24.6	100.0	339
Education					
No education	27.5	58.5	14.0	100.0	6,600
Fundamental	21.4	70.1	8.5	100.0	6,089
Secondary	9.9	83.7	6.4	100.0	2,941
Higher	9.7	86.4	3.9	100.0	1,502
Wealth quintile					
Lowest	30.4	55.7	14.0	100.0	2,666
Second	27.5	60.0	12.5	100.0	2,740
Middle	18.2	71.1	10.7	100.0	2,999
Fourth	19.2	71.4	9.4	100.0	3,939
Highest	14.4	79.8	5.8	100.0	4,787
Total[1]	20.8	69.4	9.8	100.0	17,132

[1] Total includes 13 women with missing information on circumcision status.

Table 13.8 provides information about whether women feel that female circumcision should be continued or stopped. Among all women age 15-49 who have heard of female circumcision, 19 percent believe the practice should be continued, 75 percent believe it should be stopped, and 6 percent are unsure. As expected, circumcised women are far more likely than uncircumcised women to support continuing the practice (62 percent and 3 percent, respectively). However, it is particularly interesting that one-third of women who have themselves been circumcised believe that the practice should be stopped. Differences by other background characteristics tend to follow those found for the prevalence of female circumcision.

Table 13.8 Opinions of women about whether the practice of circumcision should continue

Percent distribution of all women age 15-49 who have heard of female circumcision by their opinion on whether the practice of circumcision should be continued, by background characteristics, Yemen 2013

Background characteristic	Continued	Not continued	Don't know/missing/ depends	Total	Number of respondents
Age					
15-19	20.0	73.5	6.5	100.0	3,548
20-24	17.3	78.0	4.7	100.0	3,512
25-29	16.9	77.7	5.4	100.0	3,281
30-34	17.1	77.1	5.8	100.0	2,326
35-39	21.0	73.3	5.8	100.0	2,034
40-44	21.8	71.0	7.2	100.0	1,355
45-49	21.6	71.9	6.5	100.0	1,075
Marital status					
Never married	17.1	77.2	5.7	100.0	5,445
Married	19.7	74.5	5.8	100.0	10,933
Divorced/widowed	19.1	75.3	5.6	100.0	754
Female circumcision status					
Circumcised	61.5	33.4	5.1	100.0	4,705
Not circumcised	2.7	91.4	6.0	100.0	12,413
Residence					
Urban	12.7	82.2	5.1	100.0	6,977
Rural	23.1	70.7	6.2	100.0	10,155
Governorate					
Ibb	12.1	82.4	5.6	100.0	1,222
Abyan	4.5	87.1	8.4	100.0	349
Sana'a City	3.0	89.8	7.2	100.0	2,007
Al-Baidha	0.6	95.4	3.9	100.0	608
Taiz	11.9	84.7	3.3	100.0	2,663
Al-Jawf	0.4	95.2	4.4	100.0	98
Hajjah	5.0	91.0	4.0	100.0	787
Al-Hodiedah	38.7	56.9	4.4	100.0	3,157
Hadramout	74.1	19.8	6.2	100.0	1,351
Dhamar	14.8	76.1	9.1	100.0	993
Shabwah	0.6	91.0	8.4	100.0	277
Sadah	2.6	81.2	16.2	100.0	188
Sana'a	1.6	93.5	4.9	100.0	528
Aden	8.1	86.3	5.6	100.0	839
Lahj	5.7	90.1	4.3	100.0	417
Mareb	9.3	82.7	8.0	100.0	124
Al-Mhweit	2.7	89.6	7.6	100.0	253
Al-Mhrah	70.4	15.5	14.1	100.0	87
Amran	1.5	94.6	3.8	100.0	560
Aldhalae	2.1	96.8	1.1	100.0	287
Reimah	21.5	56.3	22.2	100.0	339
Education					
No education	25.8	66.8	7.4	100.0	6,600
Fundamental	19.6	75.2	5.3	100.0	6,089
Secondary	8.7	87.0	4.3	100.0	2,941
Higher	5.1	91.4	3.5	100.0	1,502
Wealth quintile					
Lowest	29.1	63.1	7.8	100.0	2,666
Second	26.3	67.0	6.7	100.0	2,740
Middle	16.9	78.3	4.8	100.0	2,999
Fourth	18.0	76.4	5.7	100.0	3,939
Highest	10.7	84.5	4.8	100.0	4,787
Total[1]	18.8	75.4	5.8	100.0	17,132

[1] Total includes 13 women with missing information on circumcision status.

Among ever-married women who have heard of female circumcision, there has been a sharp decline in the proportion who believe that it should be continued, from 32 percent in the 2006 YFHS to 20 percent in the 2013 YNHDS.

As shown in Table 13.9, over half of women who are in favor of stopping female circumcision say that it is against their religion, while half say it is a bad tradition. Almost one-quarter of women say they are in favor of stopping female circumcision because it causes medical complications, and 15 percent want to stop the practice because they feel it is against a woman's dignity.

Table 13.9 Reason for stopping female circumcision

Among all women who have heard of female circumcision and who think that this practice should be stopped, percentage who provide different reasons to explain why circumcision should be stopped, by background characteristics, Yemen 2013

Background characteristic	Bad tradition	Against religion	Causes medical compli- cations	Painful personal experience	Against a woman's dignity	Circum- cision is for boys	Other	Don't know/ missing	Number of women who think that female circumcision should be stopped
Age									
15-19	48.6	56.6	21.0	3.1	15.5	2.6	0.6	0.0	2,609
20-24	48.4	56.0	24.7	3.4	15.3	1.9	1.3	0.1	2,740
25-29	48.8	53.4	24.6	3.5	15.6	1.6	0.9	0.3	2,550
30-34	49.9	53.2	26.4	4.2	16.3	0.9	1.2	0.3	1,792
35-39	50.4	55.8	24.8	3.5	14.6	1.8	1.2	0.1	1,491
40-44	56.4	49.5	27.4	3.7	13.5	1.7	2.2	0.3	962
45-49	47.1	49.0	22.0	2.7	15.6	2.1	2.7	0.4	773
Female circumcision status									
Circumcised	42.8	50.6	32.5	8.6	8.3	0.2	2.4	0.5	1,570
Not circumcised	50.4	54.8	23.1	2.7	16.3	2.0	1.0	0.1	11,341
Residence									
Urban	44.1	53.4	32.6	3.5	15.2	2.0	1.3	0.2	5,735
Rural	53.7	55.0	17.6	3.5	15.5	1.6	1.1	0.2	7,183
Governorate									
Ibb	57.8	45.4	9.4	1.7	25.9	5.7	2.0	0.2	1,006
Abyan	55.3	49.9	15.2	4.5	20.1	0.7	0.7	0.9	304
Sana'a City	42.5	57.9	30.8	4.0	14.0	0.3	0.6	0.2	1,802
Al-Baidha	44.2	57.8	21.2	1.3	9.2	4.4	0.5	0.0	580
Taiz	45.0	55.9	21.8	5.9	15.7	3.0	0.9	0.0	2,257
Al-Jawf	59.6	69.9	12.2	7.7	15.2	0.0	0.4	0.4	93
Hajjah	61.3	32.3	18.4	2.9	16.7	0.0	0.0	0.0	716
Al-Hodiedah	37.8	57.0	36.9	1.5	4.8	1.1	3.1	0.5	1,798
Hadramout	54.6	45.4	53.3	12.6	16.4	0.0	1.2	1.7	267
Dhamar	51.5	63.7	14.0	1.6	11.5	0.2	1.0	0.0	756
Shabwah	47.4	68.0	15.5	3.2	22.2	0.2	0.9	0.0	252
Sadah	56.3	60.6	12.0	3.0	3.6	0.0	0.0	0.0	152
Sana'a	71.2	38.8	12.3	2.4	15.1	3.2	0.7	0.0	493
Aden	53.1	57.4	44.0	4.1	16.3	3.8	2.3	0.0	724
Lahj	44.7	56.0	33.5	2.8	14.6	0.0	0.5	0.3	376
Mareb	55.3	62.3	10.1	1.3	21.6	1.5	0.6	0.4	103
Al-Mhweit	57.7	50.5	20.8	1.1	20.2	0.3	0.8	0.0	227
Al-Mhrah	78.5	31.9	52.2	3.8	0.8	0.0	0.0	3.6	13
Amran	61.1	61.0	9.5	2.4	22.9	1.6	0.2	0.0	530
Aldhalae	52.2	61.0	22.3	5.4	40.9	0.0	0.0	0.0	278
Reimah	62.0	43.0	13.2	2.7	20.3	0.0	1.8	0.0	191
Education									
No education	54.0	50.7	17.9	3.0	12.5	1.7	1.5	0.3	4,408
Fundamental	49.6	54.9	22.3	3.6	14.5	2.3	1.4	0.2	4,578
Secondary	47.1	58.7	28.1	4.0	18.6	1.6	0.6	0.0	2,558
Higher	38.8	55.6	43.5	3.5	21.2	0.9	0.8	0.2	1,373
Wealth quintile									
Lowest	53.9	51.8	18.1	2.6	10.0	1.4	1.2	0.2	1,682
Second	52.6	54.3	16.3	3.7	13.5	1.6	1.7	0.2	1,836
Middle	55.1	55.9	16.2	3.1	17.1	2.1	0.9	0.1	2,348
Fourth	48.9	52.5	25.2	4.3	16.2	1.4	1.2	0.4	3,008
Highest	43.3	55.7	34.2	3.3	16.7	2.3	1.1	0.1	4,044
Total[1]	49.5	54.3	24.2	3.5	15.3	1.8	1.2	0.2	12,918

Note: Women may report multiple reasons, so the sum may exceed 100 percent.
[1] Total includes 7 women with missing information on circumcision status

Among women who want to stop female circumcision, those who have been circumcised are more likely than those who have not to report that the practice causes medical complications and is a painful personal experience; however, they are less likely to say that it is against a woman's dignity. The proportion of women who say female circumcision should be stopped because it causes medical complications increases uniformly with increasing education.

WOMEN'S EMPOWERMENT AND DEMOGRAPHIC AND HEALTH OUTCOMES

14

Key Findings

- Only 10 percent of currently married women age 15-49 were employed at some point in time in the 12 months preceding the survey.
- Fifty-four percent of married women who receive cash earnings report deciding on their own how to use their earnings; 39 percent say they jointly decide with their husbands.
- Regarding who usually makes decisions about women's own health care and about making major household purchases, married women are roughly about as likely to say that these decisions are made by the husband and wife jointly as to say they are made mainly by the husband alone. Only 8-9 percent of married women say they make these decisions themselves.
- Half of all women believe that a husband is justified in beating his wife for at least one of five specified reasons (if she burns the food, if she goes out without telling him, if she neglects the children, if she argues with him, or if she refuses to have sexual intercourse with him).
- Over 90 percent of all women understand domestic violence as including rape, forced marriage, sexual harassment, physical abuse, and denial of education. Women are most likely to think that fathers and mothers commit the most violence against women.

This chapter explores women's empowerment in terms of earnings, control over earnings, and magnitude of earnings relative to those of their partners. In addition, responses to specific questions are used to define two different indicators of women's empowerment: women's participation in household decision making and women's attitudes toward wife beating. The extent to which women's empowerment relates to maternal health, contraceptive use, and child mortality is also examined.

14.1 WOMEN'S EMPLOYMENT

Table 14.1 shows the percentage of currently married women who were employed in the 12 months preceding the survey by age and also the percent distribution of employed women by type of earnings. Employment is assumed to go hand in hand with payment for work. However, not all women receive earnings for the work they do, and among those who do receive earnings, not all receive cash.

Table 14.1 Employment and cash earnings of currently married women

Percentage of currently married women age 15-49 who were employed at any time in the past 12 months and the percent distribution of currently married women employed in the past 12 months by type of earnings, according to age, Yemen 2013

| Age | Among currently married respondents: | | Percent distribution of currently married respondents employed in the past 12 months, by type of earnings | | | | | | |
	Percentage employed in past 12 months	Number of respon-dents	Cash only	Cash and in-kind	In-kind only	Not paid	Missing/don't know	Total	Number of women
15-19	5.1	1,084	28.1	0.9	7.9	63.1	0.0	100.0	55
20-24	6.0	2,968	29.9	3.2	2.7	62.8	1.5	100.0	179
25-29	9.7	3,574	42.4	4.5	4.4	48.6	0.1	100.0	347
30-34	12.6	2,675	61.1	2.1	3.8	33.0	0.0	100.0	337
35-39	12.0	2,409	57.8	2.2	3.8	35.8	0.3	100.0	289
40-44	13.0	1,579	45.2	3.8	3.9	47.1	0.0	100.0	205
45-49	13.3	1,277	50.4	5.6	6.3	37.7	0.0	100.0	171
Total	10.2	15,566	48.5	3.3	4.2	43.7	0.2	100.0	1,582

One in ten currently married women reported being employed at any time in the 12 months preceding the survey. The percentage of currently married women who are employed increases with age, from 5 percent among those age 15-19 to a peak of 12-13 percent among those age 30-49.

Almost half of employed women receive cash earnings only; 3 percent receive both cash and in-kind earnings, and 4 percent receive in-kind earnings only. Forty-four percent do not receive any form of earnings for their work. Younger women are more likely than older women not to be paid for their work.

14.2 WOMEN'S CONTROL OVER THEIR OWN EARNINGS AND RELATIVE MAGNITUDE OF WOMEN'S EARNINGS

To assess women's autonomy, currently married women who earned cash for their work in the 12 months preceding the survey were asked who the main decision maker is with regard to the use of their earnings. This information allows an assessment of women's control over their own earnings. Women who earned cash for their work were also asked about the magnitude of their earnings relative to those of their husband. It is expected that employment and earnings are more likely to empower women if women themselves control their own earnings and perceive them as significant relative to those of their husband.

Table 14.2 shows the degree of control women have over the use of their earnings and their perception of the magnitude of their earnings relative to those of their husband, according to background characteristics. Fifty-four percent of currently married women who receive cash earnings report that they alone mainly decide how their earnings are used, while 39 percent say they decide jointly with their husband. Only 5 percent of women report that their husband mainly decides how their earnings will be used.

Table 14.2 Control over women's cash earnings and relative magnitude of women's cash earnings

Percent distribution of currently married women age 15-49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used and by whether she earned more or less than her husband, according to background characteristics, Yemen 2013

Background characteristic	Person who decides how the wife's cash earnings are used:						Wife's cash earnings compared with husband's cash earnings:						Number of women
	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing	Total	More	Less	About the same	Husband has no earnings	Don't know/ missing	Total	
Age													
15-19	*	*	*	*	*	*	*	*	*	*	*	100.0	16
20-24	51.1	35.9	9.3	2.2	1.4	100.0	5.3	77.5	8.7	4.6	3.8	100.0	59
25-29	51.7	38.6	6.8	0.0	2.8	100.0	10.9	73.0	5.0	7.9	3.2	100.0	163
30-34	46.0	44.9	5.3	0.3	3.4	100.0	19.0	58.5	12.6	3.8	6.0	100.0	213
35-39	55.4	38.7	4.2	0.0	1.8	100.0	18.9	66.8	7.9	4.0	2.3	100.0	173
40-44	63.5	29.9	4.3	0.0	2.3	100.0	24.8	47.7	9.6	12.7	5.1	100.0	100
45-49	62.6	34.9	1.6	0.0	0.8	100.0	22.1	52.0	7.3	12.0	6.5	100.0	95
Number of living children													
0	53.5	41.6	1.7	0.3	3.0	100.0	19.1	66.7	5.5	4.5	4.2	100.0	78
1-2	54.5	40.5	3.0	0.3	1.7	100.0	18.7	65.8	7.5	4.6	3.5	100.0	231
3-4	53.0	38.2	5.2	0.0	3.6	100.0	18.9	62.1	8.6	4.4	6.0	100.0	268
5+	54.0	35.8	8.2	0.8	1.2	100.0	14.6	59.1	11.0	11.9	3.4	100.0	243
Residence													
Urban	57.4	38.5	2.2	0.0	1.9	100.0	21.8	61.7	7.7	5.6	3.2	100.0	470
Rural	48.9	38.4	9.1	0.8	2.8	100.0	11.8	64.0	10.1	8.2	5.9	100.0	350
Education													
No education	48.0	37.8	9.6	1.1	3.6	100.0	11.3	59.3	7.6	13.9	7.9	100.0	233
Fundamental	57.3	33.9	7.1	0.0	1.7	100.0	12.7	68.1	11.2	4.7	3.3	100.0	211
Secondary	59.0	37.4	2.0	0.0	1.6	100.0	25.6	57.6	9.9	4.6	2.3	100.0	119
Higher	53.7	43.4	0.9	0.1	2.0	100.0	23.6	63.6	7.0	2.8	3.0	100.0	257
Wealth quintile													
Lowest	49.6	34.4	9.8	0.0	6.2	100.0	11.8	48.7	15.6	11.8	12.1	100.0	79
Second	51.5	32.2	12.8	1.0	2.7	100.0	10.9	61.5	11.0	8.9	7.7	100.0	77
Middle	49.2	35.7	10.7	2.0	2.3	100.0	11.1	65.6	9.0	9.2	5.1	100.0	101
Fourth	48.7	46.0	3.4	0.0	1.9	100.0	16.3	65.4	6.7	7.3	4.2	100.0	203
Highest	59.3	37.3	1.8	0.0	1.6	100.0	22.8	63.7	7.7	4.1	1.8	100.0	359
Total	53.8	38.5	5.1	0.3	2.3	100.0	17.6	62.7	8.7	6.7	4.4	100.0	820

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Older women are generally somewhat more likely than younger women to make independent decisions on their earnings. There is a modest difference in control over women's cash earnings by residence: 57 percent of urban and 49 percent of rural women report that they mainly decide how to spend their earnings.

Women with no education are slightly less likely than women with any education to decide themselves how to spend their earnings and slightly more likely to have their husbands make such decisions. For example, only 1 percent of women with a higher education report that their husband mainly makes decisions about how their cash earnings will be spent; in contrast, 10 percent of women with no education report that their husband mainly decides how their earnings will be used. There are only minor differences by wealth quintile in women's control over their own earnings.

Regarding the comparative magnitude of women's earnings with those of their husbands, 18 percent report that they earn more than their husband, 63 percent earn less than their husband, and 9 percent earn about the same as their husband. Seven percent of women report that their husband has no earnings, and 4 percent report that they do not know their husband's earnings. Older women, urban women, women with a secondary or higher education, and women in the highest two wealth quintiles are more likely than other women to earn more than their husbands.

Table 14.3 shows who decides how the husband's cash earnings are used, as reported by currently married women age 15-49. Seven percent of women report that they mainly decide how their husband's earnings are used, 38 percent say that they and their husband jointly make the decision, and 53 percent report that their husband mainly decides. The proportion of women who say their husbands mainly decide themselves how to use their own earnings is higher in rural than urban areas and decreases with increasing education and wealth. Better educated and wealthier women are more likely to report that decisions are made jointly as to how to use the husband's cash earnings.

The results in Tables 14.2 and 14.3 show remarkable consistency. Regardless of whether it is the wife's or the husband's earnings, just over half of women (53-54 percent) say that the person who earns the money mainly makes the decisions as to how those earnings are used, and 38-39 percent say that decisions are made jointly.

Table 14.3 Control over men's cash earnings

Percent distribution of currently married women age 15-49 whose husbands receive cash earnings by person who decides how husband's cash earnings are used, according to background characteristics, Yemen 2013

Background characteristic	Person who decides how husband's cash earnings are used:					Total	Number
	Mainly wife	Husband and wife jointly	Mainly husband	Other	Missing		
Age							
15-19	2.7	33.7	56.6	7.0	0.0	100.0	1,027
20-24	5.0	37.7	52.3	4.7	0.2	100.0	2,895
25-29	4.5	38.8	52.5	4.0	0.2	100.0	3,499
30-34	7.5	39.2	51.7	1.5	0.1	100.0	2,632
35-39	8.3	37.4	53.4	0.8	0.1	100.0	2,374
40-44	9.8	34.6	54.7	0.7	0.2	100.0	1,539
45-49	10.6	36.3	50.9	1.8	0.4	100.0	1,230
Number of living children							
0	4.7	36.7	52.4	6.1	0.1	100.0	1,783
1-2	5.3	38.7	51.4	4.4	0.1	100.0	4,422
3-4	6.6	38.4	52.6	2.2	0.3	100.0	3,881
5+	8.5	36.0	54.4	1.0	0.2	100.0	5,108
Residence							
Urban	7.9	44.0	45.1	2.9	0.1	100.0	4,856
Rural	6.0	34.4	56.5	2.9	0.2	100.0	10,339

Continued…

Table 14.3—*Continued*

	Person who decides how husband's cash earnings are used:						
Background characteristic	Mainly wife	Husband and wife jointly	Mainly husband	Other	Missing	Total	Number
Governorate							
Ibb	6.3	51.8	38.8	2.8	0.4	100.0	1,631
Abyan	1.8	41.3	55.7	1.2	0.0	100.0	314
Sana'a City	6.9	48.5	42.2	2.2	0.1	100.0	1,481
Al-Baidha	5.8	23.7	58.1	12.3	0.2	100.0	683
Taiz	9.2	40.3	46.1	4.4	0.0	100.0	1,996
Al-Jawf	2.2	35.9	61.3	0.5	0.2	100.0	119
Hajjah	1.8	25.0	72.9	0.3	0.0	100.0	847
Al-Hodiedah	8.4	38.6	52.1	0.8	0.1	100.0	1,884
Hadramout	2.4	25.1	71.0	0.9	0.6	100.0	850
Dhamar	16.6	38.4	43.1	1.9	0.1	100.0	1,099
Shabwah	0.8	40.8	54.5	3.7	0.2	100.0	272
Sadah	1.6	25.9	72.1	0.1	0.3	100.0	493
Sana'a	4.3	25.7	64.4	5.5	0.0	100.0	806
Aden	10.2	47.5	40.7	1.5	0.0	100.0	472
Lahj	4.0	42.3	53.0	0.6	0.0	100.0	400
Mareb	1.3	30.7	65.5	2.4	0.1	100.0	102
Al-Mhweit	7.0	28.5	55.9	8.6	0.0	100.0	415
Al-Mhrah	2.9	42.5	53.6	1.0	0.0	100.0	61
Amran	3.2	26.6	64.9	4.8	0.5	100.0	577
Aldhalae	4.6	35.3	57.4	1.8	0.9	100.0	373
Reimah	5.3	36.9	57.2	0.4	0.2	100.0	320
Education							
No education	7.0	32.2	58.3	2.4	0.2	100.0	8,117
Fundamental	6.0	40.1	49.8	3.8	0.2	100.0	4,984
Secondary	7.2	48.0	41.7	3.0	0.1	100.0	1,479
Higher	5.7	60.7	31.4	2.2	0.0	100.0	616
Wealth quintile							
Lowest	6.4	27.7	64.0	1.8	0.1	100.0	2,747
Second	7.6	32.6	56.6	3.0	0.3	100.0	2,990
Middle	5.4	37.9	53.6	2.9	0.2	100.0	3,074
Fourth	5.8	40.3	50.4	3.3	0.2	100.0	3,077
Highest	7.9	46.9	41.6	3.5	0.2	100.0	3,307
Total	6.6	37.5	52.8	2.9	0.2	100.0	15,195

Cross tabulations by the person in the household who decides how the wife's cash earnings are used and how the husband's cash earnings are used are presented in Table 14.4. These data provide some insight into a woman's empowerment in the family and the extent of her control over decision making in the household.

Table 14.4 shows that currently married women who earn more than their husband are only very slightly more likely to decide by themselves how their own earnings are used (55 percent) than those who earn less than (53 percent) or the same as (53 percent) their husband. However, among the small number of women who earn cash and whose husbands do not, the vast majority (75 percent) report that they mainly make decisions as to how to use their own earnings.

Table 14.4 Women's control over their own earnings and over those of their husbands

Percent distribution of currently married women age 15-49 with cash earnings in the last 12 months by person who decides how the wife's cash earnings are used and percent distribution of currently married women age 15-49 whose husbands have cash earnings by person who decides how the husband's cash earnings are used, according to the relation between wife's and husband's cash earnings, Yemen 2013

Women's earnings relative to husband's earnings	Person who decides how the wife's cash earnings are used:						Number of currently married women with cash earnings	Person who decides how the husband's cash earnings are used:						Number of currently married women whose husbands have cash earnings
	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing	Total		Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing	Total	
More than husband	55.1	41.0	3.9	0.0	0.0	100.0	144	15.8	53.7	30.4	0.2	0.0	100.0	144
Less than husband	52.7	41.1	5.9	0.4	0.0	100.0	514	8.6	54.3	35.0	2.2	0.0	100.0	514
Same as husband	53.3	43.7	1.9	1.0	0.0	100.0	71	9.0	49.6	40.3	1.0	0.0	100.0	71
Husband has no cash earnings or did not work	75.2	16.5	8.3	0.0	0.0	100.0	55	na	na	na	na	na	na	0
Woman worked but has no cash earnings	na	na	na	na	na	na	0	6.1	30.2	58.5	5.1	0.2	100.0	736
Woman did not work	na	na	na	na	na	na	0	6.4	37.0	53.5	2.8	0.2	100.0	13,694
Don't know/missing	(32.3)	(14.4)	(0.0)	(0.7)	(52.7)	100.0	36	(20.7)	(36.4)	(38.8)	(4.2)	(0.0)	100.0	36
Total[1]	53.8	38.5	5.1	0.3	2.3	100.0	820	6.6	37.5	52.8	2.9	0.2	100.0	15,195

Note: Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable
[1] Includes cases where a woman does not know whether she earned more or less than her husband

14.3 WOMEN'S PARTICIPATION IN DECISION MAKING

Decision making can be a complex process, and the ability of women and men to make decisions that affect the circumstances of their own lives is essential to their status in the household and in society. The number of decisions in which a woman either alone or jointly with her husband has the final say is assumed to be directly related to the woman's empowerment and reflects the degree of decision-making control the woman is able to exercise in areas that affect her life and environment.

To assess women's decision-making autonomy, the 2013 YNHDS sought information on women's participation in two types of household decisions: the respondent's own health care and making major household purchases. Table 14.5 shows the percent distribution of currently married women according to the person in the household who usually makes decisions concerning these matters. Women are considered to participate in decision making if they make decisions alone or jointly with their husband.

Table 14.5 Participation in decision making

Percent distribution of currently married women age 15-49 by person who usually makes decisions about various issues, Yemen 2013

Decision	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Other, relatives	Missing	Total	Number of women
Own health care	9.4	45.2	42.2	1.9	1.2	0.2	100.0	15,566
Major household purchases	8.4	41.6	43.5	4.1	2.2	0.2	100.0	15,566

In Yemen, there is an even distribution between decisions made jointly by the husband and wife and decisions made mainly by the husband. Regarding the two decisions asked about in the survey, 42-45 percent of currently married women report that each of the decisions is made jointly by the husband and wife, and 42-44 percent report that the decisions are made mainly by the husband. Only 8-9 percent of women say they make these decisions mainly by themselves.

Table 14.6 shows the percentage of currently married women who report that they usually make specific household decisions either by themselves or jointly with their husbands, according to background characteristics. A slight majority of Yemeni women make decisions pertaining to their own health care either by themselves or jointly with their husbands (55 percent), and half participate in decisions regarding major household purchases (50 percent). Almost as many married women participate in neither of the two decisions (38 percent) as participate in making both decisions (42 percent).

Table 14.6 Women's participation in decision making by background characteristics

Percentage of currently married women age 15-49 who usually make specific decisions either by themselves or jointly with their husband, by background characteristics, Yemen 2013

| Background characteristic | Specific decisions | | | | |
	Woman's own health care	Making major household purchases	Both decisions	Neither of the two decisions	Number of women
Age					
15-19	48.0	39.2	31.2	44.0	1,084
20-24	50.9	44.8	37.1	41.3	2,968
25-29	54.5	49.0	41.3	37.8	3,574
30-34	54.8	53.8	45.0	36.3	2,675
35-39	57.3	53.7	46.7	35.7	2,409
40-44	56.4	52.2	45.1	36.5	1,579
45-49	60.5	56.1	48.5	31.9	1,277
Employment (last 12 months)					
Not employed	54.0	49.1	41.4	38.3	13,969
Employed for cash	74.7	74.1	64.3	15.5	820
Employed not for cash	44.5	40.9	34.2	48.9	758
Number of living children					
0	49.7	44.6	35.9	41.6	1,864
1-2	54.4	47.9	40.5	38.2	4,538
3-4	56.9	52.6	45.3	35.8	3,941
5+	54.6	51.7	43.7	37.3	5,223
Residence					
Urban	64.4	59.9	51.5	27.2	4,949
Rural	50.0	45.4	37.9	42.6	10,617
Governorate					
Ibb	54.0	60.2	44.6	30.4	1,678
Abyan	55.3	44.3	42.9	43.3	326
Sana'a City	64.8	61.0	55.3	29.5	1,510
Al-Baidha	47.5	35.8	28.0	44.7	702
Taiz	61.9	55.8	46.5	28.8	2,053
Al-Jawf	46.5	42.9	35.2	45.9	124
Hajjah	39.7	37.6	29.6	52.3	867
Al-Hodiedah	50.3	46.4	40.6	43.9	1,891
Hadramout	64.8	50.0	46.7	32.0	884
Dhamar	59.2	60.7	51.3	31.4	1,106
Shabwah	55.6	45.3	41.3	40.3	293
Sadah	64.0	45.5	41.2	31.8	504
Sana'a	35.5	34.6	27.3	57.2	831
Aden	81.4	63.7	56.5	11.5	487
Lahj	47.0	47.0	42.7	48.6	405
Mareb	41.6	49.7	29.9	38.6	111
Al-Mhweit	32.4	33.1	23.2	57.7	425
Al-Mhrah	48.3	55.2	35.2	31.7	61
Amran	48.8	40.5	35.4	46.1	595
Aldhalae	56.1	40.3	35.8	39.4	384
Reimah	48.6	48.8	44.8	47.4	330
Education					
No education	49.0	44.7	37.9	44.2	8,336
Fundamental	57.5	52.3	43.5	33.8	5,090
Secondary	66.4	58.8	50.5	25.4	1,511
Higher	76.2	80.0	69.4	13.2	629
Wealth quintile					
Lowest	40.6	37.4	30.6	52.7	2,840
Second	47.6	43.1	35.7	44.9	3,076
Middle	54.3	49.9	41.5	37.3	3,141
Fourth	59.8	54.5	46.1	31.9	3,147
Highest	68.1	62.8	55.1	24.2	3,362
Total[1]	54.6	50.0	42.2	37.7	15,566

[1] Total includes 20 women with missing information on employment.

Some women are more likely than others to be involved in making household decisions. Women who are older, who are employed for cash, who live in urban areas, who have more education, and who are in the higher wealth quintiles are more likely than other women to participate in decision making. Women in Sana'a City and Aden Governorate are most likely to report that they participate in making these two decisions.

14.4 ATTITUDES TOWARD WIFE BEATING

Violence is one of the most serious problems faced by women. The right to personal security is fundamental to all other rights. If violence against women is tolerated and accepted in a society, its eradication is made more difficult.

To assess women's attitudes toward wife beating, both ever-married and never-married women interviewed in the 2013 YNHDS were asked whether a husband is justified in hitting or beating his wife in each of the following five situations: if she burns the food, if she argues with him, if she goes out without telling him, if she neglects the children, and if she refuses to have sexual intercourse with him. The results of this series of questions are summarized in Table 14.7.

Table 14.7 shows that 10 percent of women agree that a husband is justified in hitting or beating his wife if she burns the food, 20 percent if she argues with him, 36 percent if she goes out without telling him, 30 percent if she neglects the children, and 32 percent if she refuses to have sexual intercourse with him.

Almost half (49 percent) of women believe that a husband is justified in hitting or beating his wife for at least one of the five specified reasons. It is notable that younger women are almost as accepting of wife beating as older women. There are also few differences by number of children and marital status. However, women who are employed for cash are less likely to agree with wife beating than women who are either not employed or employed but not for cash. Similarly, urban women are less likely than rural women to agree with at least one reason for wife beating (37 percent and 55 percent, respectively). The proportion of women who accept wife beating for at least one of the five reasons decreases with increasing education and wealth. Women in Al-Baidha, Mareb, Abyan, and Amran governorates are particularly likely to feel that wife beating is justified for at least one of the five reasons, while women in Al-Jawf and Al-Mhrah governorates are least likely to approve of wife beating.

Table 14.7 Attitude toward wife beating

Percentage of all women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Yemen 2013

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number of women
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Age							
15-19	9.9	19.2	36.0	30.3	27.9	48.5	6,342
20-24	8.1	17.8	33.2	27.6	29.7	46.1	5,197
25-29	10.1	19.7	34.8	29.2	33.2	48.1	4,634
30-34	10.1	20.1	35.2	30.3	34.7	48.7	3,225
35-39	10.5	21.8	36.4	31.7	37.1	51.1	2,761
40-44	9.1	22.1	39.0	31.8	37.4	52.5	1,807
45-49	10.8	23.4	39.1	32.8	38.7	52.4	1,468
Employment (last 12 months)							
Not employed	9.6	19.9	35.5	29.9	32.2	48.7	23,611
Employed for cash	5.9	13.8	25.9	22.0	25.9	39.4	972
Employed not for cash	15.2	25.1	47.8	42.4	47.3	61.6	829

Continued…

Table 14.7—Continued

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number of women
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Number of living children							
0	9.8	20.7	35.6	30.8	34.3	49.6	2,075
1-2	8.3	17.3	32.9	27.7	31.0	46.2	4,890
3-4	9.5	20.7	36.3	30.7	34.8	48.7	4,145
5+	10.1	20.4	36.2	30.4	31.9	49.5	14,324
Marital status							
Never married	9.2	17.7	33.4	27.7	26.2	45.9	8,870
Married	10.0	21.1	36.8	31.3	35.9	50.4	15,566
Divorced/widowed	8.9	19.5	34.4	29.3	33.2	47.6	998
Residence							
Urban	3.7	10.0	22.9	19.0	22.0	37.4	8,619
Rural	12.7	24.9	42.0	35.5	37.7	54.5	16,815
Governorate							
Ibb	6.8	19.9	35.1	28.4	35.3	52.0	2,739
Abyan	21.1	42.3	58.4	51.9	53.5	68.7	551
Sana'a City	1.7	4.9	16.2	14.3	17.8	30.8	2,487
Al-Baidha	15.3	31.4	59.8	53.3	53.3	78.1	1,101
Taiz	3.0	9.2	22.6	18.1	20.4	32.2	3,512
Al-Jawf	6.9	10.0	16.4	14.9	17.7	28.0	181
Hajjah	19.3	32.9	43.9	37.8	46.0	63.1	1,374
Al-Hodiedah	12.2	18.8	30.4	25.6	26.4	41.4	3,261
Hadramout	4.7	17.4	29.0	27.9	25.6	45.4	1,427
Dhamar	20.9	33.4	52.2	45.5	43.8	63.3	1,670
Shabwah	18.1	37.7	52.4	44.4	41.9	61.2	528
Sadah	4.0	18.4	44.6	27.8	35.1	53.9	823
Sana'a	7.3	13.9	32.6	26.2	28.0	44.1	1,265
Aden	4.4	13.3	25.6	22.2	21.2	38.9	921
Lahj	17.5	29.8	46.9	42.5	33.4	60.8	678
Mareb	24.6	46.0	59.4	57.3	54.3	74.1	183
Al-Mhweit	19.8	27.3	50.2	40.6	43.3	66.3	623
Al-Mhrah	2.3	7.4	21.5	11.2	14.2	30.4	95
Amran	6.2	17.5	50.2	41.9	52.3	67.8	852
Aldhalae	10.5	35.5	48.9	45.7	49.3	58.9	641
Reimah	13.8	19.6	37.6	24.8	34.4	44.8	520
Education							
No education	14.3	27.3	44.7	37.6	42.0	57.6	10,705
Fundamental	8.2	18.4	35.1	29.8	30.2	48.4	9,339
Secondary	3.5	8.9	20.9	17.4	19.4	35.4	3,767
Higher	1.3	4.8	11.0	9.6	12.3	22.9	1,623
Wealth quintile							
Lowest	19.7	32.4	48.9	42.5	43.2	60.7	4,435
Second	13.2	25.6	43.3	36.7	39.3	55.6	4,808
Middle	9.7	21.0	38.9	31.2	35.4	51.7	5,046
Fourth	6.0	15.4	31.6	26.3	29.0	46.4	5,320
Highest	2.4	8.6	19.6	17.0	18.9	33.5	5,825
Total[1]	9.7	19.9	35.5	29.9	32.4	48.7	25,434

[1] Total includes 21 women with missing information on employment.

14.5 WOMEN'S EMPOWERMENT INDICATORS

The two sets of empowerment indicators, namely women's participation in making household decisions and women's attitudes toward wife beating, can be summarized in two indices.

The first index shows the number of decisions (see Table 14.6 for the list of decisions) in which women participate either alone or jointly with their husbands. This index, which ranges from 0 to 2, reflects the degree of decision-making control that women are able to exercise in areas that affect their own lives and is related to the level of women's empowerment in a society.

The second index, which ranges from 0 to 5, is the number of reasons (see Table 14.7 for the list of reasons) for which a woman thinks that a husband is justified in beating his wife. A low score on this indicator is interpreted as reflecting higher status of women in the household and society.

Table 14.8 shows how the two indices relate to each other. The findings indicate that currently married women who participate in both household decisions asked about are slightly more likely to disagree with all five reasons justifying wife beating than women who participate in only one or no household decisions. Similarly, women who do not believe that wife beating is justified for any reason are somewhat more likely to participate in all household decision making than women who believe there are reasons for which wife beating is justified.

Table 14.8 Indicators of women's empowerment

Percentage of currently married women age 15-49 who participate in all decision making and the percentage who disagree with all of the reasons justifying wife beating, by value on each of the indicators of women's empowerment, Yemen 2013

Empowerment indicator	Percentage who participate in all decision making	Percentage who disagree with all reasons justifying wife beating	Number of women
Number of decisions in which women participate[1]			
0	na	43.6	5,868
1	na	48.7	3,124
2	na	55.4	6,574
Number of reasons for which wife beating is justified[2]			
0	47.2	na	7,718
1-2	39.9	na	3,896
3-4	36.8	na	2,859
5	30.0	na	1,093

na = Not applicable
[1] See Table 14.6 for the list of decisions.
[2] See Table 14.7 for the list of reasons.

14.6 CURRENT USE OF CONTRACEPTION BY WOMEN'S EMPOWERMENT

A woman's desire and ability to control her fertility and her choice of contraceptive method are in part affected by her status in the household and her own sense of empowerment. A woman who feels that she is unable to control her life may be less likely to feel she can make and carry out decisions about her fertility. Table 14.9 presents the distribution of currently married women by contraceptive method used, according to the two empowerment indicators.

Table 14.9 Current use of contraception by women's empowerment

Percent distribution of currently married women age 15-49 by current contraceptive method, according to selected indicators of women's status, Yemen 2013

Empowerment indicator	Any method	Any modern method	Modern methods				Any traditional method	Not currently using	Total	Number of women
			Female sterili-zation	Male sterili-zation	Temporary modern female methods[1]	Male condom				
Number of decisions in which women participate[2]										
0	28.9	25.6	2.0	0.0	23.2	0.4	3.4	71.1	100.0	5,868
1	33.2	29.2	2.0	0.1	26.8	0.4	3.9	66.8	100.0	3,124
2	37.7	32.3	2.6	0.1	28.8	0.7	5.4	62.3	100.0	6,574
Number of reasons for which wife beating is justified[3]										
0	35.4	30.3	2.2	0.0	27.5	0.7	5.0	64.6	100.0	7,718
1-2	35.8	31.0	2.2	0.2	28.2	0.4	4.8	64.2	100.0	3,896
3-4	29.0	26.2	2.6	0.0	23.3	0.3	2.8	71.0	100.0	2,859
5	23.5	21.9	2.3	0.0	19.1	0.5	1.6	76.5	100.0	1,093
Total	33.5	29.2	2.3	0.1	26.3	0.5	4.3	66.5	100.0	15,566

Note: If more than one method is used, only the most effective method is considered in this tabulation.
[1] Pill, IUD, injectables, implants, female condom, diaphragm, foam/jelly, and lactational amenorrhea method
[2] See Table 14.6 for the list of decisions.
[3] See Table 14.7 for the list of reasons.

There is generally a positive relationship between women's empowerment and use of contraception, although differences are not large. The proportion of married women who are using any method of contraception increases with the number of decisions in which they participate, from 29 percent among women who do not participate in any decision to 38 percent among those who participate in both decisions. Likewise, women who believe that wife beating is justified for two or fewer reasons are more likely than other women to use a method of contraception (35-36 percent and 24-29 percent, respectively). Conversely, the percentage of women not currently using any method is highest among those who justify all five reasons for wife beating (77 percent) and those who do not take part in any decision making (71 percent).

14.7 IDEAL FAMILY SIZE AND UNMET NEED BY WOMEN'S EMPOWERMENT

An increase in women's status and empowerment is expected to have an effect on women's desired family size. Women who participate in decision making and who reject wife beating would be expected to have more control over their ability to space and limit their family size. Women who have a desire to space or limit their births but who are not using family planning are defined as having an unmet need for family planning. Table 14.10 shows how women's ideal family size and their unmet need for family planning vary by the two empowerment indicators.

Table 14.10 Ideal number of children and unmet need for family planning by women's empowerment

Mean ideal number of children for women age 15-49 and the percentage of currently married women age 15-49 with an unmet need for family planning, by indicators of women's empowerment, Yemen 2013

| Empowerment indicator | Mean ideal number of children[1] | Number of women[1] | Percentage of currently married women with an unmet need for family planning[2] | | | Number of women |
			For spacing	For limiting	Total	
Number of decisions in which women participate[3]						
0	4.4	5,146	16.6	15.2	31.7	5,868
1	4.4	2,825	15.8	13.0	28.8	3,124
2	4.4	6,012	13.1	12.9	26.0	6,574
Number of reasons for which wife beating is justified[4]						
0	4.2	7,500	15.6	11.9	27.5	7,718
1-2	4.4	3,695	14.3	14.0	28.2	3,896
3-4	4.5	2,649	14.2	16.4	30.6	2,859
5	4.5	991	14.7	19.6	34.2	1,093
Total	4.3	14,834	15.0	13.8	28.7	15,566

[1] Mean and number of women exclude respondents who gave non-numeric responses.
[2] See Table 7.12 for the definition of unmet need for family planning.
[3] Restricted to currently married women. See Table 14.6 for the list of decisions.
[4] See Table 14.7 for the list of reasons.

Although there is no difference in mean ideal number of children by the number of decisions in which currently married women participate (4.4 for all categories), the results do show that unmet need for family planning decreases slightly as the number of decisions in which women participate increases. For example, unmet need is lower among women who participate in both decisions (26 percent) than among women who participate in no decisions (32 percent).

Desired family size increases slightly with the number of reasons a woman thinks that wife beating is justified, from 4.2 children among women who do not agree with any of the reasons justifying wife beating to 4.5 children among women who agree with three or more reasons justifying wife beating. Unmet need for family planning increases steadily with the number of reasons for which a woman believes wife beating is justified, from 28 percent among women who do not agree with any of the reasons to 34 percent among women who agree with all five reasons.

14.8 WOMEN'S EMPOWERMENT AND REPRODUCTIVE HEALTH CARE

Table 14.11 shows women's use of prenatal, delivery, and postnatal care services from health care workers by level of empowerment, as measured by the two empowerment indicators. Theoretically,

increased empowerment of women is likely to increase their ability to seek out and use health services, enabling them to better meet their reproductive health goals, including safe motherhood.

Table 14.11 Reproductive health care by women's empowerment

Percentage of women age 15-49 with a live birth in the five years preceding the survey who received antenatal care, delivery assistance, and postnatal care from health personnel for the most recent birth, by indicators of women's empowerment, Yemen 2013

Empowerment indicator	Percentage receiving antenatal care from a skilled provider	Percentage receiving delivery care from a skilled provider	Received postnatal care from health personnel within the first two days since delivery[1]	Number of women with a child born in the last five years
Number of decisions in which women participate[2]				
0	52.5	41.8	16.4	4,019
1	66.0	50.7	22.6	2,047
2	63.9	54.1	24.1	4,120
Number of reasons for which wife beating is justified[3]				
0	63.4	53.8	23.7	5,046
1-2	61.1	49.0	20.9	2,634
3-4	53.6	38.8	16.7	1,908
5	47.1	36.2	12.4	782
Total	59.8	48.5	20.8	10,369

Note: Skilled provider includes doctor, nurse, midwife, or auxiliary midwife.
[1] Includes women who gave birth in a health facility and those who did not give birth in a health facility.
[2] Restricted to currently married women. See Table 14.6 for the list of decisions.
[3] See Table 14.7 for the list of reasons.

The results in Table 14.11 show a robust correlation between women's empowerment and reproductive health care. The proportions of women who receive antenatal, delivery, and postnatal care all increase with the number of decisions in which they participate. Similarly, the proportions of women who receive antenatal, delivery, and postnatal care decrease as the number of reasons justifying wife beating increases.

14.9 OPINIONS ABOUT DOMESTIC VIOLENCE

In addition to the set of questions about situations in which women might think wife beating is justified, women interviewed in the 2013 YNHDS were asked several other questions regarding their opinions about domestic violence. Specifically, they were asked what their understanding of domestic violence is and whether it means:

- Physical abuse
- No participation in household decision making
- No participation in decision making regarding children
- Better treatment of males than females
- Failure to meet basic living costs
- Denial of education
- Forced marriage
- Rape
- Sexual harassment

They were also asked who are the people who commit the most violent acts against women and where the most violent acts take place. These questions were asked of both ever-married and never-married women.

Table 14.12 shows that the vast majority of women believe that all of the acts described constitute domestic violence. Over 95 percent of women say that rape and forced marriage are considered domestic violence, and 94-95 percent say that sexual harassment, physical abuse, and denial of education constitute domestic violence. Slightly lower proportions (81-87 percent) define domestic violence as including better

treatment of males than females and lack of participation in making decisions either in the household or about children. Only 68 percent of women feel that a failure to meet basic living costs constitutes domestic violence.

Table 14.12 Opinions/acts that mean domestic violence

Percentage of all women age 15-49 who understand domestic violence to mean various specified acts, by background characteristics, Yemen 2013

Background characteristic	Acts that mean domestic violence										Number of women
	Physical abuse	No partici-pation in decision making in household matters	No partici-pation in decision making for children	Better treatment of males than females	Failure to meet basic living costs	Denial of education	Forced marriage	Rape	Sexual harass-ment	Other	
Age											
15-19	94.4	79.3	78.6	86.9	69.0	94.1	96.1	96.9	94.1	1.2	6,342
20-24	94.3	82.0	81.7	88.4	69.1	94.7	96.3	97.8	95.4	1.3	5,197
25-29	93.7	82.0	81.8	88.1	68.0	94.1	96.0	97.0	95.0	1.2	4,634
30-34	94.7	81.8	82.3	87.3	68.3	93.4	96.7	97.6	95.8	1.3	3,225
35-39	94.7	82.1	81.8	88.0	68.4	95.0	96.4	98.1	95.8	1.4	2,761
40-44	93.2	81.1	81.0	85.1	68.3	92.8	95.6	96.8	93.6	1.4	1,807
45-49	93.3	78.1	78.7	85.4	64.6	92.2	95.2	97.0	93.8	1.0	1,468
Marital status											
Never married	94.6	80.5	79.5	87.7	67.8	95.0	96.5	97.4	94.7	1.5	8,870
Married	93.9	81.2	81.3	87.0	68.4	93.4	95.8	97.2	94.9	1.1	15,566
Divorced/widowed	95.6	84.0	84.8	90.1	74.6	95.9	97.0	98.0	96.6	1.4	998
Residence											
Urban	96.3	83.7	83.5	87.6	64.2	95.3	97.2	98.1	97.3	1.2	8,619
Rural	93.1	79.7	79.4	87.3	70.5	93.4	95.6	96.9	93.6	1.3	16,815
Education											
No education	91.9	76.9	76.6	85.3	67.8	92.2	94.8	96.5	92.9	1.5	10,705
Fundamental	95.1	82.0	81.9	87.8	68.1	94.1	96.5	97.3	95.2	0.9	9,339
Secondary	96.6	87.1	86.7	90.9	72.1	97.3	98.0	98.8	97.7	1.3	3,767
Higher	97.8	88.8	88.4	90.9	65.9	98.4	98.6	99.4	99.3	1.2	1,623
Wealth quintile											
Lowest	90.6	74.3	74.2	85.2	69.8	91.7	94.3	95.4	89.9	1.2	4,435
Second	92.2	79.1	78.2	87.5	70.1	92.4	94.7	96.6	92.9	1.6	4,808
Middle	94.8	82.8	82.3	88.5	72.1	94.8	96.5	97.8	95.6	1.3	5,046
Fourth	95.7	81.6	82.5	87.2	66.7	94.6	96.7	97.6	96.4	1.6	5,320
Highest	96.6	85.8	85.1	88.1	64.2	95.9	97.8	98.8	98.3	0.6	5,825
Total	94.2	81.0	80.8	87.4	68.4	94.0	96.1	97.3	94.9	1.3	25,434

Note: Women may report multiple meanings, so the sum may exceed 100 percent.

There are only minor differences by background characteristics in which acts women think constitute domestic violence. Women with more education are generally more likely to report acts as constituting domestic violence than women with less education. Similarly, there is a tendency for women in the higher wealth quintiles to define domestic violence as including more specific acts than women in the lower quintiles, but the differences are slight.

Table 14.13 shows results regarding women's opinions about the people who commit the most violent acts against women. Women are most likely to report fathers and mothers as being the most common perpetrator of violence against women (37 percent), followed closely by sisters and brothers (35 percent). Nineteen percent of women report daughters and sons as committing the most violent acts against women. Interestingly, only 3 percent of women say that husbands commit the most violence against women.

Table 14.13 Opinions regarding the most common perpetrator of violent acts against women

Percent distribution of all women according to the person who, in their opinion, is the most common perpetrator of violent acts against women, by background characteristics, Yemen 2013

Background characteristic	Father/ mother	Husband	Sister/ brother	Daughter/ son	Employer	Someone/ colleague at work	Other relatives	Men	Other	Don't know/ missing	Total	Number of women
Age												
15-19	41.2	3.4	26.5	22.7	0.5	0.5	0.9	0.5	1.6	2.3	100.0	6,342
20-24	37.5	2.4	33.1	20.9	0.7	0.5	1.1	0.5	1.1	2.3	100.0	5,197
25-29	35.2	2.5	38.9	17.8	0.7	0.6	0.8	0.4	0.9	2.3	100.0	4,634
30-34	34.7	3.2	40.2	16.9	0.3	0.6	0.5	0.4	1.1	2.0	100.0	3,225
35-39	35.7	2.6	41.7	14.3	0.8	0.4	0.9	0.6	1.2	1.8	100.0	2,761
40-44	37.5	1.7	41.2	13.9	0.7	0.2	0.6	0.4	1.1	2.6	100.0	1,807
45-49	36.2	2.6	40.4	13.1	2.1	0.6	0.6	0.3	1.5	2.5	100.0	1,468
Marital status												
Never married	39.6	3.2	26.3	25.4	0.5	0.7	0.8	0.5	1.4	1.7	100.0	8,870
Married	36.7	2.5	39.9	14.9	0.8	0.4	0.8	0.4	1.1	2.5	100.0	15,566
Divorced/widowed	28.1	3.3	45.5	15.8	0.9	0.2	1.3	0.4	1.5	2.9	100.0	998
Residence												
Urban	33.3	2.2	37.4	21.7	0.8	0.9	0.9	0.6	1.3	0.8	100.0	8,619
Rural	39.5	3.0	34.3	17.0	0.6	0.3	0.8	0.4	1.2	3.0	100.0	16,815
Education												
No education	40.0	2.9	36.3	14.9	0.8	0.2	0.7	0.2	1.1	2.9	100.0	10,705
Fundamental	37.2	3.0	34.3	19.2	0.6	0.5	1.1	0.6	1.4	2.2	100.0	9,339
Secondary	33.9	2.5	34.4	24.0	0.7	0.9	0.8	0.6	0.9	1.3	100.0	3,767
Higher	29.3	1.2	37.2	26.7	0.5	1.9	0.5	1.0	1.5	0.1	100.0	1,623
Wealth quintile												
Lowest	44.5	3.1	31.6	14.5	0.5	0.2	0.5	0.1	1.1	3.8	100.0	4,435
Second	40.2	3.5	32.5	17.2	0.7	0.3	0.8	0.4	1.3	3.2	100.0	4,808
Middle	36.4	2.9	35.2	19.4	0.6	0.4	1.1	0.5	1.1	2.4	100.0	5,046
Fourth	35.6	2.3	37.4	19.8	0.7	0.5	0.8	0.4	0.9	1.6	100.0	5,320
Highest	32.1	2.1	38.8	21.0	0.8	1.0	0.9	0.8	1.6	0.7	100.0	5,825
Total	37.4	2.7	35.3	18.6	0.7	0.5	0.8	0.5	1.2	2.2	100.0	25,434

Information about the place where women think the most violent acts occur is shown in Table 14.14. The overwhelming majority of women (92 percent) say that violence against women most commonly occurs at home. Four percent of women say that violence is most common on the street, while only 1 percent or less report violence as most commonly occurring in school, in the workplace, or somewhere else.

Table 14.14 Opinions regarding the place of most violent acts against women

Percent distribution of all women according to the place where, in their opinion, most of the violent acts against women occur, by background characteristics, Yemen 2013

Background characteristic	At home	Workplace	Street	School	Other	Don't know/ missing	Total	Number of women
Age								
15-19	90.8	0.8	4.0	1.8	0.6	2.1	100.0	6,342
20-24	91.9	0.7	4.1	0.9	0.5	1.9	100.0	5,197
25-29	91.9	0.9	3.8	0.8	0.6	2.0	100.0	4,634
30-34	93.0	0.6	3.0	0.6	0.6	2.1	100.0	3,225
35-39	92.6	0.6	3.5	1.0	0.7	1.6	100.0	2,761
40-44	92.7	1.0	2.9	0.5	0.4	2.5	100.0	1,807
45-49	93.0	0.8	2.5	0.5	0.6	2.5	100.0	1,468
Marital status								
Never married	91.6	0.8	4.0	1.5	0.5	1.5	100.0	8,870
Married	92.1	0.8	3.5	0.7	0.6	2.3	100.0	15,566
Divorced/widowed	92.6	0.3	2.4	1.7	0.7	2.2	100.0	998
Residence								
Urban	93.7	1.1	3.6	0.7	0.2	0.7	100.0	8,619
Rural	91.1	0.6	3.7	1.2	0.8	2.7	100.0	16,815
Education								
No education	92.7	0.4	2.5	0.8	0.8	2.8	100.0	10,705
Fundamental	90.8	0.9	4.5	1.3	0.5	1.9	100.0	9,339
Secondary	92.3	0.8	4.2	1.5	0.2	1.0	100.0	3,767
Higher	92.7	1.9	4.6	0.4	0.2	0.1	100.0	1,623
Wealth quintile								
Lowest	92.1	0.3	2.3	0.9	0.9	3.6	100.0	4,435
Second	91.4	0.7	2.9	1.1	0.9	3.1	100.0	4,808
Middle	91.9	0.5	3.9	1.0	0.6	2.0	100.0	5,046
Fourth	91.5	1.0	4.4	1.3	0.3	1.5	100.0	5,320
Highest	92.8	1.2	4.4	0.9	0.2	0.5	100.0	5,825
Total	92.0	0.8	3.6	1.0	0.6	2.0	100.0	25,434

HARMFUL HEALTH PRACTICES

15

Key Findings

- Thirteen percent of household members age 10 and older currently smoke tobacco; men are more than three times as likely as women to be current smokers.
- The proportion of current smokers has declined from 19 percent in 2003 to 13 percent in 2013.
- Forty-three percent of household members age 10 and older chew al-Qat. More than twice as many male as female household members use al-Qat (59 percent and 28 percent, respectively).
- Current al-Qat use has not changed since 2003.
- Overall, 9 percent of household members age 10 and older are current orange snuff users. Current use is much higher among male (14 percent) than female (5 percent) household members.
- The proportion of current orange snuff users has slightly declined from 11 percent in 2003 to 9 percent in 2013.

The 2013 YNHDS Household Questionnaire included a series of questions on harmful health practices. Household Questionnaire respondents were asked whether each household member age 10 and older smokes cigarettes (or any other form of tobacco, including water pipes), chews al-Qat, and/or uses orange snuff.

15.1 SMOKING

Smoking is a known risk factor for cardiovascular and respiratory disease and cancer. Tobacco kills up to half of its users and also has an impact on individuals who are exposed to smoke secondhand. Secondhand smoke causes serious cardiovascular and respiratory diseases in adults and can cause sudden death in infants (WHO, 2014). Because smoking is an acquired behavior, all morbidity and mortality caused by smoking is preventable.

Table 15.1 shows the percent distribution of household members age 10 and older according to smoking status (use of cigarettes or any other form of tobacco). Thirteen percent of household members age 10 and older and 16 percent of household members age 15 and older are current smokers (i.e., they smoke regularly or sometimes). Of household members age 10 and older, 83 percent have never smoked; this proportion decreases to 79 percent among those age 15 and older. Men are more than three times as likely as women to be current smokers: 7 percent of female household members age 15 and older smoke, as compared with 26 percent of men. Among both male and female household members, current smoking prevalence is low in the younger age groups. Just 1 percent of male adolescents age 10-14 and 6 percent of young men age 15-19 are current smokers. Less than 1 percent of female adolescents age 10-14 and 1 percent of women age 15-19 are current smokers. Current smoking prevalence increases with age, peaking at age 40-44 among men (42 percent) and age 45-49 among women (15 percent) before decreasing to 14 percent among men age 80 and older and 6 percent among women age 80 and older (Figure 15.1).

Table 15.1 Use of tobacco

Percent distribution of household members age 10 and older by smoking status and percentage of current smokers, according to sex and age, Yemen 2013

| Age | Currently smokes | | Smoked before | Never smoked | Don't know/ missing | Total | Percentage of current smokers | Number of household members |
	Smokes	Smokes sometimes						
MALE								
10-14	0.4	0.2	0.0	97.7	1.6	100.0	0.6	8,591
15-19	4.8	1.1	0.3	93.1	0.8	100.0	5.9	6,815
20-24	16.0	2.2	0.7	80.7	0.4	100.0	18.1	5,376
25-29	27.2	3.6	1.3	67.3	0.6	100.0	30.8	4,289
30-34	31.7	4.6	3.1	60.3	0.3	100.0	36.3	3,372
35-39	33.4	4.2	5.2	56.9	0.3	100.0	37.6	2,799
40-44	36.5	5.0	6.9	51.3	0.2	100.0	41.6	2,133
45-49	35.5	4.5	6.9	52.8	0.3	100.0	40.0	1,654
50-54	35.8	4.5	10.7	48.9	0.1	100.0	40.2	1,652
55-59	31.8	2.6	14.8	50.6	0.3	100.0	34.4	1,188
60-64	27.2	3.4	15.7	53.4	0.3	100.0	30.6	1,354
65-69	26.1	4.0	20.4	49.4	0.2	100.0	30.0	753
70-74	20.4	2.8	18.4	58.2	0.2	100.0	23.2	858
75-79	16.0	3.0	23.3	57.1	0.7	100.0	19.0	373
80+	11.8	1.8	28.0	57.3	1.1	100.0	13.6	641
Total 10+[1]	18.2	2.5	4.3	74.4	0.7	100.0	20.7	41,858
Total 15+[1]	22.7	3.1	5.3	68.4	0.5	100.0	25.8	33,257
FEMALE								
10-14	0.2	0.1	0.1	98.0	1.7	100.0	0.2	8,037
15-19	1.0	0.3	0.1	98.1	0.5	100.0	1.3	6,845
20-24	3.2	1.3	0.3	94.5	0.7	100.0	4.5	5,693
25-29	4.7	1.9	0.7	92.4	0.4	100.0	6.6	5,043
30-34	6.3	3.0	1.2	89.2	0.3	100.0	9.3	3,441
35-39	9.3	3.3	1.7	85.6	0.1	100.0	12.5	2,916
40-44	9.1	3.4	2.4	84.7	0.4	100.0	12.5	1,917
45-49	10.8	3.7	3.4	82.0	0.1	100.0	14.5	1,594
50-54	10.2	3.0	4.9	81.8	0.2	100.0	13.2	2,418
55-59	6.3	3.0	7.3	82.8	0.6	100.0	9.3	1,316
60-64	8.6	2.1	7.6	80.5	1.2	100.0	10.7	1,017
65-69	6.4	2.3	10.5	80.5	0.4	100.0	8.6	562
70-74	4.4	2.3	9.9	81.7	1.7	100.0	6.6	609
75-79	4.5	2.2	8.4	82.0	2.8	100.0	6.8	322
80+	4.7	0.8	10.6	80.2	3.8	100.0	5.5	632
Total 10+[1]	4.4	1.6	1.8	91.4	0.8	100.0	6.0	42,368
Total 15+[1]	5.4	2.0	2.2	89.9	0.6	100.0	7.4	34,326
TOTAL								
10-14	0.3	0.1	0.0	97.9	1.7	100.0	0.4	16,627
15-19	2.9	0.7	0.2	95.6	0.6	100.0	3.6	13,660
20-24	9.4	1.7	0.5	87.8	0.6	100.0	11.1	11,070
25-29	15.0	2.7	1.0	80.8	0.4	100.0	17.7	9,332
30-34	18.8	3.8	2.1	74.9	0.3	100.0	22.6	6,813
35-39	21.1	3.7	3.4	71.5	0.2	100.0	24.8	5,715
40-44	23.6	4.2	4.8	67.1	0.3	100.0	27.8	4,050
45-49	23.4	4.1	5.2	67.1	0.2	100.0	27.5	3,248
50-54	20.6	3.6	7.2	68.5	0.1	100.0	24.2	4,070
55-59	18.4	2.8	10.8	67.5	0.4	100.0	21.2	2,504
60-64	19.2	2.8	12.3	65.0	0.7	100.0	22.1	2,371
65-69	17.6	3.2	16.1	62.7	0.3	100.0	20.9	1,315
70-74	13.7	2.6	14.9	68.0	0.9	100.0	16.3	1,467
75-79	10.7	2.6	16.4	68.6	1.7	100.0	13.3	694
80+	8.3	1.3	19.3	68.7	2.4	100.0	9.6	1,273
Total 10+[1]	11.2	2.1	3.0	83.0	0.7	100.0	13.3	84,226
Total 15+[1]	13.9	2.5	3.7	79.3	0.5	100.0	16.4	67,582

[1] Total includes household members with missing information on age.

Figure 15.1 Percentage of current smokers by sex and age

- – Male   - - - Female   YNHDS 2013
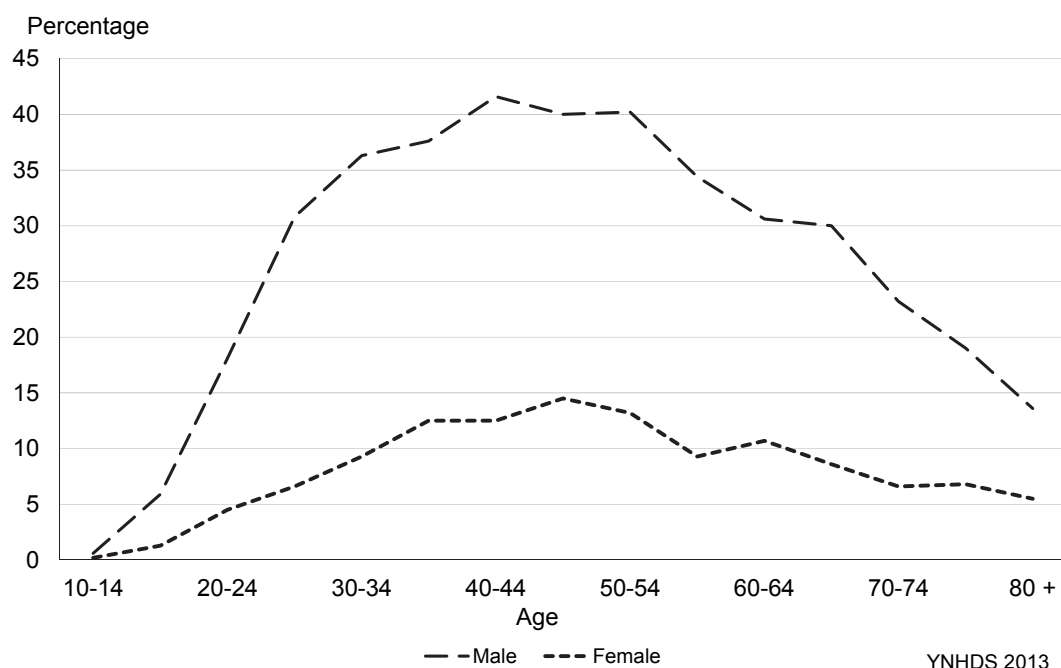
The results indicate a decline in the proportion of current smokers over the past 10 years, from 19 percent in 2003 (YFHS) to 13 percent in 2013 (YNHDS). The decline is important among both female (from 10 percent to 6 percent) and male (from 27 percent to 21 percent) household members, particularly those in the young age groups. For example, 12 percent of male household members age 10-19 were smokers in 2003, as compared with 3 percent in 2013. While smoking has decreased overall, the relationship with age remains similar: increasing dramatically in the 20s and peaking in the 40s before decreasing at older ages.

By residence, smoking is slightly more common in urban areas than rural areas; 15 percent of household members age 10 and older are current smokers in urban areas, as compared with 12 percent in rural areas (Table 15.2). Al-Hodiedah and Al-Mhweit governorates have the highest prevalence of current smokers (20-21 percent), and Hadramout Governorate has the lowest (3 percent). Education and wealth quintile show no clear relationship with current smoking status.

Table 15.2 Use of tobacco by background characteristics

Percentage of household members age 10 and older who currently smoke cigarettes or any other kind of tobacco, by sex and background characteristics, Yemen 2013

Background characteristic	Male		Female		Total	
	Percentage of current smokers	Number of household members	Percentage of current smokers	Number of household members	Percentage of current smokers	Number of household members
Residence						
Urban	23.7	13,550	6.4	13,626	15.0	27,176
Rural	19.2	28,308	5.8	28,742	12.4	57,050
Governorate						
Ibb	18.7	4,532	3.9	4,736	11.2	9,268
Abyan	23.5	936	0.3	940	11.9	1,876
Sana'a City	26.2	3,829	7.7	3,848	16.9	7,677
Al-Baidha	20.1	1,657	0.1	1,725	9.9	3,382
Taiz	24.4	5,459	6.2	5,758	15.1	11,217
Al-Jawf	12.4	332	0.4	314	6.6	646
Hajjah	15.2	2,422	3.3	2,411	9.2	4,833
Al-Hodiedah	24.3	5,147	16.4	5,201	20.3	10,348
Hadramout	6.6	2,518	0.1	2,440	3.4	4,958
Dhamar	21.1	2,840	5.7	2,827	13.4	5,667
Shabwah	15.1	930	0.2	906	7.7	1,837
Sadah	24.3	1,287	7.7	1,300	16.0	2,587
Sana'a	22.5	2,181	4.4	2,149	13.5	4,330

Continued…

Table 15.2—Continued

Background characteristic	Male		Female		Total	
	Percentage of current smokers	Number of household members	Percentage of current smokers	Number of household members	Percentage of current smokers	Number of household members
Governorate						
Aden	23.9	1,447	5.0	1,540	14.2	2,987
Lahj	18.5	1,212	0.6	1,216	9.5	2,428
Mareb	16.6	303	1.6	307	9.0	610
Al-Mhweit	26.3	1,042	15.2	1,058	20.7	2,100
Al-Mhrah	10.0	170	0.0	161	5.1	330
Amran	19.5	1,617	4.0	1,526	12.0	3,142
Aldhalae	12.5	1,081	1.8	1,103	7.1	2,184
Reimah	19.4	914	8.1	904	13.8	1,818
Education						
No education	29.2	8,232	9.6	18,949	15.6	27,181
Fundamental	16.5	21,366	3.0	17,217	10.5	38,583
Secondary	21.5	7,800	3.1	4,199	15.1	11,999
Higher	23.2	4,304	3.7	1,832	17.4	6,136
Don't know/missing	25.5	155	5.6	172	15.0	327
Wealth quintile						
Lowest	19.6	7,789	7.8	7,972	13.6	15,760
Second	21.0	8,161	7.1	8,233	14.0	16,394
Middle	19.4	8,401	5.1	8,369	12.3	16,770
Fourth	20.8	8,677	5.3	8,678	13.1	17,356
Highest	22.3	8,829	4.8	9,117	13.4	17,946
Total	20.7	41,858	6.0	42,368	13.3	84,226

15.2 CHEWING AL-QAT

Al-Qat (*Catha edulis*) is a plant containing cathinone, a natural amphetamine (Kalix, 1992). Qat leaf chewing is common in Yemen, and while WHO does not consider the drug to be seriously addictive, there are physiological effects such as increased heart rate and blood pressure, low birth weight, and insomnia (Al-Mugahed, 2008).

Table 15.3 shows the percent distribution of household members age 10 and older by whether they currently use, previously used, or have never used al-Qat. Forty-three percent of household members age 10 and older currently use al-Qat, as compared with 52 percent of household members age 15 and older. Al-Qat use is much higher among males, with more than twice as many male household members age 10 and older as female household members using al-Qat (59 percent and 28 percent, respectively). The largest difference between male and female household members is in daily use, with 44 percent of males and only 14 percent of females using al-Qat daily; 12 percent of both male and female household members report using al-Qat sometimes. Current use of al-Qat is low among those age 10-14 (6 percent) but rises dramatically in the late teens and 20s; 29 percent of those age 15-19, 49 percent of those age 20-24, and 57 percent of those age 25-29 are current users (Figure 15.2). Al-Qat use levels off in the 30s, ranging from 63 percent to 68 percent among household members age 30-49, and decreases steadily after age 50, reaching 31 percent among those age 80 and older. More than eight of ten men age 30-54 currently use al-Qat.

Table 15.3 Use of al-Qat

Percent distribution of household members age 10 and older by whether they currently chew al-Qat, have chewed in the past, or never chewed al-Qat, and percentage of current users, according to sex and age, Yemen 2013

Age	Currently use al-Qat			Used before	Never used	Don't know/ missing	Total	Percentage of current users	Number of household members
	Daily	Weekly	Sometimes						
MALE									
10-14	4.6	0.3	4.5	3.4	85.6	1.6	100.0	9.5	8,591
15-19	31.1	1.9	13.3	2.5	50.6	0.6	100.0	46.3	6,815
20-24	55.6	2.4	14.7	1.7	25.1	0.3	100.0	72.8	5,376
25-29	63.0	2.9	15.0	1.8	16.9	0.4	100.0	80.8	4,289
30-34	66.4	3.3	14.0	2.2	13.9	0.3	100.0	83.7	3,372
35-39	68.3	2.4	13.7	2.5	12.9	0.3	100.0	84.4	2,799
40-44	68.0	2.5	13.1	3.4	12.6	0.3	100.0	83.7	2,133
45-49	64.1	3.5	15.5	2.7	14.0	0.2	100.0	83.1	1,654
50-54	60.1	4.2	17.1	5.5	12.9	0.3	100.0	81.4	1,652
55-59	62.4	3.1	13.2	6.7	14.4	0.2	100.0	78.7	1,188
60-64	55.2	2.2	13.8	10.7	17.7	0.3	100.0	71.3	1,354
65-69	53.5	3.1	15.0	11.1	17.0	0.2	100.0	71.6	753
70-74	48.9	1.8	14.5	15.3	19.5	0.1	100.0	65.1	858
75-79	36.8	2.7	13.6	21.9	24.4	0.6	100.0	53.1	373
80+	29.8	3.6	10.6	27.2	28.4	0.5	100.0	43.9	641
Total 10+[1]	44.2	2.2	12.2	4.0	36.8	0.6	100.0	58.6	41,858
Total 15+[1]	54.5	2.6	14.2	4.2	24.2	0.4	100.0	71.3	33,257
FEMALE									
10-14	1.4	0.1	1.4	3.6	91.7	1.8	100.0	2.9	8,037
15-19	4.3	0.5	7.2	3.3	84.2	0.5	100.0	12.0	6,845
20-24	11.1	1.5	13.9	3.0	69.9	0.6	100.0	26.5	5,693
25-29	16.4	2.0	17.6	3.0	60.7	0.3	100.0	36.0	5,043
30-34	20.1	2.5	20.0	2.4	54.6	0.3	100.0	42.7	3,441
35-39	25.0	2.2	20.3	2.4	49.9	0.2	100.0	47.6	2,916
40-44	27.5	1.6	19.7	3.0	47.8	0.4	100.0	48.8	1,917
45-49	30.4	2.2	19.4	5.0	42.9	0.1	100.0	51.9	1,594
50-54	29.1	1.3	16.8	7.2	45.3	0.2	100.0	47.3	2,418
55-59	27.0	1.7	16.8	9.5	44.5	0.6	100.0	45.5	1,316
60-64	26.1	3.2	11.8	10.0	47.7	1.2	100.0	41.1	1,017
65-69	24.6	0.9	11.9	10.9	51.2	0.4	100.0	37.4	562
70-74	14.7	1.5	14.6	13.2	54.3	1.7	100.0	30.8	609
75-79	11.7	2.3	11.1	11.5	60.6	2.8	100.0	25.0	322
80+	11.0	1.7	5.9	20.6	57.1	3.7	100.0	18.6	632
Total 10+[1]	14.1	1.3	12.3	4.3	67.1	0.8	100.0	27.8	42,368
Total 15+[1]	17.1	1.6	14.9	4.5	61.4	0.5	100.0	33.6	34,326
TOTAL									
10-14	3.1	0.2	3.0	3.5	88.5	1.7	100.0	6.3	16,627
15-19	17.7	1.2	10.3	2.9	67.5	0.5	100.0	29.1	13,660
20-24	32.7	2.0	14.3	2.4	48.2	0.4	100.0	49.0	11,070
25-29	37.8	2.4	16.4	2.4	40.6	0.4	100.0	56.6	9,332
30-34	43.0	2.9	17.0	2.3	34.4	0.3	100.0	63.0	6,813
35-39	46.2	2.3	17.1	2.4	31.7	0.2	100.0	65.6	5,715
40-44	48.8	2.1	16.2	3.3	29.3	0.3	100.0	67.2	4,050
45-49	47.6	2.9	17.4	3.8	28.2	0.1	100.0	67.8	3,248
50-54	41.7	2.5	16.9	6.5	32.1	0.2	100.0	61.1	4,070
55-59	43.8	2.4	15.1	8.1	30.2	0.4	100.0	61.3	2,504
60-64	42.8	2.6	13.0	10.4	30.6	0.7	100.0	58.4	2,371
65-69	41.2	2.2	13.7	11.1	31.7	0.3	100.0	57.0	1,315
70-74	34.7	1.6	14.5	14.4	33.9	0.8	100.0	50.9	1,467
75-79	25.1	2.5	12.5	17.1	41.2	1.7	100.0	40.1	694
80+	20.4	2.7	8.2	23.9	42.6	2.1	100.0	31.3	1,273
Total 10+[1]	29.1	1.7	12.3	4.2	52.1	0.7	100.0	43.1	84,226
Total 15+[1]	35.5	2.1	14.6	4.3	43.1	0.4	100.0	52.1	67,582

[1] Total includes household members with missing information on age.

Figure 15.2 Percentage of current users of al-Qat by sex and age
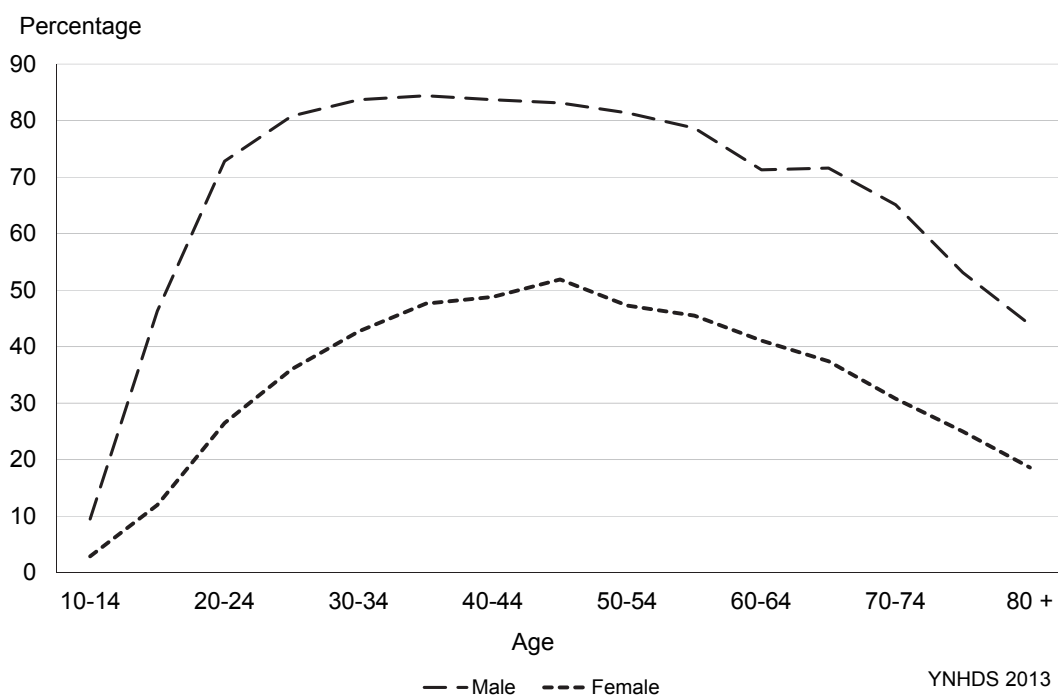
Overall, al-Qat use has not changed since 2003 (YFHS), when 42 percent of household members age 10 and older were current users. The percentage of household members who have never used al-Qat, however, has decreased from 56 percent in 2003 to 52 percent in 2013.

Table 15.4 displays the percentage of household members age 10 and older who chew al-Qat, according to background characteristics. Residents in rural areas are more likely to chew al-Qat than urban residents (44 percent versus 40 percent). Across governorates, there is wide variation in current use of al-Qat, ranging from just 5 percent of household members in Hadramout Governorate to 55 percent of those in Ibb Governorate. The results show an inverse relationship between wealth quintile and al-Qat use. Forty-seven percent of household members in the lowest wealth quintile chew al-Qat, as compared with 38 percent of those in the highest wealth quintile.

Table 15.4 Use of al-Qat by background characteristics

Percentage of household members age 10 and older who currently chew al-Qat, by sex and background characteristics, Yemen 2013

Background characteristic	Male		Female		Total	
	Percentage of current users	Number of household members	Percentage of current users	Number of household members	Percentage of current users	Number of household members
Residence						
Urban	56.7	13,550	24.0	13,626	40.3	27,176
Rural	59.5	28,308	29.6	28,742	44.4	57,050
Governorate						
Ibb	68.8	4,532	41.6	4,736	54.9	9,268
Abyan	49.7	936	1.6	940	25.6	1,876
Sana'a City	62.4	3,829	29.7	3,848	46.0	7,677
Al-Baidha	52.8	1,657	3.7	1,725	27.7	3,382
Taiz	69.3	5,459	36.3	5,758	52.4	11,217
Al-Jawf	49.5	332	9.7	314	30.2	646
Hajjah	58.5	2,422	30.8	2,411	44.7	4,833
Al-Hodiedah	59.3	5,147	34.1	5,201	46.6	10,348
Hadramout	9.3	2,518	0.1	2,440	4.8	4,958
Dhamar	63.2	2,840	35.5	2,827	49.4	5,667
Shabwah	28.8	930	0.8	906	15.0	1,837
Sadah	65.1	1,287	31.3	1,300	48.1	2,587
Sana'a	69.4	2,181	31.4	2,149	50.5	4,330
Aden	54.1	1,447	13.3	1,540	33.0	2,987
Lahj	51.3	1,212	4.2	1,216	27.7	2,428
Mareb	47.7	303	9.4	307	28.4	610
Al-Mhweit	64.0	1,042	33.5	1,058	48.6	2,100
Al-Mhrah	11.8	170	0.7	161	6.4	330
Amran	68.4	1,617	28.5	1,526	49.1	3,142
Aldhalae	67.4	1,081	33.8	1,103	50.4	2,184
Reimah	59.1	914	43.2	904	51.2	1,818
Education						
No education	70.2	8,232	41.0	18,949	49.9	27,181
Fundamental	46.8	21,366	16.4	17,217	33.2	38,583
Secondary	69.1	7,800	19.2	4,199	51.6	11,999
Higher	75.9	4,304	17.0	1,832	58.3	6,136
Don't know/missing	62.2	155	22.4	172	41.3	327
Wealth quintile						
Lowest	60.7	7,789	34.1	7,972	47.3	15,760
Second	61.6	8,161	32.3	8,233	46.9	16,394
Middle	62.2	8,401	29.0	8,369	45.6	16,770
Fourth	53.4	8,677	22.9	8,678	38.2	17,356
Highest	55.6	8,829	21.5	9,117	38.3	17,946
Total	58.6	41,858	27.8	42,368	43.1	84,226

15.3 ORANGE SNUFF

Orange snuff (or shamma) is a smokeless tobacco used in Yemen. Snuff has been linked to immune dysfunction, reproductive impacts such as perinatal mortality and preterm birth, and cardiovascular effects, among other adverse health outcomes (Willis et al., 2012).

Overall, 9 percent of household members age 10 and older and 11 percent of household members age 15 and older are current orange snuff users (Table 15.5). As with smoking and al-Qat chewing, current use is much higher among men than among women. Among the household population age 10 and older, almost three times as many males as females use orange snuff (14 percent and 5 percent, respectively). The relationship between age and current orange snuff use differs from the relationship between age and smoking or al-Qat use. With smoking and al-Qat, there is a sharp increase in the late teens or 20s and a drop-off in use at older ages. With orange snuff, however, there is a gradual increase with age and no drop-off at older ages (Figure 15.3).

Table 15.5 Use of orange snuff

Percent distribution of household members age 10 and older by whether they currently use orange snuff, have used in the past, or never used orange snuff, and percentage of current users, according to sex and age, Yemen 2013

Age	Currently uses orange snuff		Used before	Never used	Don't know/missing	Total	Percentage of current users	Number of household members
	Uses	Uses sometimes						
MALE								
10-14	0.8	0.1	0.0	97.3	1.7	100.0	0.9	8,591
15-19	3.6	0.3	0.1	95.2	0.7	100.0	4.0	6,815
20-24	8.8	0.6	0.6	89.7	0.4	100.0	9.4	5,376
25-29	15.4	1.1	0.6	82.3	0.6	100.0	16.5	4,289
30-34	18.7	1.7	0.8	78.5	0.4	100.0	20.3	3,372
35-39	19.9	1.9	0.9	76.9	0.4	100.0	21.8	2,799
40-44	22.9	1.5	0.7	74.6	0.3	100.0	24.4	2,133
45-49	21.8	1.9	1.6	74.5	0.3	100.0	23.6	1,654
50-54	27.3	1.3	1.8	69.4	0.2	100.0	28.6	1,652
55-59	26.4	1.2	2.0	70.1	0.3	100.0	27.6	1,188
60-64	25.4	1.2	2.2	70.6	0.5	100.0	26.6	1,354
65-69	28.9	1.1	4.1	65.6	0.2	100.0	30.0	753
70-74	29.2	0.9	5.3	64.5	0.2	100.0	30.0	858
75-79	28.0	1.2	4.1	66.0	0.8	100.0	29.1	373
80+	29.5	0.8	8.6	60.6	0.6	100.0	30.3	641
Total 10+[1]	12.8	0.9	0.9	84.7	0.7	100.0	13.7	41,858
Total 15+[1]	15.9	1.1	1.2	81.4	0.5	100.0	17.0	33,257
FEMALE								
10-14	0.4	0.1	0.0	97.5	1.9	100.0	0.6	8,037
15-19	1.0	0.2	0.0	98.2	0.5	100.0	1.2	6,845
20-24	1.8	0.2	0.1	97.1	0.7	100.0	2.0	5,693
25-29	4.0	0.2	0.1	95.2	0.5	100.0	4.2	5,043
30-34	4.9	0.7	0.3	93.6	0.5	100.0	5.6	3,441
35-39	6.4	1.0	0.4	92.0	0.3	100.0	7.4	2,916
40-44	8.3	0.8	0.6	89.9	0.4	100.0	9.1	1,917
45-49	10.3	1.2	0.8	87.3	0.4	100.0	11.4	1,594
50-54	9.6	1.1	0.9	88.1	0.4	100.0	10.6	2,418
55-59	12.9	0.9	1.7	83.7	0.8	100.0	13.8	1,316
60-64	12.1	1.5	2.8	82.1	1.5	100.0	13.6	1,017
65-69	11.0	0.7	3.1	84.7	0.5	100.0	11.7	562
70-74	12.6	0.3	3.2	82.1	1.9	100.0	12.9	609
75-79	12.6	0.7	1.4	82.4	2.8	100.0	13.3	322
80+	11.6	0.0	4.0	80.1	4.2	100.0	11.6	632
Total 10+[1]	4.4	0.4	0.5	93.8	0.9	100.0	4.8	42,368
Total 15+[1]	5.3	0.5	0.6	92.9	0.7	100.0	5.9	34,326
TOTAL								
10-14	0.6	0.1	0.0	97.4	1.8	100.0	0.8	16,627
15-19	2.3	0.3	0.1	96.7	0.6	100.0	2.6	13,660
20-24	5.2	0.4	0.3	93.5	0.6	100.0	5.6	11,070
25-29	9.3	0.6	0.3	89.3	0.5	100.0	9.9	9,332
30-34	11.7	1.2	0.6	86.1	0.5	100.0	12.9	6,813
35-39	13.0	1.4	0.7	84.6	0.3	100.0	14.4	5,715
40-44	16.0	1.1	0.6	81.9	0.4	100.0	17.1	4,050
45-49	16.1	1.5	1.2	80.8	0.4	100.0	17.7	3,248
50-54	16.8	1.2	1.3	80.5	0.3	100.0	17.9	4,070
55-59	19.3	1.1	1.8	77.3	0.6	100.0	20.3	2,504
60-64	19.7	1.3	2.5	75.6	0.9	100.0	21.0	2,371
65-69	21.2	0.9	3.7	73.8	0.3	100.0	22.2	1,315
70-74	22.3	0.6	4.4	71.8	0.9	100.0	22.9	1,467
75-79	20.9	0.9	2.8	73.6	1.7	100.0	21.8	694
80+	20.6	0.4	6.3	70.3	2.4	100.0	21.0	1,273
Total 10+[1]	8.6	0.7	0.7	89.3	0.8	100.0	9.2	84,226
Total 15+[1]	10.5	0.8	0.9	87.3	0.6	100.0	11.3	67,582

[1] Total includes household members with missing information on age.

Figure 15.3 Percentage of current users of orange snuff by sex and age

Percentage

YNHDS 2013
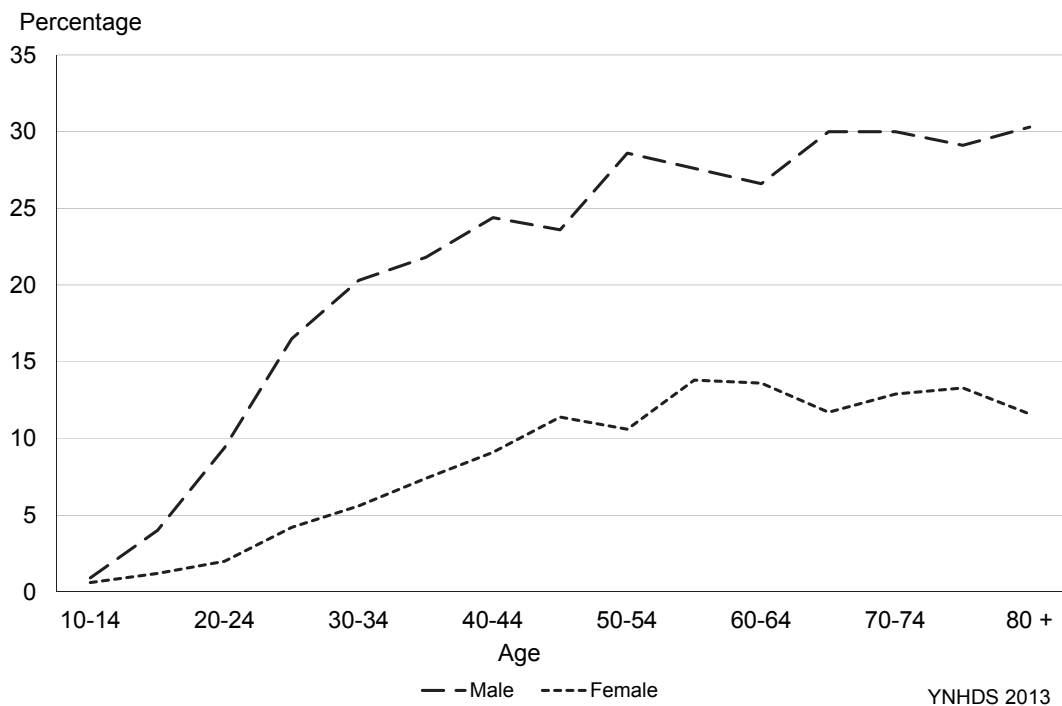
Use of orange snuff has declined slightly over the past 10 years. In 2003, 11 percent of household members age 10 and older were currently using orange snuff, as compared with 9 percent of household members in 2013.

Table 15.6 displays the percentage of household members age 10 and older who currently use orange snuff, according to background characteristics. Orange snuff use is almost twice as prevalent in rural areas as urban areas (11 percent and 6 percent, respectively). By governorate, orange snuff use ranges from 1 percent among household members in Al-Baidha Governorate to 21 percent among those in Hajjah and Al-Hodiedah governorates. Orange snuff use has an inverse relationship with education and wealth quintile. Sixteen percent of household members with no education use orange snuff, as compared with 4 percent of those with a higher education. Similarly, 19 percent of household members in the lowest wealth quintile use orange snuff, compared with 3 percent of those in the highest wealth quintile.

Table 15.6 Use of orange snuff by background characteristics

Percentage of household members age 10 and older who currently use orange snuff, by sex and background characteristics, Yemen 2013

Background characteristic	Male		Female		Total	
	Percentage of current users	Number of household members	Percentage of current users	Number of household members	Percentage of current users	Number of household members
Residence						
Urban	9.3	13,550	2.6	13,626	5.9	27,176
Rural	15.8	28,308	5.9	28,742	10.8	57,050
Governorate						
Ibb	10.5	4,532	1.1	4,736	5.7	9,268
Abyan	5.4	936	0.3	940	2.8	1,876
Sana'a City	4.1	3,829	0.6	3,848	2.3	7,677
Al-Baidha	2.2	1,657	0.0	1,725	1.1	3,382
Taiz	9.1	5,459	2.4	5,758	5.7	11,217
Al-Jawf	19.7	332	1.0	314	10.6	646
Hajjah	26.4	2,422	16.1	2,411	21.2	4,833
Al-Hodiedah	26.3	5,147	16.1	5,201	21.2	10,348
Hadramout	6.5	2,518	0.2	2,440	3.4	4,958
Dhamar	10.0	2,840	4.2	2,827	7.1	5,667
Shabwah	6.9	930	0.1	906	3.5	1,837
Sadah	27.0	1,287	8.2	1,300	17.6	2,587
Sana'a	18.1	2,181	0.8	2,149	9.5	4,330
Aden	15.3	1,447	3.2	1,540	9.1	2,987
Lahj	8.2	1,212	0.4	1,216	4.3	2,428
Mareb	11.8	303	1.0	307	6.4	610
Al-Mhweit	25.0	1,042	4.5	1,058	14.7	2,100
Al-Mhrah	11.5	170	1.8	161	6.8	330
Amran	20.7	1,617	8.3	1,526	14.7	3,142
Aldhalae	6.5	1,081	0.4	1,103	3.4	2,184
Reimah	17.0	914	13.0	904	15.0	1,818
Education						
No education	31.1	8,232	9.4	18,949	16.0	27,181
Fundamental	10.5	21,366	1.3	17,217	6.4	38,583
Secondary	8.0	7,800	0.6	4,199	5.4	11,999
Higher	5.6	4,304	0.5	1,832	4.1	6,136
Don't know/missing	27.7	155	13.4	172	20.2	327
Wealth quintile						
Lowest	24.5	7,789	13.8	7,972	19.1	15,760
Second	17.0	8,161	5.3	8,233	11.1	16,394
Middle	12.8	8,401	2.7	8,369	7.7	16,770
Fourth	10.1	8,677	2.2	8,678	6.1	17,356
Highest	5.4	8,829	1.1	9,117	3.2	17,946
Total	13.7	41,858	4.8	42,368	9.2	84,226

CHRONIC DISEASE, DISABILITY, AND INJURY   **16**

Key Findings

- As reported by respondents to the Household Questionnaire, 12 percent of the population in Yemen has at least one chronic disease. This proportion rises dramatically with age; almost half of those age 70 and older have a chronic disease.
- The most common chronic diseases are high blood pressure, inflammation or ulcers, and arthritis.
- Three percent of household members were reported to have a disability, with mobility impairments and visual disorders being the most common disabilities.
- Nine percent of households were reported to have had a household member injured in the two years before the survey. The main causes of injuries are traffic accidents and falls.

Information about the health status of the population is of great importance for proper health care planning. Chronic illnesses can place demands on the health care system and can lead to long-term disability. Accidental injury can also strain health care services. Data on these issues can help in formulating policies to prevent illness and injury.

In the 2013 YNHDS, respondents to the Household Questionnaire were asked whether each household member suffered from one or more chronic diseases and whether the disease was diagnosed by a physician. They were also asked if household members suffered from any physical, mental, or other state that limited them from engaging in normal activities. Finally, respondents were asked if any household member had been injured in the two years preceding the survey. If the answer to any of these questions was affirmative, follow-up questions were asked about the type of disease, disability, and/or injury.

16.1 PREVALENCE OF CHRONIC DISEASES

Table 16.1 shows that, according to the reports of Household Questionnaire respondents, 12 percent of household members suffer from one or more diseases diagnosed by a physician. Nine percent have only one chronic disease, meaning that 3 percent of household members suffer with more than one chronic illness.

Urban residents have a slightly higher reported prevalence of chronic disease than rural residents (13 percent versus 12 percent). Females are more likely than males to have at least one chronic disease (13 percent and 11 percent, respectively). As expected, the prevalence of chronic illness increases dramatically with age. Whereas only 3 percent of children under age 10 have a chronic disease, the proportion rises to just under half among household members age 70 and older (48 percent). Older household members are also much more likely than younger ones to have more than one chronic disease. For example, the proportions of those under age 10 who have only one and at least one chronic disease are almost the same, while 30 percent of those age 70 and over have only one chronic disease and 48 percent have at least one. This means that about 18 percent of household members age 70 and over have more than one chronic illness. These patterns are similar for both males and females.

Table 16.1 Prevalence of chronic or other diseases

Percentage of de jure household members who have only one chronic or other disease diagnosed by a physician, and percentage who have at least one chronic disease diagnosed by a physician, according to the household respondent's report, by sex, age, and residence, Yemen 2013

Background characteristic	Percentage of household members who have only one chronic or other disease diagnosed by a physician	Percentage of household members who have at least one chronic or other disease diagnosed by a physician	Number of de jure household members
MALE			
Age			
0-9	3.0	3.4	16,394
10-19	3.9	4.3	15,353
20-29	7.6	8.7	9,605
30-39	13.1	15.9	6,115
40-49	17.4	23.4	3,761
50-59	22.0	34.0	2,828
60-69	23.8	38.8	2,096
70+	29.8	48.5	1,858
Residence			
Urban	8.8	11.8	17,842
Rural	8.4	11.1	40,178
Total[1]	8.5	11.3	58,021
FEMALE			
Age			
0-9	2.3	2.5	15,913
10-19	4.1	4.7	14,758
20-29	8.4	10.6	10,507
30-39	14.9	19.8	6,284
40-49	21.8	31.1	3,493
50-59	25.7	40.3	3,696
60-69	29.1	48.5	1,543
70+	29.1	47.6	1,524
Residence			
Urban	9.6	13.6	17,681
Rural	9.3	12.8	40,042
Total[1]	9.4	13.0	57,723
TOTAL			
Age			
0-9	2.6	2.9	32,307
10-19	4.0	4.5	30,111
20-29	8.0	9.7	20,112
30-39	14.0	17.9	12,399
40-49	19.5	27.1	7,254
50-59	24.1	37.6	6,523
60-69	26.0	42.9	3,638
70+	29.5	48.1	3,382
Residence			
Urban	9.2	12.7	35,523
Rural	8.8	11.9	80,220
Total[1]	8.9	12.2	115,743

[1] Total includes household members with missing information on age.

Table 16.2 shows the prevalence of specific types of chronic and other diseases according to residence and sex. The most commonly reported chronic disease is high blood pressure or hypertension, which affects 2 percent of Yemen's population (Figure 16.1). Inflammation or ulcers and arthritis also affect almost 2 percent of the population. Diseases that affect about 1 percent of the household population include diabetes, kidney disease, heart disease, asthma, chronic back pain, and mental illness. Differences in the prevalence of specific diseases by residence and sex are small.

Table 16.2 Prevalence of specific chronic or other diseases

Percentage of de jure household members who have specific chronic or other diseases diagnosed by a physician, by place of residence and sex, Yemen 2013

| Type of disease | Residence | | Sex | | |
	Urban	Rural	Male	Female	Total
Blood pressure	2.7	1.7	1.8	2.2	2.0
Diabetes	2.3	1.0	1.6	1.1	1.4
Inflammation or ulcers	1.3	1.9	1.3	2.1	1.7
Anemia	0.1	0.2	0.1	0.2	0.2
Sickle cell anemia	0.0	0.1	0.1	0.1	0.1
Thalassemia	0.1	0.1	0.1	0.1	0.1
Heart disease	1.0	0.7	0.9	0.7	0.8
Kidney disease	1.0	1.6	1.4	1.5	1.4
Liver disease	0.4	0.3	0.4	0.3	0.3
Arthritis	1.3	1.6	0.9	2.1	1.5
Chronic headache	0.2	0.3	0.1	0.4	0.3
Stroke	0.1	0.1	0.2	0.1	0.1
Epilepsy	0.2	0.2	0.2	0.1	0.2
Asthma	0.8	0.6	0.6	0.6	0.6
Lung disease	0.2	0.2	0.2	0.2	0.2
Hyperactive thyroid	0.2	0.1	0.1	0.2	0.1
Hypoactive thyroid	0.1	0.0	0.0	0.0	0.0
Prostatitis	0.1	0.1	0.1	0.0	0.1
Cataract	0.1	0.1	0.1	0.1	0.1
Opacity of eye lens	0.1	0.1	0.1	0.1	0.1
Chronic back pain or problems in the spinal cord	0.7	0.6	0.5	0.7	0.6
Mental illness	0.4	0.5	0.7	0.3	0.5
Skin disease	0.3	0.3	0.3	0.4	0.3
Cancerous tumors	0.1	0.0	0.0	0.1	0.1
Gum or mouth disease	0.1	0.1	0.1	0.1	0.1
Other, not listed above	1.8	2.1	1.8	2.2	2.0
Any disease (at least one disease)	12.7	11.9	11.3	13.0	12.2
Number of household members	35,523	80,220	58,021	57,723	115,743

Note: The reported prevalence of tuberculosis was 0.0 for all groups. A person may have two reported diseases; consequently, the percentages by specific diseases sum to more than the percentage for any disease.

Figure 16.1 Prevalence of most common chronic diseases

YNHDS 2013
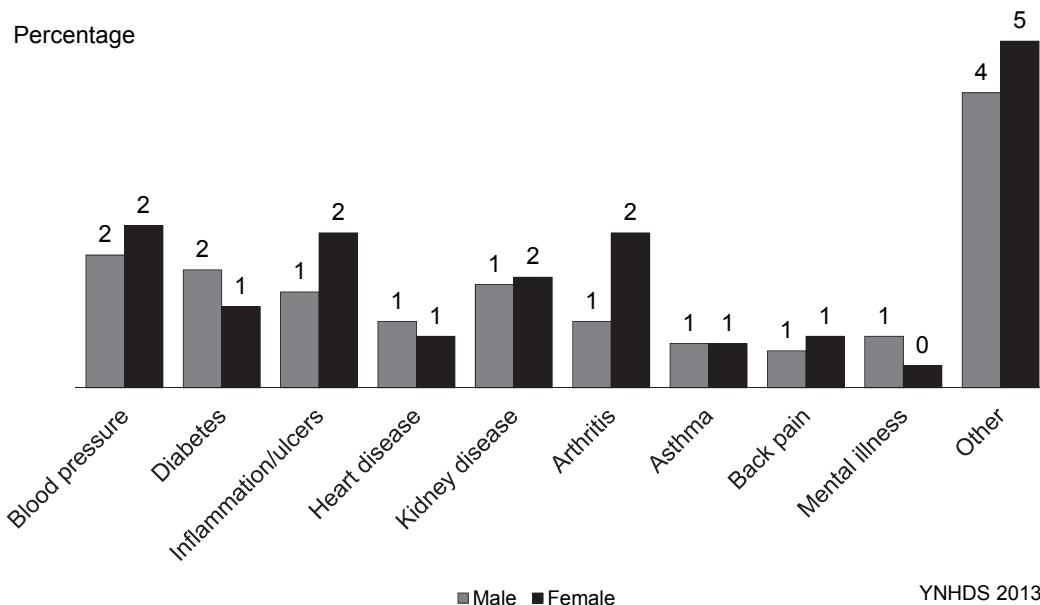
Table 16.3 shows the prevalence of the most common specific chronic diseases according to age group, by residence and sex. As noted, disease prevalence increases rapidly with age. Also, chronic illness is slightly more common among urban than rural residents and among females than males. The table shows that these patterns largely hold for specific diseases. For example, almost all of the most common chronic

diseases show an increase in prevalence by age group. Among those age 60 and over, 14-15 percent have high blood pressure, 7-11 percent have arthritis, and 8-10 percent have diabetes.

Table 16.3 Prevalence of most common specific chronic or other diseases

Percentage of de jure household members who have a specific chronic or other disease diagnosed by a physician, by age and sex, Yemen 2013

						Disease						
Background characteristic	Blood pressure	Diabetes	Inflam-mation or ulcers	Heart disease	Kidney disease	Arthritis	Asthma	Chronic back pain or problems in the spinal cord	Mental illness	Other	Any disease	Number of household members
MALE												
Age												
0-9	0.0	0.0	0.1	0.2	0.1	0.1	0.5	0.0	0.1	2.5	3.4	16,394
10-19	0.0	0.1	0.2	0.2	0.3	0.4	0.4	0.1	0.2	2.6	4.3	15,353
20-29	0.2	0.3	1.4	0.4	1.7	0.4	0.6	0.4	1.0	3.1	8.7	9,605
30-39	1.5	1.6	2.7	0.6	2.9	0.8	0.5	0.7	1.9	4.9	15.9	6,115
40-49	4.2	4.9	3.5	1.4	3.4	0.9	0.8	1.4	1.9	6.2	23.3	3,761
50-59	8.5	8.1	5.0	3.5	3.9	2.5	1.6	1.9	1.9	7.7	34.0	2,828
60-69	12.1	9.7	4.0	4.9	4.0	4.1	0.9	2.1	1.2	8.3	38.8	2,096
70+	14.1	8.9	3.2	5.4	3.7	8.8	1.6	2.6	0.5	15.9	48.5	1,858
Residence												
Urban	2.3	2.6	1.1	1.1	0.9	0.7	0.7	0.5	0.7	3.8	11.8	17,842
Rural	1.6	1.2	1.4	0.7	1.6	1.0	0.6	0.5	0.7	4.1	11.1	40,178
Total[1]	1.8	1.6	1.3	0.9	1.4	0.9	0.6	0.5	0.7	4.0	11.3	58,021
FEMALE												
Age												
0-9	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	2.0	2.5	15,913
10-19	0.0	0.0	0.5	0.2	0.6	0.6	0.3	0.2	0.1	2.5	4.7	14,758
20-29	0.3	0.2	2.2	0.4	2.1	1.1	0.5	0.5	0.3	4.6	10.6	10,507
30-39	1.5	0.8	4.9	0.9	3.2	2.3	1.1	1.4	1.0	6.9	19.8	6,284
40-49	5.7	2.4	5.6	1.5	3.7	4.9	1.7	1.8	0.7	10.8	31.1	3,493
50-59	12.0	6.8	6.4	2.5	3.3	8.6	1.1	2.8	0.5	9.0	40.3	3,696
60-69	16.0	9.1	5.2	3.4	2.7	11.9	1.2	3.3	0.9	12.1	48.5	1,543
70+	15.4	6.6	5.1	3.3	2.1	12.6	2.6	1.8	0.4	12.8	47.6	1,524
Residence												
Urban	3.1	2.0	1.6	0.9	1.1	2.0	0.8	0.9	0.2	4.2	13.5	17,681
Rural	1.8	0.7	2.3	0.6	1.7	2.2	0.5	0.6	0.4	4.9	12.8	40,042
Total[1]	2.2	1.1	2.1	0.7	1.5	2.1	0.6	0.7	0.3	4.7	13.0	57,723
TOTAL												
Age												
0-9	0.0	0.0	0.1	0.2	0.1	0.1	0.4	0.0	0.0	2.3	2.9	32,307
10-19	0.0	0.1	0.4	0.2	0.4	0.5	0.4	0.1	0.1	2.6	4.5	30,111
20-29	0.3	0.2	1.8	0.4	1.9	0.8	0.6	0.4	0.6	3.9	9.7	20,112
30-39	1.5	1.2	3.8	0.8	3.1	1.5	0.8	1.1	1.4	5.9	17.9	12,399
40-49	4.9	3.7	4.5	1.4	3.6	2.8	1.3	1.6	1.3	8.5	27.1	7,254
50-59	10.5	7.3	5.8	2.9	3.5	5.9	1.3	2.4	1.1	8.5	37.6	6,523
60-69	13.8	9.5	4.5	4.3	3.5	7.4	1.1	2.6	1.1	9.9	42.9	3,638
70+	14.7	7.9	4.0	4.5	3.0	10.5	2.1	2.3	0.4	14.5	48.1	3,382
Residence												
Urban	2.7	2.3	1.3	1.0	1.0	1.3	0.8	0.7	0.4	4.0	12.7	35,523
Rural	1.7	1.0	1.9	0.7	1.6	1.6	0.6	0.6	0.5	4.5	11.9	80,220
Total[1]	2.0	1.4	1.7	0.8	1.4	1.5	0.6	0.6	0.5	4.4	12.2	115,743

[1] Total includes household members with missing information on age. A person may have two reported diseases; consequently, the percentages by specific diseases sum to more than the percentage for any disease.

16.2 PREVALENCE OF DISABILITY

The 2013 YNHDS included a series of questions on disability. Respondents were asked whether each household member had, for six months or more, any physical or mental disability that limited (relative to other people of the same age) his or her ability to perform daily activities. If the answer was yes, the interviewer asked if the household member's disability was severely or moderately limiting. Then the respondent was asked the type and origin of the disability and whether the disabled person had received any care or support in the past 12 months. It should be noted that respondents' reports of disability were not verified by a clinical diagnosis; therefore, the percentages presented here should be interpreted with caution. Table 16.4 shows the percent distribution of household members by disability status according to sex, age, and urban-rural residence.

Table 16.4 Prevalence of disability

Percent distribution of the de jure household population by disability status, and percentage of household members who have any disability according to the household respondent's report, by sex, age, and residence, Yemen 2013

Background characteristic	Household members who have severe disability	Household members who have moderate disability	Household members who do not have any disability	Don't know/missing	Total	Percentage of household members who have any disability	Number of household members
MALE							
Age							
0-9	0.8	0.7	98.0	0.5	100.0	1.5	16,394
10-19	1.1	1.2	97.2	0.5	100.0	2.3	15,353
20-29	1.3	1.9	96.5	0.4	100.0	3.1	9,605
30-39	1.9	2.2	95.3	0.6	100.0	4.2	6,115
40-49	2.0	2.7	94.8	0.5	100.0	4.6	3,761
50-59	2.5	3.9	93.3	0.3	100.0	6.4	2,828
60-69	3.8	6.5	89.4	0.3	100.0	10.3	2,096
70+	9.4	9.9	80.2	0.5	100.0	19.3	1,858
Residence							
Urban	1.7	1.9	95.9	0.5	100.0	3.6	17,842
Rural	1.6	2.0	96.0	0.4	100.0	3.6	40,178
Total[1]	1.6	2.0	95.9	0.5	100.0	3.6	58,021
FEMALE							
Age							
0-9	0.7	0.3	98.5	0.5	100.0	0.9	15,913
10-19	0.9	1.0	97.7	0.4	100.0	1.9	14,758
20-29	0.8	1.0	97.7	0.5	100.0	1.8	10,507
30-39	1.1	1.6	96.7	0.6	100.0	2.7	6,284
40-49	1.5	2.4	95.7	0.3	100.0	4.0	3,493
50-59	1.7	3.1	94.8	0.4	100.0	4.8	3,696
60-69	3.7	6.1	89.4	0.7	100.0	9.9	1,543
70+	11.0	10.6	78.0	0.3	100.0	21.7	1,524
Residence							
Urban	1.3	1.3	96.8	0.6	100.0	2.7	17,681
Rural	1.3	1.5	96.8	0.4	100.0	2.8	40,042
Total[1]	1.3	1.5	96.8	0.5	100.0	2.7	57,723
TOTAL							
Age							
0-9	0.7	0.5	98.3	0.5	100.0	1.2	32,307
10-19	1.0	1.1	97.5	0.4	100.0	2.1	30,111
20-29	1.0	1.4	97.1	0.4	100.0	2.4	20,112
30-39	1.5	1.9	96.0	0.6	100.0	3.4	12,399
40-49	1.8	2.6	95.3	0.4	100.0	4.3	7,254
50-59	2.0	3.4	94.2	0.4	100.0	5.5	6,523
60-69	3.8	6.3	89.4	0.5	100.0	10.1	3,638
70+	10.1	10.2	79.2	0.4	100.0	20.4	3,382
Residence							
Urban	1.5	1.6	96.3	0.6	100.0	3.1	35,523
Rural	1.4	1.8	96.4	0.4	100.0	3.2	80,220
Total[1]	1.4	1.7	96.4	0.5	100.0	3.2	115,743

[1] Total includes household members with missing information on age.

The table shows that 3 percent of the Yemeni population has some type of disability, with the prevalence of moderate disabilities slightly higher than that of severe disabilities (2 percent and 1 percent, respectively). There is no difference between urban and rural areas; however, males are slightly more likely to have any disability than females (4 percent versus 3 percent). As expected, the reported prevalence of disability increases with age and reaches a maximum of 20 percent among people age 70 and older (Figure 16.2).

Figure 16.2 Prevalence of any disability by age

Percentage

YNHDS 2013
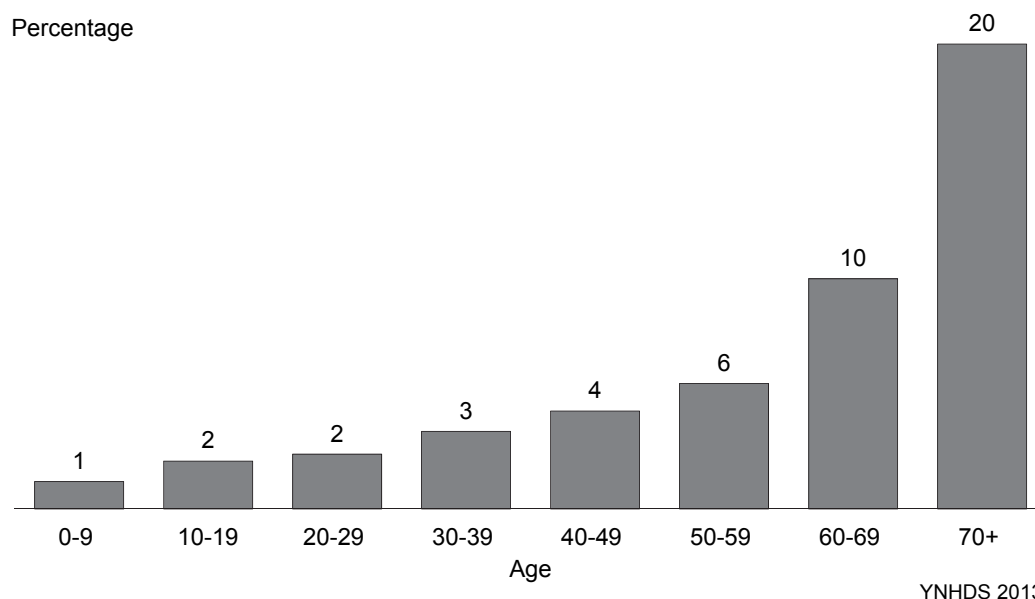
Table 16.5 shows the percentage of household members with disabilities who suffer from specific types of disabilities, as reported by Household Questionnaire respondents. Among people who have a disability, mobility impairment is the most frequent (38 percent), and it affects people of all ages. Male household members are more likely than female household members to have a mobility impairment (40 percent versus 35 percent). Visual impairment is the second most common type of disability: it affects one third of disabled people (33 percent) and occurs more frequently among females than males (37 percent versus 30 percent). Visual impairment increases with age, from 18 percent among children under age 10 to 51 percent among people age 70 and above. Hearing impairment is the third most common type of disability, affecting 22 percent of disabled people; it is more frequent among females than males (28 percent versus 18 percent). Seventeen percent of disabled people have problems with comprehension or communication skills, while 13 percent have problems dealing with people and 9 percent have problems caring for themselves. Problems with comprehension/communication tend to decrease with age.

Table 16.5 Common types of disability

Among de jure household members who have any disability, the percentage who are reported to have specific types of disabilities, by sex, age, and residence, Yemen 2013

Background characteristic	Among household members with disabilities, percentage who suffer from specific types of disabilities[1]						Number of household members with disabilities
	Visual disorder/ impairment	Hearing impairment	Compre-hension/ communication	Mobility impairment	Self-care	Dealing with people	
Sex							
Male	30.3	17.6	18.3	40.3	9.0	14.9	2,089
Female	37.0	27.6	16.3	35.3	9.0	11.5	1,584
Age							
0-9	17.8	24.5	35.1	45.4	16.5	17.1	392
10-19	26.1	22.5	26.1	35.2	10.3	14.5	636
20-29	27.1	16.3	21.0	34.9	7.1	18.6	488
30-39	22.7	19.8	19.3	37.3	11.7	20.1	427
40-49	29.2	18.8	16.3	35.5	3.1	17.0	314
50-59	40.2	15.4	7.1	38.3	6.7	9.8	358
60-69	44.8	20.9	9.3	40.9	6.2	8.4	367
70+	51.1	30.3	5.8	39.2	8.5	5.6	689
Residence							
Urban	37.9	14.9	17.2	35.8	8.0	11.8	1,108
Rural	31.1	24.9	17.5	39.1	9.5	14.2	2,565
Total[2]	33.2	21.9	17.4	38.1	9.0	13.4	3,673

[1] A person may have several disabilities, so the sum of percentages may exceed 100 percent.
[2] Total includes 2 cases with missing information on age.

16.3 ORIGIN AND AGE AT ONSET OF DISABILITY

For any household member with a disability, Household Questionnaire respondents were asked about the main reason for or cause of the disability. The results, shown in Table 16.6, indicate that congenital (birth-related) problems and aging each account for about one-fifth of disabilities, whereas non-contagious diseases and injuries each account for an additional 15-16 percent of disabilities.

Table 16.6 Origin of disabilities

Percent distribution of disabled people according to the origin of disability, by sex, age, and residence, Yemen 2013

Background characteristic	Origin of disability										Total	Number of household members with disabilities
	Con-genital	Conditions related to childbirth	Conta-gious disease	Other diseases	Physical and psycho-logical abuse	Aging	Injury, accident	Supernatural means/magic	Other	Don't know/ missing		
Sex												
Male	20.0	3.4	4.0	14.2	3.7	14.7	20.9	4.8	6.1	8.2	100.0	2,089
Female	21.0	4.5	3.5	17.5	2.4	25.3	7.4	4.8	5.2	8.3	100.0	1,584
Age												
0-9	53.0	11.3	1.9	14.3	1.1	0.3	6.2	1.3	3.1	7.4	100.0	392
10-19	38.6	7.5	3.2	18.7	1.7	0.0	11.3	3.0	6.9	9.3	100.0	636
20-29	30.2	3.4	3.6	14.4	3.4	0.0	19.8	10.0	6.7	8.6	100.0	488
30-39	19.1	4.0	3.4	16.9	6.3	0.1	22.0	8.6	8.7	11.0	100.0	427
40-49	13.6	3.7	2.3	20.5	4.7	4.6	20.1	9.9	9.5	11.1	100.0	314
50-59	4.1	0.1	4.2	20.5	6.6	21.9	24.2	4.5	6.1	7.8	100.0	358
60-69	1.9	0.6	3.8	13.6	2.2	41.7	17.2	3.0	4.5	11.6	100.0	367
70+	0.6	0.4	6.3	9.9	1.6	66.6	8.0	1.2	2.3	3.1	100.0	689
Residence												
Urban	24.1	5.2	2.7	17.4	3.5	14.8	13.3	4.8	6.7	7.6	100.0	1,108
Rural	18.8	3.3	4.3	14.8	3.0	21.2	15.9	4.8	5.3	8.6	100.0	2,565
Total[1]	20.4	3.9	3.8	15.6	3.1	19.3	15.1	4.8	5.7	8.3	100.0	3,673

[1] Total includes 2 cases with missing information on age.

Aging accounts for a larger proportion of disabilities among women (25 percent) than men (15 percent), while injuries account for a larger proportion of disabilities among men (21 percent) than women (7 percent). Congenital causes of disability decline with increasing age, whereas aging is associated with an increased proportion of disabilities. Injuries and accidents account for a larger proportion of disabilities among those age 30-59 than among those in the younger and older age groups.

Table 16.7 provides information about age at disability onset. Differences by sex and residence are minimal. Differences by age group are substantial. As expected, by definition, younger disabled people are younger at onset of disability. In the case of almost one in five disabled household members, respondents were not able to provide an age at onset of disability.

Table 16.7 Age at onset of disability

Percent distribution of disabled people according to the age at onset of disability, by sex, age, and residence, Yemen 2013

Background characteristic	Age at onset of disability											Total	Number of household members with disabilities
	At birth	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70+	Don't know/ missing		
Sex													
Male	23.2	8.8	5.5	8.5	8.2	6.1	4.9	6.5	5.4	4.8	18.1	100.0	2,089
Female	23.6	8.6	5.6	7.9	4.1	5.8	6.3	7.3	5.5	5.3	19.8	100.0	1,584
Age													
0-9	61.7	20.7	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	100.0	392
10-19	45.1	17.0	12.2	17.3	0.0	0.0	0.0	0.0	0.0	0.0	8.4	100.0	636
20-29	33.5	10.4	7.9	17.4	18.8	0.0	0.0	0.0	0.0	0.0	12.0	100.0	488
30-39	20.7	9.0	4.5	10.8	23.4	17.7	0.0	0.0	0.0	0.0	13.9	100.0	427
40-49	15.6	2.8	3.8	7.8	8.3	27.0	14.9	0.0	0.0	0.0	19.9	100.0	314
50-59	4.6	2.5	1.4	2.8	2.4	13.6	31.6	20.6	0.0	0.0	20.7	100.0	358
60-69	1.7	3.9	2.0	2.6	0.3	1.0	9.0	31.8	17.7	0.0	30.0	100.0	367
70+	1.0	1.4	2.1	2.6	1.4	0.9	1.4	8.9	19.8	26.5	34.0	100.0	689
Residence													
Urban	28.0	7.9	5.0	8.9	6.2	5.7	5.8	6.2	4.3	4.2	17.8	100.0	1,108
Rural	21.4	9.1	5.8	8.0	6.6	6.1	5.4	7.1	6.0	5.4	19.3	100.0	2,565
Total[1]	23.4	8.7	5.5	8.3	6.4	6.0	5.5	6.8	5.5	5.0	18.8	100.0	3,673

[1] Total includes 2 cases with missing information on age.

16.4 CARE AND SUPPORT FOR DISABILITIES

As shown in Table 16.8, two-thirds of disabled people in Yemen were reported to have not received any care or support for their disability in the 12 months preceding the survey. Just over one-quarter of disabled household members received medical care, while 6 percent received welfare, 3 percent received financial support, and 1 percent received nutritional support. Differences by sex, age, and residence are not large.

Table 16.8 Care and support received

Percentage of disabled people who received any kind of care and support for their disability in the past 12 months, by sex, age, and residence, Yemen 2013

Background characteristic	Care and support received					Number of household members with disabilities
	Medical care	Welfare	Financial support	Nutritional support	No care/no support	
Sex						
Male	26.8	6.1	3.0	1.3	65.9	2,089
Female	25.3	5.7	2.2	0.8	67.3	1,584
Age						
0-9	25.0	4.3	1.6	1.0	71.8	392
10-19	25.8	6.5	2.6	2.3	66.9	636
20-29	23.2	6.2	4.1	0.7	69.3	488
30-39	29.8	6.3	2.9	0.6	64.6	427
40-49	28.9	3.8	2.5	0.6	65.0	314
50-59	25.9	4.9	1.3	0.5	66.3	358
60-69	24.9	2.9	2.8	0.5	66.5	367
70+	26.6	9.0	2.8	1.4	62.9	689
Residence						
Urban	26.5	5.4	3.5	0.9	62.9	1,108
Rural	26.0	6.2	2.3	1.1	68.0	2,565
Total[1]	26.1	5.9	2.6	1.1	66.5	3,673

[1] Total includes 2 cases with missing information on age.

16.5 INJURIES AND ACCIDENTS

In the 2013 YNHDS, Household Questionnaire respondents were asked if they or any member of the household had been injured or had an accident in the two years before the survey. Responses allowed for reporting of injuries among anyone who had been a member of the household over the two prior years, including those who might have moved away or died. Consequently, the data do not necessarily correspond to current household members and do not allow for computation of the prevalence or incidence of injuries among the population.

Nine percent of household respondents reported that at least one member of the household had been injured or had an accident in the two years before the survey (Table 16.9). The proportion of households with injuries is slightly higher in urban than rural areas (11 percent and 9 percent, respectively). It ranges from only 4 percent of households in Al-Mhrah Governorate to 22 percent of households in Mareb Governorate.

Table 16.10 shows the percentage of household members who were injured by the type of injury or accident. Traffic accidents cause the largest proportion of injuries (44 percent), with falls accounting for 29 percent of injured household members. Gunshots were the cause of 8 percent

Table 16.9 Injuries and accidents

Percentage of households with at least one member who was injured or had an accident in the past 2 years, by background characteristics, Yemen 2013

Background characteristic	Percentage of households with members who were injured or had an accident	Number of households
Residence		
Urban	11.2	5,413
Rural	8.5	11,938
Governorate		
Ibb	10.9	1,827
Abyan	12.0	374
Sana'a City	11.6	1,640
Al-Baidha	20.2	533
Taiz	7.5	2,306
Al-Jawf	15.2	142
Hajjah	8.7	1,094
Al-Hodiedah	5.3	2,487
Hadramout	6.6	822
Dhamar	10.2	1,246
Shabwah	6.1	271
Sadah	8.3	493
Sana'a	9.8	779
Aden	12.8	620
Lahj	6.5	601
Mareb	22.0	103
Al-Mhweit	10.7	488
Al-Mhrah	3.8	85
Amran	16.1	622
Aldhalae	8.1	397
Reimah	5.4	423
Total	9.4	17,351

of injuries to household members, whereas 6 percent of injured people were hit by someone or by an object of some kind. Five percent of injured household members were burned, and 3 percent were poisoned and/or stabbed. For 1 percent of injured people, the cause of injury was electric shock, and for less than 1 percent the cause was drowning.

Traffic accidents cause a larger proportion of injuries in urban areas than in rural areas, whereas falls cause a larger proportion of injuries in rural areas. Due to the relatively small numbers of injured household members, results by governorate should be viewed with caution.

Table 16.10 Types of injuries or accidents

Among household members who were injured or had an accident, percentage who had different types of accidents, by background characteristics, Yemen 2013

Background characteristic	Type of injury or accident[1]										Number of household members who were injured or had an accident
	Traffic accident	Fall	Hit by someone or by an object	Stabbed	Gunshot	Burn	Drowning	Poisoning	Electric shock	Other	
Residence											
Urban	48.6	20.6	6.9	4.3	7.0	5.6	0.7	4.5	0.9	1.8	727
Rural	41.9	34.0	6.0	1.4	8.7	4.0	0.8	1.6	1.4	0.9	1,192
Governorate											
Ibb	53.3	27.8	1.9	3.8	7.1	5.5	0.0	0.0	1.4	0.0	234
Abyan	35.7	24.0	11.8	0.5	22.1	3.6	0.0	0.0	1.0	3.0	52
Sana'a City	48.4	21.1	7.5	6.1	5.3	7.7	0.7	2.4	0.8	0.0	213
Al-Baidha	33.9	43.6	4.0	5.1	5.3	3.0	0.0	4.8	0.0	0.8	134
Taiz	21.8	41.6	14.5	0.9	8.3	7.8	1.1	2.9	1.1	0.9	211
Al-Jawf	50.9	16.9	3.5	3.4	14.8	8.9	1.3	2.4	0.0	0.0	23
Hajjah	60.6	25.9	0.7	1.1	5.3	2.1	0.8	0.9	2.8	0.0	119
Al-Hodiedah	55.6	19.8	8.6	0.0	0.0	1.6	0.0	6.4	0.0	8.2	157
Hadramout	52.1	38.8	5.8	1.3	0.0	1.0	1.4	1.0	0.0	0.0	64
Dhamar	33.5	29.6	5.7	2.5	15.7	3.0	0.0	4.8	2.1	3.0	155
Shabwah	69.1	19.2	3.4	2.2	3.7	0.0	0.7	0.7	0.7	0.0	20
Sadah	57.4	14.1	5.3	1.2	8.7	2.3	1.3	12.6	1.1	0.0	52
Sana'a	47.4	29.3	4.0	2.0	8.0	7.1	0.9	1.2	1.1	0.0	84
Aden	44.4	30.6	7.0	0.0	7.6	4.7	1.6	1.6	2.4	0.0	91
Lahj	35.3	46.4	5.3	0.0	3.9	3.0	0.0	0.0	1.8	4.2	40
Mareb	57.5	18.7	4.4	2.1	14.2	3.7	0.5	1.3	0.0	1.0	28
Al-Mhweit	47.1	31.0	3.0	0.8	5.7	4.8	3.8	3.8	0.0	0.0	56
Al-Mhrah	*	*	*	*	*	*	*	*	*	*	3
Amran	40.0	23.0	8.9	4.2	16.2	3.7	1.4	2.2	2.5	0.0	115
Aldhalae	47.2	27.7	3.8	2.1	14.7	1.2	0.0	2.2	0.0	1.0	40
Reimah	39.5	25.9	5.7	0.0	12.1	11.3	5.5	0.0	3.5	0.0	27
Total	44.4	29.0	6.3	2.5	8.0	4.6	0.8	2.7	1.2	1.3	1,919

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] A person may have multiple injuries/accidents, so the sum may exceed 100 percent.

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SAMPLE DESIGN IMPLEMENTATION   *Appendix* A

A.1   INTRODUCTION

The 2013 Yemen National Health and Demographic Survey (2013 YNHDS) is the fourth survey of its kind and follows surveys completed in 1991-1992, 1997, and 2003. The survey is nationwide and calls for a nationally representative sample of about 20,000 households. All women (ever-married and never-married) age 15-49 living in the selected households or staying in the households the night before the survey were eligible for individual interview. All women age 15-49 and children between age 6-59 months in one-third of the selected households were eligible for an anemia test. The survey was designed to yield approximately 26,505 completed interviews (18,457 ever-married women and 8,048 never-married women), 7,500 anemia tests of women age 15-49, and about 4,000 anemia tests of children age 659 months. It is designed to provide estimates on the levels of fertility, infant and child mortality, use of contraception and family planning, and family welfare and health indicators.

Yemen is divided into 20 governorates and Sana'a, the capital city. In turn, each governorate is subdivided into districts, each district into sections, and each section into sectors. In addition to these administrative units, during the last census in 2004, each sector was subdivided into convenient areas called census enumeration areas (EAs). In total, Yemen has about 35,000 EAs. The list of EAs has census information on households and population counts, and also the census cartographic materials. This list of EAs was used as the sampling frame for the 2013 YNHDS.

The survey estimates of the 2013 YNHDS will be reported for the country as a whole, for urban and rural areas, and for Sana'a, the capital city, and each of the 20 governorates, namely, Al-Mahrah, Mareb, Raimali, Abyan, Al-Jawf, Shabwah, Al-Dhaleh, Al-Mahwit, Al-Baida, Aden, Saadah, Lahj, Amran, Sana'a, Hadramout, Dhamar, Hajjah, Alamana, Ibb, Al-Hodeidah, and Taiz.

A.2   SAMPLING FRAME

The sampling frame used for the 2013 YNHDS is based on the General Population, Housing and Establishment Census conducted in 2004 by the Central Statistical Organization. The frame consists of 35,000 EAs. An EA is a convenient geographical area with an average size of 144 households. The frame contains information about each EA location, the type of residences, the number of households, and the population. Each EA has a cartographical map that delimits the boundaries and shows the main landmarks of the EA. Table A.1 shows the 2004 census population distribution of Yemen by governorates.

Table A.1 Population distribution by governorates (2004 General Population, Housing and Establishment Census, Yemen)

Governorate	Population	Population %
Ibb	2,131,861	10.83
Abyan	433,819	2.20
Sana'a City	1,747,834	8.88
Al-Baidha	577,369	2.93
Taiz	2,393,425	12.16
Al-Jawf	443,797	2.25
Hajjah	1,479,568	7.52
Al-Hodiedah	2,157,552	10.96
Hadramout	1,028,556	5.23
Dhamar	1,330,108	6.76
Shabwah	470,440	2.39
Sadah	695,033	3.53
Sana'a	919,215	4.67
Aden	589,419	2.99
Lahj	722,694	3.67
Mareb	238,522	1.21
Al-Mhweit	494,557	2.51
Al-Mhrah	88,594	0.45
Amran	877,786	4.46
Aldhalae	470,564	2.39
Reimah	394,448	2.00
Yemen	**19,685,161**	**100.00**

A.3 SAMPLE DESIGN AND SAMPLING PROCEDURE

The sample for the 2013 YNHDS is a stratified sample selected in two stages from the 2004 census frame. Stratification was achieved by separating every governorate into urban and rural areas. Because there are no rural areas in Sana'a City or Aden, the governorates were stratified into 40 sampling strata. Samples were selected independently in every stratum, by a two-stage selection process. Implicit stratifications and proportional allocation were achieved at each of the lower geographical/administrative levels by sorting the sampling frame according to geographical/administrative order and by using a probability proportional to size selection at the first stage of sampling.

In the first stage, 800 EAs were selected with probability proportional to EA size. The EA size is the number of households residing in the EA. A household listing operation was carried out in all selected EAs, and the resulting lists of households served as a sampling frame for the selection of households in the second stage. Each selected EA was an YNHDS sampling cluster.

In the second stage of selection, a fixed number of 25 households per cluster was selected from the newly created household listing. In each rural cluster, one household was randomly selected. This household and the subsequent 24 households in the list together constituted the household sample for each of the 587 rural clusters; in urban clusters, the 25 households were randomly selected with an equal probability systematic selection. In addition, in each cluster, 8 of the 25 households were selected with equal probability systematic selection for anemia testing. The survey interviewer had to interview only the pre-selected households. No replacements and no changes of the pre-selected households were allowed in the implementing stages in order to prevent bias. All women age 15-49 who are usual members of the selected households or who spent the night before the survey in the selected households were eligible for the female survey.

Table A.2 shows the allocation of households according to governorate and urban-rural areas, and Table A.3 shows the expected number of completed ever-married and never-married interviews of women, according to governorate and urban-rural areas. To ensure that survey precision was comparable across governorates, the sample allocation figured a power allocation between governorates. The proportional allocation between the urban and rural areas was enough to ensure comparable precision across the urban and rural areas. Based on a fixed sample take of 25 households per cluster, the survey selected 800 EAs, or 213 EAs in urban areas and 587 EAs in rural areas. The survey was conducted in 20,000 residential households, 5,325 urban households, and 14,675 rural households. The sample was expected to result in about 26,505 completed interviews (18,457 ever-married women age 15-49 and 8,048 never-married women age 15-49), 7,916 interviews in urban areas, and 18,589 interviews in rural areas.

Table A.2 Sample allocation of clusters and households, according to governorate and by type of residence, YNHDS 2013

Governorate	Allocation of clusters			Allocation of households		
	Urban	Rural	Total	Urban	Rural	Total
Ibb	8	36	44	200	900	1,100
Abyan	10	26	36	250	650	900
Sanaa City	44	0	44	1,100	0	1,100
Al-Baidha	7	29	36	175	725	900
Taiz	9	35	44	225	875	1,100
Al-Jawf	5	31	36	125	775	900
Hajjah	4	40	44	100	1000	1,100
Al-Hodiedah	14	30	44	350	750	1,100
Hadramout	20	20	40	500	500	1,000
Dhamar	5	35	40	125	875	1,000
Shabwah	7	29	36	175	725	900
Sadah	6	34	40	150	850	1,000
Sanaa	2	38	40	50	950	1,000
Aden	36	0	36	900	0	900
Lahj	3	37	40	75	925	1,000
Mareb	3	25	28	75	625	700
Al-Mhweit	3	33	36	75	825	900
Al-Mhrah	12	12	24	300	300	600
Amran	8	32	40	200	800	1,000
Aldhalae	5	31	36	125	775	900
Reimah	2	34	36	50	850	900
Yemen	**213**	**587**	**800**	**5,325**	**14,675**	**20,000**

Table A.3 Sample allocation for expected number of completed women interviews, according to governorate and by type of residence, YNHDS 2013

Governorate	Completed ever-married women interviews			Completed never-married women interviews		
	Urban	Rural	Total	Urban	Rural	Total
Ibb	195	814	1009	103	326	429
Abyan	243	588	831	128	235	363
Sanaa City	1071	0	1071	564	0	564
Al-Baidha	170	656	826	90	263	353
Taiz	219	791	1010	115	317	432
Al-Jawf	122	701	823	64	281	345
Hajjah	97	904	1001	51	362	413
Al-Hodiedah	341	678	1019	180	272	452
Hadramout	487	452	939	256	181	437
Dhamar	122	791	913	64	317	381
Shabwah	170	656	826	90	263	353
Sadah	146	769	915	77	308	385
Sanaa	49	859	908	26	344	370
Aden	876	0	876	462	0	462
Lahj	73	837	910	38	335	373
Mareb	73	565	638	38	226	264
Al-Mhweit	73	746	819	38	299	337
Al-Mhrah	292	271	563	154	109	263
Amran	195	724	919	103	290	393
Aldhalae	122	701	823	64	281	345
Reimah	49	769	818	26	308	334
Yemen	**5185**	**13272**	**18457**	**2731**	**5317**	**8048**

The preceding calculations are based on facts obtained from the 2003 Yemen Family Health Survey (YFHS). In urban and rural areas, there are 1.137 and 1.084 ever-married women age 15-49 per household. There also are about 0.56 and 0.434 never-married women age 15-49 per household in urban and rural areas. The household response rates are 91.8 percent for urban and 91.6 percent for rural areas. The ever-married women age 15-54 response rates are 93.3% and 91.1% in urban and rural areas, respectively. We assumed that the latter response rates applied for both ever-married women and never-married women age 15-49.

A.4 SAMPLING PROBABILITIES

Because of the nonproportional allocation of the sample to different governorates and the possible differences in response rates, sampling weight is required for any analysis that uses the 2013 YNHDS data; this ensures the actual representativeness of the survey results at the national level and the domain level. Because the 2013 YNHDS sample is a two-stage stratified cluster sample, sampling weight is calculated based on separate sampling probabilities for each sampling stage and for each cluster. We use the following notations:

P_{1hi}:   first-stage sampling probability of the ith cluster in stratum h
P_{2hi}:   second -stage sampling probability within the ith cluster (households)

Let a_h be the number of EAs selected in stratum h, M_{hi} the number of households according to the sampling frame in the ith EA, and $\sum M_{hi}$ the total number of households in the stratum. The probability of selecting the ith EA in the 2013 YNHDS sample is calculated as follows:

$$P_{1hi} = \frac{a_h \, M_{hi}}{\sum M_{hi}}$$

Let L_{hi} be the number of households listed in the household listing operation in cluster i in stratum h, let g_{hi} be the number of households selected in the cluster. In the second stage the selection probability for each household in the cluster is calculated as follows:

$$P_{2hi} = \frac{g_{hi}}{L_{hi}}$$

The overall selection probability of each household in cluster i of stratum h is therefore the product of the two stages of selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hi}$$

The sampling weight for each household in cluster i of stratum h is the inverse of its overall selection probability:

$$W_{hi} = 1 / P_{hi}$$

Design weight is adjusted for household and individual nonresponse to get the sampling weights for household and women surveys, respectively. The differences between the household sampling weight and the individual sampling weights are introduced by individual nonresponse. The final sampling weights are normalized to give the total number of unweighted cases equal to the total number of weighted cases at national level, for both household and individual weights. The normalized weights are relative weights valid for estimating means, proportions, and ratios but not valid for estimating population totals and for pooling data.

A.5   SAMPLE IMPLEMENTATION

Table A.4 presents the sample implementation results by the number of households selected and interviewed and the number of ever-married women found and interviewed.

Table A.4 Sample implementation

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall women response rates, according to urban-rural residence and region (unweighted), Yemen 2013

| | Residence | | Governorates | | | | | | | | | | | | | | | | | | | | | Total |
Result	Urban	Rural	Ibb	Abyan	Sana'a City	Al-Baidha	Taiz	Al-Jawf	Hajjah	Al-Hodiedah	Hadra-mout	Dhamar	Shabwah	Sadah	Sana'a	Aden	Lahj	Mareb	Al-Mhweit	Al-Mhrah	Amran	Aldhalae	Reimah	
Selected households																								
Completed (C)	88.5	89.0	92.2	86.6	93.6	88.3	92.9	71.7	90.3	93.5	84.9	95.5	81.4	82.0	92.9	88.1	84.8	85.8	92.9	85.7	88.8	89.8	94.8	88.9
Household present but no competent respondent at home (HP)	0.8	0.5	0.4	0.0	0.5	0.9	0.6	1.6	0.2	0.5	1.5	0.1	0.8	1.1	0.4	1.4	0.3	0.1	0.7	0.0	0.1	1.4	0.3	0.6
Postponed (P)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused (R)	3.5	1.7	1.2	1.7	1.9	6.1	0.7	2.0	0.3	0.7	3.3	0.9	8.0	2.0	0.9	3.8	5.4	0.7	0.8	1.3	1.9	2.1	1.2	2.2
Dwelling not found (DNF)	0.7	0.6	0.2	0.0	0.0	0.8	0.0	3.3	0.1	0.0	0.4	0.3	0.3	6.7	0.2	0.2	0.1	0.7	0.0	1.5	0.3	0.0	0.0	0.6
Household absent (HA)	4.5	5.8	3.5	11.3	1.5	3.6	4.2	15.0	8.8	4.1	7.1	2.1	5.9	2.5	1.4	4.7	6.9	9.5	3.7	10.8	6.8	3.8	2.6	5.4
Dwelling vacant/address not a dwelling (DV)	1.2	1.4	1.8	0.0	1.8	0.2	1.3	1.7	0.2	0.6	2.4	1.0	2.4	3.8	3.7	1.0	0.4	1.9	1.7	0.5	1.2	0.3	1.0	1.4
Dwelling destroyed (DD)	0.4	0.1	0.3	0.2	0.2	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	1.5	0.1	0.3	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
Other (O)	0.3	0.8	0.5	0.2	0.4	0.0	0.1	4.6	0.1	0.4	0.4	0.1	0.9	0.5	0.3	0.4	2.1	1.1	0.3	0.0	0.8	2.4	0.1	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	5,300	14,217	1,100	900	1,100	895	1,100	699	1,100	1,100	975	1,000	875	850	975	900	1,000	698	900	600	950	900	900	19,517
Household response rate (HRR)[1]	94.7	96.8	98.2	98.1	97.4	91.8	98.5	91.1	99.4	98.7	94.2	98.7	89.8	89.4	98.4	94.2	93.6	98.2	98.5	96.8	97.5	96.2	98.4	96.3
Ever-married women																								
Eligible women																								
Completed (EWC)	96.3	96.1	96.0	98.5	98.1	94.4	98.5	97.8	98.8	98.6	90.7	96.6	92.4	99.2	90.7	94.9	96.2	93.2	96.7	98.4	96.9	98.3	98.9	96.2
Not at home (EWNH)	1.3	1.9	1.5	0.5	0.7	2.1	0.9	0.4	0.7	0.5	4.6	2.3	2.7	0.1	5.7	2.0	0.7	3.5	1.1	0.3	2.0	0.7	0.8	1.7
Postponed (EWP)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused (EWR)	1.5	1.4	1.8	0.7	1.1	3.0	0.3	0.6	0.1	0.6	4.0	0.7	4.0	0.1	2.5	1.4	1.6	2.4	1.1	0.3	1.0	0.2	0.0	1.4
Partly completed (EWPC)	0.5	0.3	0.3	0.1	0.0	0.1	0.3	0.2	0.1	0.0	0.4	0.0	0.8	0.5	0.8	1.2	1.5	0.4	0.3	0.5	0.0	0.6	0.1	0.4
Incapacitated (EWI)	0.3	0.3	0.4	0.1	0.1	0.3	0.0	0.8	0.2	0.4	0.1	0.4	0.1	0.0	0.4	0.1	0.0	0.6	0.8	0.5	0.1	0.1	0.1	0.3
Other (EWO)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,723	12,595	1,018	752	1,008	1,164	998	503	824	857	952	918	883	770	1,040	690	610	721	796	378	865	838	733	17,318
Eligible women response rate (EWRR)[2]	96.3	96.1	96.0	98.5	98.1	94.4	98.5	97.8	98.8	98.6	90.7	96.6	92.4	99.2	90.7	94.9	96.2	93.2	96.7	98.4	96.9	98.3	98.9	96.2

Continued…

Result	Residence		Governorates																						Total
	Urban	Rural	Ibb	Abyan	Sana'a City	Al-Baidha	Taiz	Al-Jawf	Hajjah	Al-Hodiedah	Hadra-mout	Dhamar	Shabwah	Sadah	Sana'a	Aden	Lahj	Mareb	Al-Mhweit	Al-Mhrah	Amran	Aldhalae	Reimah	
Overall women response rate (ORR)[3]	3.0	1.4	14.4	17.6	13.6	14.2	13.6	34.4	17.9	15.2	13.8	19.3	12.4	16.8	15.2	14.4	18.3	20.1	22.4	29.8	21.3	15.1	20.3	1.0
Never married women																								
Eligible women																								
Completed (EWC)	90.8	90.7	79.3	78.0	83.6	79.6	81.1	62.5	77.1	81.6	67.7	72.8	82.1	80.6	72.7	78.9	73.4	73.3	72.7	62.0	73.7	80.7	77.6	91.6
Not at home (EWNH)	2.1	2.8	1.4	0.9	0.4	2.9	2.4	0.4	2.6	0.9	5.2	4.0	1.3	0.0	7.2	2.1	1.6	3.7	0.7	3.1	2.7	1.3	1.3	2.6
Postponed (EWP)	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
Refused (EWR)	2.1	2.4	2.1	1.1	1.0	1.5	0.7	0.4	0.2	1.1	11.3	0.4	1.2	0.2	3.6	2.4	4.3	1.3	2.4	2.8	1.4	0.5	0.0	2.3
Partly completed (EWPC)	0.6	0.9	0.2	0.2	0.4	0.5	0.1	0.8	0.7	0.5	0.3	1.0	1.3	2.5	0.0	0.5	0.8	0.7	0.7	0.9	0.2	1.4	0.4	0.8
Incapacitated (EWI)	1.2	1.8	2.6	2.2	0.9	1.1	2.1	1.5	1.5	0.5	1.6	2.4	1.6	0.0	1.4	1.6	1.6	0.9	1.2	0.6	0.7	1.0	0.4	1.6
Other (EWO)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,994	6,678	652	549	705	611	713	259	547	638	620	494	669	529	586	621	492	456	425	319	442	625	479	9,581
Eligible women response rate (EWRR)[2]	3.0	1.4	14.4	17.6	13.6	14.2	13.6	34.4	17.9	15.2	13.8	19.3	12.4	16.8	15.2	14.4	18.3	20.1	22.4	29.8	21.3	15.1	20.3	1.0
Overall women response rate (ORR)[3]	0.0	0.0	0.9	1.4	0.8	0.8	0.8	4.4	1.4	1.1	0.9	1.4	0.8	1.2	1.0	1.1	1.7	1.8	1.9	4.6	1.7	1.1	1.8	0.0
Eligible women																								
Completed (EWC)	95.3	94.7	94.0	95.7	96.8	93.2	95.9	92.9	95.8	96.7	85.5	93.3	92.2	97.1	88.2	92.7	92.1	91.1	94.0	90.3	94.3	96.1	96.7	94.9
Not at home (EWNH)	1.7	2.2	1.5	0.7	0.6	2.5	1.6	0.4	1.5	0.7	5.1	3.1	2.2	0.1	6.5	2.2	1.2	3.8	1.0	1.7	2.4	1.0	1.1	2.1
Postponed (EWP)	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Refused (EWR)	1.8	1.7	2.0	0.9	1.1	2.6	0.5	0.6	0.2	0.8	7.2	0.6	2.9	0.2	3.0	2.0	3.0	2.1	1.7	1.6	1.2	0.4	0.0	1.7
Partly completed (EWPC)	0.6	0.5	0.3	0.2	0.2	0.2	0.2	0.4	0.4	0.2	0.4	0.4	1.1	1.4	0.5	0.9	1.3	0.5	0.4	0.8	0.1	1.0	0.3	0.5
Incapacitated (EWI)	0.6	0.8	1.3	1.1	0.4	0.6	0.9	1.1	0.8	0.4	0.7	1.2	0.8	0.0	0.8	0.9	0.8	0.7	1.0	0.6	0.3	0.5	0.3	0.7
Other (EWO)	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	7,629	19,181	1,590	1,221	1,630	1,701	1,627	704	1,291	1,413	1,500	1,336	1,480	1,225	1,552	1,236	1,029	1,105	1,148	631	1,234	1,383	1,135	26,807
Eligible women response rate (EWRR)[2]	0.0	0.0	0.9	1.4	0.8	0.8	0.8	4.4	1.4	1.1	0.9	1.4	0.8	1.2	1.0	1.1	1.7	1.8	1.9	4.6	1.7	1.1	1.8	0.0
Overall women response rate (ORR)[3]	0.0	0.0	0.9	1.4	0.8	0.7	0.8	4.1	1.4	1.0	0.8	1.4	0.7	1.1	0.9	1.0	1.6	1.8	1.9	4.4	1.6	1.0	1.7	0.0

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

$$ \frac{100 * C}{C + HP + P + R + DNF} $$

[2] The eligible women response rate (EWRR) is equivalent to the percentage of interviews completed (EWC).
[3] The overall women response rate (OWRR) is calculated as:

$$ OWRR = HRR * EWRR/100 $$

ESTIMATES OF SAMPLING ERRORS   *Appendix* **B**

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2013 Yemen HDS (YNHDS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2013 YNHDS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability among 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 respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2013 YNHDS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulas. Sampling errors are computed in either ISSA or SAS, using programs developed by ICF International. These programs use the Taylor linearization method of variance estimation for survey estimates that are means, proportions, or ratios. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula that follows, with the standard error being the square root of the variance:

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

in which

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

where h represents the stratum that varies from 1 to H

m_h is the total number of clusters selected in the hth stratum

y_{hi} is the sum of the weighted values of variable y in the ith cluster in the hth stratum

x_{hi} is the sum of the weighted number of cases in the ith cluster in the hth stratum

f is the overall sampling fraction, which is so small that it is ignored

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulas. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2013 YNHDS, there were 800 non-empty clusters. Hence, 758 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = \text{var}(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1) r_{(i)}$$

where r is the estimate computed from the full sample of 800 clusters

$r_{(i)}$ is the estimate computed from the reduced sample of 799 clusters (i^{th} cluster excluded)

k is the total number of clusters

In addition to the standard error, the design effect (DEFT) for each estimate is also calculated. The design effect 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. Relative standard errors and confidence limits for the estimates are also calculated.

Sampling errors for the 2013 YNHDS 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 each of the 21 governorates. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 through B.25 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE) for each selected variable. The DEFT is considered undefined when the standard error of a simple random sample is zero (when the estimate is close to 0 or 1).

The confidence interval (e.g., as calculated for *the number of children ever born*) can be interpreted as follows: the overall average from the national sample is 2.511 and its standard error is 0.028. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 2.511 ± 2×0.028. There is a high probability (95 percent) that the true average number of children ever born is between 2.455 and 2.566.

For the total sample, the value of the DEFT, averaged over all variables, is 1.702. This means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.702 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Yemen 2013

Variable	Estimate	Base population
	WOMEN	
Urban residence	Proportion	All women 15-49
Literacy	Proportion	All women 15-49
No education	Proportion	All women 15-49
Secondary education or higher	Proportion	All women 15-49
Never married/in union	Proportion	All women 15-49
Currently married/in union	Proportion	All women 15-49
Married before age 20	Proportion	All women 20-49
Currently pregnant	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children surviving	Mean	All women 15-49
Children ever born to women age 40-49	Mean	All women 40-49
Know any contraceptive method	Proportion	Currently married women 15-49
Know a modern method	Proportion	Currently married women 15-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using a traditional method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using condoms	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Currently using rhythm	Proportion	Currently married women 15-49
Used public sector source	Proportion	Current users of modern method
Want no more children	Proportion	Currently married women 15-49
Want to delay next birth at least two years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49
Mothers protected against tetanus for last birth	Proportion	Women with a live birth in last five years
Births with skilled attendant at delivery	Proportion	Births occurring 1-59 months before survey
Had diarrhea in the past two weeks	Proportion	Children under 5
Treated with ORS	Proportion	Children under 5 with diarrhea in past 2 weeks
Sought medical treatment	Proportion	Children under 5 with diarrhea in past 2 weeks
Vaccination card seen	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received penta vaccination (three doses)	Proportion	Children 12-23 months
Received polio vaccination (three doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Received all vaccinations	Proportion	Children 12-23 months
Received pnuemococcal vaccination (3 doses)	Proportion	Children 12-23 months
Height-for-age (-2SD)	Proportion	Children under 5 who are measured
Weight-for-height (-2SD)	Proportion	Children under 5 who are measured
Weight-for-age (-2SD)	Proportion	Children under 5 who are measured
Body mass index (BMI) <18.5	Proportion	All women 15-49 who were measured
Prevalence of anemia (children 6-59 months)	Proportion	All children 6-59 months who were tested
Prevalence of anemia (women 15-49)	Proportion	All women 15-49 who were tested
Total fertility rate (three years)	Rate	Women-years of exposure to childbearing
Neonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Postneonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Infant mortality rate[1]	Rate	Children exposed to the risk of mortality
Child mortality rate[1]	Rate	Children exposed to the risk of mortality
Under-5 mortality rate[1]	Rate	Children exposed to the risk of mortality

[1] The mortality rates are calculated for 5 years and 10 years before the survey for the national sample and regional samples, respectively.

Table B.2 Sampling errors: Total sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.339	0.010	25434	25434	3.401	0.030	0.319	0.359
Literacy	0.529	0.009	25434	25434	2.839	0.017	0.512	0.547
No education	0.421	0.009	25434	25434	2.772	0.020	0.404	0.438
Secondary or higher education	0.212	0.007	25434	25434	2.862	0.035	0.197	0.227
Never married (never in union)	0.349	0.005	25434	25434	1.747	0.015	0.338	0.359
Currently married (in union)	0.612	0.005	25434	25434	1.702	0.008	0.602	0.622
Married before age 20	0.590	0.006	19019	19092	1.798	0.011	0.577	0.602
Currently pregnant	0.084	0.002	25434	25434	1.421	0.029	0.079	0.089
Children ever born	2.511	0.028	25434	25434	1.459	0.011	2.455	2.566
Children surviving	2.303	0.024	25434	25434	1.409	0.011	2.254	2.351
Children ever born to women age 40-49	6.680	0.083	3387	3275	1.438	0.012	6.515	6.845
Knows any contraceptive method	0.983	0.003	15649	15566	2.527	0.003	0.978	0.988
Knows any modern contraceptive method	0.983	0.003	15649	15566	2.507	0.003	0.977	0.988
Currently using any method	0.335	0.007	15649	15566	1.789	0.020	0.321	0.348
Currently using a modern method	0.292	0.006	15649	15566	1.724	0.021	0.279	0.304
Currently using a traditional method	0.043	0.002	15649	15566	1.346	0.051	0.039	0.048
Currently using pill	0.116	0.004	15649	15566	1.684	0.037	0.108	0.125
Currently using condoms	0.005	0.001	15649	15566	1.143	0.125	0.004	0.007
Currently using injectables	0.042	0.003	15649	15566	1.605	0.061	0.037	0.047
Currently using female sterilization	0.023	0.002	15649	15566	1.350	0.071	0.019	0.026
Currently using rhythm	0.016	0.001	15649	15566	1.299	0.082	0.013	0.018
Currently using withdrawal	0.026	0.002	15649	15566	1.299	0.063	0.023	0.030
Used public sector source	0.530	0.013	3794	3920	1.568	0.024	0.505	0.555
Want no more children	0.413	0.007	15649	15566	1.707	0.016	0.400	0.426
Want to delay birth at least two years	0.242	0.005	15649	15566	1.358	0.019	0.233	0.252
Ideal number of children	4.341	0.038	14758	14834	1.814	0.009	4.264	4.418
Mothers protected against tetanus for last birth	0.279	0.008	10549	10369	1.851	0.029	0.263	0.295
Births with skilled attendant at delivery	0.447	0.011	16093	15880	2.313	0.025	0.424	0.469
Had diarrhea in the last two weeks	0.312	0.007	15383	15170	1.652	0.021	0.299	0.325
Treated with ORS	0.253	0.009	4770	4733	1.284	0.035	0.235	0.270
Sought medical treatment for diarrhea	0.328	0.012	4770	4733	1.575	0.036	0.305	0.352
Vaccination card seen	0.471	0.014	3053	3028	1.537	0.030	0.443	0.499
Received BCG vaccination	0.676	0.014	3053	3028	1.621	0.021	0.648	0.703
Received Penta vaccination (three doses)	0.596	0.014	3053	3028	1.595	0.024	0.568	0.625
Received polio vaccination (three doses)	0.587	0.014	3053	3028	1.545	0.024	0.559	0.615
Received measles vaccination	0.633	0.013	3053	3028	1.478	0.021	0.607	0.659
Received all vaccinations	0.426	0.014	3053	3028	1.584	0.034	0.397	0.455
Received pnuemococcal vaccination (three doses)	0.384	0.014	3053	3028	1.577	0.037	0.356	0.413
Height-for-age (-2SD)	0.465	0.007	14014	13823	1.568	0.016	0.451	0.480
Weight-for-height (-2SD)	0.163	0.005	14014	13823	1.452	0.029	0.153	0.173
Weight-for-age (-2SD)	0.390	0.007	14014	13823	1.548	0.018	0.376	0.405
Body mass index (BMI) < 18.5	0.249	0.006	22067	22207	1.959	0.023	0.238	0.260
Prevalence of anemia (children)	0.863	0.007	3859	3785	1.277	0.009	0.849	0.878
Prevalence of anemia (women)	0.706	0.009	7380	7412	1.612	0.012	0.689	0.723
Total fertility rate (three years)	4.429	0.092	70024	70157	1.812	0.021	4.245	4.614
Neonatal mortality rate (last 0-4 years)	25.881	1.739	16200	15983	1.277	0.067	22.402	29.360
Postneonatal mortality rate (last 0-4 years)	17.350	1.468	16196	15966	1.323	0.085	14.414	20.286
Infant mortality rate (last 0-4 years)	43.231	2.396	16226	16010	1.358	0.055	38.439	48.024
Child mortality rate (last 0-4 years)	9.955	1.022	15327	15113	1.337	0.103	7.912	11.999
Under5 mortality rate (last 0-4 years)	52.756	2.727	16277	16065	1.420	0.052	47.302	58.210

Table B.3 Sampling errors: Urban sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	1.000	0.000	7268	8619	NA	0.000	1.000	1.000
Literacy	0.761	0.011	7268	8619	2.175	0.014	0.739	0.783
No education	0.205	0.009	7268	8619	1.939	0.045	0.186	0.223
Secondary or higher education	0.400	0.016	7268	8619	2.801	0.040	0.368	0.432
Never married (never in union)	0.383	0.010	7268	8619	1.668	0.025	0.363	0.402
Currently married (in union)	0.574	0.009	7268	8619	1.607	0.016	0.556	0.593
Married before age 20	0.523	0.013	5611	6642	1.898	0.024	0.498	0.549
Currently pregnant	0.062	0.004	7268	8619	1.482	0.068	0.054	0.070
Children ever born	2.160	0.050	7268	8619	1.572	0.023	2.060	2.261
Children surviving	2.024	0.045	7268	8619	1.537	0.022	1.933	2.114
Children ever born to women age 40-49	5.840	0.170	958	1098	1.596	0.029	5.499	6.180
Knows any contraceptive method	0.998	0.001	4236	4949	0.917	0.001	0.997	0.999
Knows any modern contraceptive method	0.998	0.001	4236	4949	0.914	0.001	0.997	0.999
Currently using any method	0.475	0.012	4236	4949	1.508	0.024	0.451	0.498
Currently using a modern method	0.402	0.011	4236	4949	1.434	0.027	0.380	0.423
Currently using a traditional method	0.073	0.005	4236	4949	1.167	0.064	0.063	0.082
Currently using pill	0.172	0.008	4236	4949	1.340	0.045	0.156	0.187
Currently using condoms	0.012	0.002	4236	4949	1.127	0.159	0.008	0.016
Currently using injectables	0.033	0.003	4236	4949	1.136	0.094	0.027	0.040
Currently using female sterilization	0.031	0.003	4236	4949	1.303	0.112	0.024	0.038
Currently using rhythm	0.029	0.003	4236	4949	1.133	0.100	0.023	0.035
Currently using withdrawal	0.043	0.004	4236	4949	1.152	0.084	0.035	0.050
Used public sector source	0.535	0.019	1519	1828	1.511	0.036	0.496	0.574
Want no more children	0.392	0.013	4236	4949	1.740	0.033	0.366	0.418
Want to delay birth at least two years	0.263	0.008	4236	4949	1.249	0.032	0.246	0.280
Ideal number of children	4.029	0.051	4147	4871	1.379	0.013	3.927	4.131
Mothers protected against tetanus for last birth	0.375	0.013	2655	3077	1.369	0.035	0.349	0.401
Births with skilled attendant at delivery	0.730	0.015	3703	4301	1.750	0.021	0.700	0.761
Had diarrhea in the last two weeks	0.281	0.015	3559	4137	1.906	0.054	0.250	0.311
Treated with ORS	0.240	0.019	977	1161	1.307	0.078	0.202	0.278
Sought medical treatment for diarrhea	0.390	0.029	977	1161	1.734	0.074	0.332	0.448
Vaccination card seen	0.582	0.025	694	801	1.291	0.043	0.533	0.632
Received BCG vaccination	0.858	0.019	694	801	1.383	0.022	0.821	0.896
Received Penta vaccination (three doses)	0.765	0.022	694	801	1.358	0.029	0.720	0.809
Received polio vaccination (three doses)	0.696	0.025	694	801	1.412	0.036	0.646	0.747
Received measles vaccination	0.744	0.022	694	801	1.302	0.030	0.700	0.788
Received all vaccinations	0.588	0.025	694	801	1.310	0.043	0.538	0.639
Received pnemococcal vaccination (3 doses)	0.524	0.027	694	801	1.398	0.052	0.469	0.578
Height-for-age (-2SD)	0.337	0.013	3221	3813	1.449	0.038	0.311	0.362
Weight-for-height (-2SD)	0.144	0.009	3221	3813	1.365	0.061	0.127	0.162
Weight-for-age (-2SD)	0.289	0.013	3221	3813	1.510	0.045	0.264	0.315
Body mass index (BMI) < 18.5	0.171	0.007	6406	7672	1.579	0.043	0.156	0.186
Prevalence of anemia (children)	0.812	0.018	894	1063	1.317	0.022	0.777	0.848
Prevalence of anemia (women)	0.655	0.015	2081	2490	1.492	0.024	0.624	0.686
Total fertility rate (three years)	3.201	0.087	20358	24092	1.259	0.027	3.027	3.374
Neonatal mortality rate (last 0-4 years)	21.397	1.985	7470	8585	1.164	0.093	17.427	25.367
Postneonatal mortality rate (last 0-4 years)	14.734	1.985	7480	8583	1.351	0.135	10.764	18.704
Infant mortality rate (last 0-4 years)	36.131	2.789	7477	8596	1.199	0.077	30.553	41.708
Child mortality rate (last 0-4 years)	8.312	1.332	7460	8598	1.104	0.160	5.647	10.977
Under-5 mortality rate (last 0-4 years)	44.142	3.301	7490	8610	1.269	0.075	37.541	50.744

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.000	0.000	18166	16815	NA	NA	0.000	0.000
Literacy	0.411	0.012	18166	16815	3.302	0.029	0.387	0.435
No education	0.532	0.011	18166	16815	3.093	0.022	0.509	0.555
Secondary or higher education	0.116	0.008	18166	16815	3.508	0.072	0.099	0.132
Never married (never in union)	0.331	0.006	18166	16815	1.808	0.019	0.319	0.344
Currently married (in union)	0.631	0.006	18166	16815	1.757	0.010	0.619	0.644
Married before age 20	0.625	0.008	13408	12449	1.817	0.012	0.610	0.640
Currently pregnant	0.095	0.003	18166	16815	1.413	0.032	0.089	0.101
Children ever born	2.690	0.036	18166	16815	1.514	0.013	2.619	2.762
Children surviving	2.445	0.031	18166	16815	1.441	0.013	2.384	2.507
Children ever born to women age 40-49	7.104	0.095	2429	2177	1.422	0.013	6.915	7.293
Knows any contraceptive method	0.976	0.004	11413	10617	2.658	0.004	0.968	0.983
Knows any modern contraceptive method	0.975	0.004	11413	10617	2.637	0.004	0.968	0.983
Currently using any method	0.270	0.008	11413	10617	2.005	0.031	0.253	0.286
Currently using a modern method	0.240	0.008	11413	10617	1.960	0.033	0.225	0.256
Currently using a traditional method	0.029	0.002	11413	10617	1.419	0.076	0.025	0.034
Currently using pill	0.090	0.005	11413	10617	1.875	0.056	0.080	0.100
Currently using condoms	0.002	0.000	11413	10617	1.081	0.213	0.001	0.003
Currently using injectables	0.046	0.003	11413	10617	1.771	0.075	0.039	0.053
Currently using female sterilization	0.019	0.002	11413	10617	1.361	0.092	0.015	0.022
Currently using rhythm	0.010	0.001	11413	10617	1.482	0.141	0.007	0.012
Currently using withdrawal	0.019	0.002	11413	10617	1.308	0.089	0.015	0.022
Used public sector source	0.525	0.017	2275	2092	1.602	0.032	0.492	0.559
Want no more children	0.423	0.008	11413	10617	1.702	0.019	0.407	0.438
Want to delay birth at least two years	0.233	0.006	11413	10617	1.410	0.024	0.222	0.244
Ideal number of children	4.493	0.051	10611	9963	1.963	0.011	4.392	4.594
Mothers protected against tetanus for last birth	0.238	0.010	7894	7292	2.159	0.043	0.217	0.259
Births with skilled attendant at delivery	0.341	0.014	12390	11579	2.624	0.040	0.314	0.368
Had diarrhea in the last two weeks	0.324	0.007	11824	11033	1.601	0.023	0.309	0.339
Treated with ORS	0.257	0.010	3793	3572	1.295	0.039	0.237	0.277
Sought medical treatment for diarrhea	0.309	0.012	3793	3572	1.431	0.039	0.285	0.332
Vaccination card seen	0.431	0.017	2359	2227	1.635	0.038	0.398	0.465
Received BCG vaccination	0.610	0.018	2359	2227	1.753	0.029	0.575	0.645
Received Penta vaccination (three doses)	0.536	0.018	2359	2227	1.720	0.033	0.501	0.571
Received polio vaccination (three doses)	0.548	0.017	2359	2227	1.623	0.030	0.515	0.581
Received measles vaccination	0.594	0.016	2359	2227	1.593	0.027	0.562	0.626
Received all vaccinations	0.367	0.017	2359	2227	1.719	0.046	0.333	0.401
Received pnemococcal vaccination (3 doses)	0.334	0.016	2359	2227	1.658	0.048	0.302	0.366
Height-for-age (-2SD)	0.514	0.008	10793	10010	1.556	0.016	0.498	0.531
Weight-for-height (-2SD)	0.170	0.006	10793	10010	1.473	0.033	0.159	0.181
Weight-for-age (-2SD)	0.429	0.008	10793	10010	1.519	0.019	0.412	0.445
Body Mass Index (BMI) < 18.5	0.290	0.007	15661	14535	2.023	0.025	0.276	0.305
Prevalence of anemia (children)	0.883	0.008	2965	2722	1.220	0.009	0.868	0.898
Prevalence of anemia (women)	0.732	0.010	5299	4922	1.588	0.013	0.712	0.751
Total fertility rate (3 years)	5.091	0.119	49667	46064	2.053	0.023	4.852	5.329
Neonatal mortality rate (last 0-4 years)	28.422	1.475	24967	23323	1.271	0.052	25.472	31.372
Post-neonatal mortality rate (last 0-4 years)	22.487	1.559	24985	23333	1.552	0.069	19.369	25.605
Infant mortality rate (last 0-4 years)	50.909	2.266	24993	23351	1.472	0.045	46.376	55.441
Child mortality rate (last 0-4 years)	12.222	0.948	24816	23097	1.285	0.078	10.327	14.118
Under-five mortality rate (last 0-4 years)	62.509	2.556	25050	23404	1.504	0.041	57.397	67.620

Table B.5 Sampling errors: Ibb sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.213	0.016	1494	2739	1.507	0.075	0.181	0.245
Literacy	0.539	0.028	1494	2739	2.132	0.051	0.484	0.594
No education	0.411	0.025	1494	2739	1.951	0.061	0.361	0.461
Secondary or higher education	0.155	0.021	1494	2739	2.222	0.135	0.113	0.196
Never married (never in union)	0.346	0.020	1494	2739	1.588	0.057	0.307	0.385
Currently married (in union)	0.613	0.019	1494	2739	1.489	0.031	0.575	0.650
Married before age 20	0.658	0.023	1081	1978	1.576	0.035	0.612	0.703
Currently pregnant	0.088	0.009	1494	2739	1.257	0.105	0.069	0.106
Children ever born	2.550	0.101	1494	2739	1.254	0.040	2.347	2.752
Children surviving	2.319	0.083	1494	2739	1.150	0.036	2.153	2.486
Children ever born to women age 40-49	7.679	0.278	169	306	1.171	0.036	7.123	8.234
Knows any contraceptive method	0.988	0.004	915	1678	1.204	0.004	0.980	0.997
Knows any modern contraceptive method	0.988	0.004	915	1678	1.204	0.004	0.980	0.997
Currently using any method	0.327	0.022	915	1678	1.407	0.067	0.283	0.371
Currently using a modern method	0.307	0.021	915	1678	1.405	0.070	0.264	0.350
Currently using a traditional method	0.020	0.005	915	1678	1.098	0.254	0.010	0.030
Currently using pill	0.120	0.016	915	1678	1.444	0.130	0.089	0.151
Currently using condoms	0.003	0.002	915	1678	0.972	0.546	0.000	0.007
Currently using injectables	0.069	0.013	915	1678	1.572	0.191	0.043	0.095
Currently using female sterilization	0.028	0.006	915	1678	1.127	0.221	0.016	0.040
Currently using rhythm	0.009	0.003	915	1678	1.133	0.404	0.002	0.015
Currently using withdrawal	0.010	0.003	915	1678	1.088	0.367	0.003	0.017
Used public sector source	0.518	0.044	265	492	1.428	0.085	0.430	0.606
Want no more children	0.401	0.018	915	1678	1.116	0.045	0.364	0.437
Want to delay birth at least 2 years	0.199	0.015	915	1678	1.167	0.077	0.169	0.230
Ideal number of children	4.073	0.141	721	1333	1.510	0.035	3.791	4.356
Mothers protected against tetanus for last birth	0.279	0.030	627	1147	1.696	0.109	0.218	0.339
Births with skilled attendant at delivery	0.424	0.035	953	1738	1.780	0.082	0.355	0.494
Had diarrhea in the last two weeks	0.377	0.024	902	1644	1.404	0.064	0.329	0.425
Treated with ORS	0.226	0.025	338	619	1.001	0.111	0.176	0.276
Sought medical treatment for diarrhea	0.320	0.031	338	619	1.079	0.097	0.258	0.382
Vaccination card seen	0.441	0.055	189	344	1.502	0.125	0.331	0.551
Received BCG vaccination	0.641	0.051	189	344	1.441	0.080	0.539	0.744
Received penta vaccination (three doses)	0.509	0.056	189	344	1.522	0.110	0.397	0.622
Received polio vaccination (three doses)	0.600	0.045	189	344	1.257	0.075	0.509	0.690
Received measles vaccination	0.591	0.049	189	344	1.356	0.083	0.492	0.689
Received all vaccinations	0.414	0.055	189	344	1.511	0.132	0.305	0.524
Received pnuemococcal vaccination (3 doses)	0.346	0.058	189	344	1.659	0.168	0.230	0.463
Height-for-age (-2SD)	0.473	0.027	867	1555	1.468	0.057	0.419	0.527
Weight-for-height (-2SD)	0.109	0.013	867	1555	1.160	0.117	0.083	0.134
Weight-for-age (-2SD)	0.307	0.021	867	1555	1.202	0.069	0.265	0.349
Body mass index (BMI) < 18.5	0.202	0.018	1316	2410	1.605	0.088	0.166	0.237
Prevalence of anemia (children)	0.743	0.025	200	358	0.791	0.034	0.692	0.793
Prevalence of anemia (women)	0.463	0.031	421	778	1.294	0.068	0.400	0.526
Total fertility rate (three years)	4.820	0.296	4137	7589	1.363	0.061	4.228	5.411
Neonatal mortality rate (last 0-4 years)	28.454	5.355	1921	3500	1.230	0.188	17.744	39.165
Post-neonatal mortality rate (last 0-4 years)	22.599	5.432	1914	3485	1.463	0.240	11.736	33.463
Infant mortality rate (last 0-4 years)	51.053	9.240	1921	3500	1.554	0.181	32.574	69.533
Child mortality rate (last 0-4 years)	11.200	2.614	1896	3455	0.961	0.233	5.971	16.429
Under-5 mortality rate (last 0-4 years)	61.682	9.874	1923	3504	1.525	0.160	41.935	81.429

Table B.6 Sampling errors: Abyan sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.269	0.034	1169	551	2.630	0.127	0.200	0.337
Literacy	0.627	0.035	1169	551	2.489	0.056	0.557	0.698
No education	0.288	0.035	1169	551	2.636	0.121	0.218	0.359
Secondary or higher education	0.221	0.038	1169	551	3.121	0.172	0.145	0.297
Never married (never in union)	0.374	0.019	1169	551	1.364	0.052	0.335	0.412
Currently married (in union)	0.591	0.017	1169	551	1.182	0.029	0.557	0.625
Married before age 20	0.417	0.042	898	436	2.567	0.102	0.332	0.502
Currently pregnant	0.061	0.008	1169	551	1.149	0.132	0.045	0.077
Children ever born	1.994	0.103	1169	551	1.361	0.052	1.787	2.201
Children surviving	1.878	0.098	1169	551	1.370	0.052	1.682	2.075
Children ever born to women age 40-49	4.845	0.335	188	90	1.411	0.069	4.176	5.515
Knows any contraceptive method	0.990	0.004	700	326	1.047	0.004	0.983	0.998
Knows any modern contraceptive method	0.990	0.004	700	326	1.047	0.004	0.983	0.998
Currently using any method	0.324	0.028	700	326	1.593	0.087	0.267	0.380
Currently using a modern method	0.295	0.025	700	326	1.432	0.084	0.246	0.345
Currently using a traditional method	0.029	0.008	700	326	1.232	0.271	0.013	0.044
Currently using pill	0.155	0.024	700	326	1.774	0.157	0.106	0.203
Currently using condoms	0.003	0.002	700	326	1.006	0.724	0.000	0.007
Currently using injectables	0.028	0.007	700	326	1.053	0.235	0.015	0.041
Currently using female sterilization	0.007	0.004	700	326	1.149	0.525	0.000	0.014
Currently using rhythm	0.012	0.004	700	326	1.102	0.383	0.003	0.021
Currently using withdrawal	0.017	0.005	700	326	1.038	0.298	0.007	0.027
Used public sector source	0.760	0.054	147	77	1.530	0.072	0.651	0.868
Want no more children	0.316	0.035	700	326	1.998	0.111	0.246	0.387
Want to delay birth at least two years	0.246	0.024	700	326	1.481	0.098	0.198	0.294
Ideal number of children	4.580	0.119	675	312	1.366	0.026	4.341	4.818
Mothers protected against tetanus for last birth	0.193	0.028	442	207	1.501	0.146	0.137	0.250
Births with skilled attendant at delivery	0.740	0.039	649	309	1.828	0.052	0.663	0.817
Had diarrhea in the last two weeks	0.261	0.019	628	300	0.969	0.073	0.223	0.299
Treated with ORS	0.263	0.060	167	78	1.471	0.230	0.142	0.384
Sought medical treatment for diarrhea	0.531	0.048	167	78	1.063	0.091	0.434	0.627
Vaccination card seen	0.402	0.052	134	63	1.208	0.128	0.299	0.506
Received BCG vaccination	0.628	0.061	134	63	1.428	0.097	0.507	0.749
Received penta vaccination (three doses)	0.506	0.069	134	63	1.582	0.137	0.367	0.644
Received polio vaccination (three doses)	0.559	0.059	134	63	1.348	0.105	0.442	0.677
Received measles vaccination	0.496	0.061	134	63	1.388	0.122	0.375	0.618
Received all vaccinations	0.440	0.060	134	63	1.382	0.136	0.320	0.560
Received pnemococcal vaccination (three doses)	0.317	0.055	134	63	1.369	0.175	0.206	0.428
Height-for-age (-2SD)	0.234	0.022	587	284	1.301	0.096	0.189	0.279
Weight-for-height (-2SD)	0.216	0.022	587	284	1.293	0.100	0.173	0.259
Weight-for-age (-2SD)	0.264	0.024	587	284	1.234	0.091	0.216	0.312
Body mass index (BMI) < 18.5	0.213	0.024	1033	493	1.920	0.114	0.164	0.261
Prevalence of anemia (children)	0.978	0.011	163	82	0.964	0.011	0.957	0.999
Prevalence of anemia (women)	0.924	0.015	336	155	1.038	0.016	0.893	0.954
Total fertility rate (three years)	4.044	0.231	3271	1554	0.939	0.057	3.582	4.507
Neonatal mortality rate (last 0-4 years)	26.595	8.005	1257	575	1.464	0.301	10.586	42.604
Post-neonatal mortality rate (last 0-4 years)	14.573	3.713	1262	578	1.056	0.255	7.148	21.998
Infant mortality rate (last 0-4 years)	41.168	7.741	1258	576	1.226	0.188	25.686	56.651
Child mortality rate (last 0-4 years)	8.181	3.302	1232	555	1.086	0.404	1.577	14.784
Under-5e mortality rate (last 0-4 years)	49.012	8.344	1261	577	1.215	0.170	32.324	65.700

Table B.7 Sampling errors: Sana'a City sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	1.000	0.000	1578	2487	NA	0.000	1.000	1.000
Literacy	0.806	0.018	1578	2487	1.835	0.023	0.770	0.843
No education	0.186	0.018	1578	2487	1.820	0.096	0.150	0.221
Secondary or higher education	0.482	0.027	1578	2487	2.172	0.057	0.427	0.537
Never married (never in union)	0.362	0.016	1578	2487	1.310	0.044	0.330	0.394
Currently married (in union)	0.607	0.016	1578	2487	1.298	0.026	0.575	0.639
Married before age 20	0.533	0.019	1259	1975	1.366	0.036	0.495	0.572
Currently pregnant	0.066	0.008	1578	2487	1.255	0.119	0.050	0.082
Children ever born	2.113	0.090	1578	2487	1.389	0.043	1.933	2.294
Children surviving	1.982	0.081	1578	2487	1.353	0.041	1.820	2.144
Children ever born to women age 40-49	6.190	0.352	150	232	1.384	0.057	5.487	6.894
Knows any contraceptive method	1.000	0.000	936	1510	NA	0.000	1.000	1.000
Knows any modern contraceptive method	1.000	0.000	936	1510	NA	0.000	1.000	1.000
Currently using any method	0.562	0.025	936	1510	1.518	0.044	0.513	0.611
Currently using a modern method	0.481	0.021	936	1510	1.278	0.043	0.439	0.522
Currently using a traditional method	0.081	0.010	936	1510	1.105	0.122	0.061	0.101
Currently using pill	0.196	0.017	936	1510	1.324	0.088	0.162	0.231
Currently using condoms	0.016	0.004	936	1510	1.072	0.275	0.007	0.025
Currently using injectables	0.019	0.004	936	1510	0.804	0.188	0.012	0.026
Currently using female sterilization	0.034	0.007	936	1510	1.122	0.195	0.021	0.048
Currently using rhythm	0.022	0.005	936	1510	0.987	0.213	0.013	0.032
Currently using withdrawal	0.059	0.008	936	1510	0.977	0.128	0.044	0.074
Used public sector source	0.527	0.033	422	669	1.340	0.062	0.462	0.592
Want no more children	0.388	0.013	936	1510	0.833	0.034	0.361	0.414
Want to delay birth at least two years	0.284	0.015	936	1510	1.000	0.052	0.254	0.313
Ideal number of children	3.650	0.063	972	1562	1.110	0.017	3.525	3.775
Mothers protected against tetanus for last birth	0.338	0.021	574	933	1.082	0.062	0.296	0.380
Births with skilled attendant at delivery	0.748	0.022	777	1280	1.241	0.030	0.704	0.792
Had diarrhea in the last two weeks	0.240	0.023	753	1242	1.458	0.098	0.193	0.287
Treated with ORS	0.194	0.037	178	298	1.231	0.192	0.119	0.269
Sought medical treatment for diarrhea	0.310	0.048	178	298	1.409	0.156	0.213	0.407
Vaccination card seen	0.560	0.042	151	244	1.046	0.075	0.476	0.644
Received BCG vaccination	0.920	0.031	151	244	1.424	0.034	0.858	0.982
Received penta vaccination (three doses)	0.881	0.031	151	244	1.205	0.036	0.819	0.944
Received polio vaccination (three doses)	0.737	0.040	151	244	1.126	0.054	0.657	0.817
Received measles vaccination	0.761	0.031	151	244	0.906	0.041	0.699	0.823
Received all vaccinations	0.595	0.035	151	244	0.893	0.059	0.524	0.666
Received pnuemococcal vaccination (three doses)	0.542	0.041	151	244	1.022	0.076	0.459	0.624
Height-for-age (-2SD)	0.307	0.021	707	1180	1.195	0.070	0.264	0.349
Weight-for-height (-2SD)	0.112	0.014	707	1180	1.122	0.122	0.085	0.139
Weight-for-age (-2SD)	0.228	0.023	707	1180	1.386	0.100	0.182	0.274
Body mass index (BMI) < 18.5	0.157	0.013	1426	2235	1.329	0.082	0.131	0.183
Prevalence of anemia (children)	0.761	0.039	185	318	1.205	0.051	0.683	0.838
Prevalence of anemia (women)	0.585	0.023	439	695	0.966	0.039	0.540	0.630
Total fertility rate (three years)	3.060	0.195	4495	7075	1.182	0.064	2.670	3.450
Neonatal mortality rate (last 0-4 years)	21.766	3.359	1581	2605	0.949	0.154	15.048	28.484
Postneonatal mortality rate (last 0-4 years)	9.959	2.993	1579	2602	1.218	0.301	3.974	15.945
Infant mortality rate (last 0-4 years)	31.726	4.526	1583	2609	0.997	0.143	22.673	40.778
Child mortality rate (last 0-4 years)	5.389	2.004	1569	2592	1.069	0.372	1.380	9.397
Under-5 mortality rate (last 0-4 years)	36.943	4.872	1586	2613	1.010	0.132	27.199	46.687

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.384	0.153	1585	1101	11.915	0.397	0.079	0.689
Literacy	0.588	0.038	1585	1101	3.072	0.065	0.512	0.664
No education	0.340	0.051	1585	1101	4.240	0.149	0.239	0.442
Secondary or higher education	0.105	0.018	1585	1101	2.304	0.169	0.070	0.141
Never married (never in union)	0.303	0.011	1585	1101	0.994	0.038	0.280	0.326
Currently married (in union)	0.637	0.015	1585	1101	1.252	0.024	0.607	0.668
Married before age 20	0.708	0.015	1147	802	1.137	0.022	0.677	0.738
Currently pregnant	0.084	0.011	1585	1101	1.527	0.126	0.063	0.106
Children ever born	2.642	0.120	1585	1101	1.614	0.046	2.401	2.882
Children surviving	2.430	0.109	1585	1101	1.610	0.045	2.213	2.647
Children ever born to women age 40-49	6.768	0.148	211	175	0.729	0.022	6.471	7.065
Knows any contraceptive method	0.983	0.010	1024	702	2.447	0.010	0.963	1.003
Knows any modern contraceptive method	0.983	0.010	1024	702	2.447	0.010	0.963	1.003
Currently using any method	0.339	0.026	1024	702	1.723	0.075	0.288	0.390
Currently using a modern method	0.302	0.022	1024	702	1.532	0.073	0.258	0.346
Currently using a traditional method	0.037	0.009	1024	702	1.484	0.237	0.019	0.054
Currently using pill	0.122	0.029	1024	702	2.794	0.235	0.065	0.180
Currently using condoms	0.004	0.002	1024	702	1.115	0.585	0.000	0.008
Currently using injectables	0.059	0.011	1024	702	1.467	0.184	0.037	0.080
Currently using female sterilization	0.012	0.005	1024	702	1.546	0.445	0.001	0.022
Currently using rhythm	0.002	0.001	1024	702	0.947	0.739	0.000	0.004
Currently using withdrawal	0.035	0.009	1024	702	1.564	0.259	0.017	0.052
Used public sector source	0.451	0.041	269	187	1.348	0.091	0.369	0.533
Want no more children	0.420	0.051	1024	702	3.295	0.122	0.318	0.523
Want to delay birth at least two years	0.287	0.022	1024	702	1.533	0.076	0.244	0.330
Ideal number of children	4.090	0.092	780	567	1.195	0.023	3.905	4.274
Mothers protected against tetanus for last birth	0.156	0.020	655	446	1.414	0.131	0.115	0.196
Births with skilled attendant at delivery	0.612	0.057	948	643	3.054	0.093	0.498	0.725
Had diarrhea in the last two weeks	0.401	0.038	898	604	2.199	0.096	0.324	0.477
Treated with ORS	0.219	0.029	319	242	1.217	0.133	0.161	0.277
Sought medical treatment for diarrhea	0.400	0.083	319	242	2.827	0.208	0.233	0.567
Vaccination card seen	0.312	0.049	189	120	1.367	0.157	0.214	0.409
Received BCG vaccination	0.508	0.066	189	120	1.719	0.130	0.376	0.640
Received penta vaccination (three doses)	0.345	0.053	189	120	1.436	0.153	0.240	0.450
Received polio vaccination (three doses)	0.381	0.047	189	120	1.261	0.124	0.287	0.475
Received measles vaccination	0.415	0.050	189	120	1.328	0.122	0.314	0.516
Received all vaccinations	0.261	0.059	189	120	1.757	0.228	0.142	0.380
Received Pnuemococcal vaccination (three doses)	0.197	0.031	189	120	1.025	0.160	0.134	0.260
Height-for-age (-2SD)	0.356	0.033	813	543	1.860	0.094	0.289	0.423
Weight-for-height (-2SD)	0.136	0.022	813	543	1.724	0.162	0.092	0.180
Weight-for-age (-2SD)	0.295	0.031	813	543	1.767	0.104	0.234	0.357
Body mass index (BMI) < 18.5	0.109	0.016	1370	958	1.874	0.144	0.078	0.141
Prevalence of anemia (children)	0.837	0.018	241	184	0.946	0.022	0.800	0.873
Prevalence of anemia (women)	0.545	0.052	460	318	2.242	0.096	0.440	0.649
Total fertility rate (three years)	3.949	0.262	4343	3012	1.421	0.066	3.424	4.474
Neonatal mortality rate (last 0-4 years)	29.861	4.317	1938	1260	0.964	0.145	21.226	38.495
Postneonatal mortality rate (last 0-4 years)	31.897	4.034	1952	1262	0.920	0.126	23.829	39.965
Infant mortality rate (last 0-4 years)	61.758	4.368	1940	1261	0.720	0.071	53.022	70.494
Child mortality rate (last 0-4 years)	9.080	3.145	1965	1274	1.218	0.346	2.789	15.370
Under-5 mortality rate (last 0-4 years)	70.277	5.429	1944	1263	0.804	0.077	59.420	81.135

Table B.9 Sampling errors: Taiz sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.260	0.030	1561	3512	2.664	0.114	0.201	0.320
Literacy	0.591	0.037	1561	3512	2.927	0.062	0.518	0.664
No education	0.340	0.030	1561	3512	2.488	0.088	0.280	0.399
Secondary or higher education	0.321	0.031	1561	3512	2.644	0.098	0.259	0.384
Never married (never in union)	0.375	0.017	1561	3512	1.394	0.046	0.341	0.409
Currently married (in union)	0.585	0.018	1561	3512	1.438	0.031	0.549	0.620
Married before age 20	0.564	0.020	1161	2612	1.349	0.035	0.525	0.603
Currently pregnant	0.078	0.009	1561	3512	1.302	0.114	0.060	0.095
Children ever born	2.304	0.093	1561	3512	1.249	0.040	2.118	2.490
Children surviving	2.113	0.081	1561	3512	1.187	0.038	1.952	2.275
Children ever born to women age 40-49	6.534	0.313	194	443	1.304	0.048	5.908	7.159
Knows any contraceptive method	0.984	0.015	920	2053	3.565	0.015	0.955	1.014
Knows any modern contraceptive method	0.984	0.015	920	2053	3.565	0.015	0.955	1.014
Currently using any method	0.314	0.023	920	2053	1.528	0.075	0.267	0.361
Currently using a modern method	0.277	0.021	920	2053	1.410	0.075	0.235	0.318
Currently using a traditional method	0.037	0.007	920	2053	1.199	0.201	0.022	0.052
Currently using pill	0.089	0.013	920	2053	1.397	0.147	0.063	0.115
Currently using condoms	0.003	0.002	920	2053	0.974	0.578	0.000	0.007
Currently using injectables	0.044	0.010	920	2053	1.536	0.237	0.023	0.064
Currently using female sterilization	0.013	0.004	920	2053	1.019	0.292	0.005	0.021
Currently using rhythm	0.020	0.005	920	2053	1.106	0.256	0.010	0.030
Currently using withdrawal	0.017	0.005	920	2053	1.084	0.276	0.007	0.026
Used public sector source	0.512	0.045	193	415	1.254	0.089	0.421	0.602
Want no more children	0.408	0.027	920	2053	1.650	0.066	0.354	0.461
Want to delay birth at least two years	0.282	0.017	920	2053	1.135	0.060	0.248	0.316
Ideal number of children	4.570	0.158	963	2148	1.739	0.034	4.255	4.885
Mothers protected against tetanus for last birth	0.319	0.032	572	1274	1.629	0.100	0.255	0.383
Births with skilled attendant at delivery	0.415	0.034	899	1994	1.658	0.082	0.346	0.483
Had diarrhea in the last two weeks	0.347	0.018	858	1910	1.007	0.051	0.311	0.382
Treated with ORS	0.182	0.024	299	663	1.015	0.132	0.134	0.230
Sought medical treatment for diarrhea	0.224	0.030	299	663	1.087	0.135	0.163	0.284
Vaccination card seen	0.459	0.048	180	402	1.272	0.105	0.363	0.555
Received BCG vaccination	0.716	0.048	180	402	1.393	0.067	0.620	0.811
Received Penta vaccination (three doses)	0.757	0.041	180	402	1.285	0.055	0.675	0.840
Received polio vaccination (three doses)	0.714	0.041	180	402	1.220	0.058	0.631	0.797
Received measles vaccination	0.740	0.033	180	402	0.984	0.044	0.674	0.806
Received all vaccinations	0.512	0.051	180	402	1.336	0.099	0.411	0.613
Received pnemococcal vaccination (three doses)	0.428	0.045	180	402	1.193	0.105	0.339	0.518
Height-for-age (-2SD)	0.468	0.020	837	1873	1.025	0.042	0.428	0.507
Weight-for-height (-2SD)	0.146	0.012	837	1873	0.965	0.085	0.121	0.171
Weight-for-age (-2SD)	0.401	0.024	837	1873	1.260	0.060	0.353	0.450
Body mass index (BMI) < 18.5	0.286	0.018	1405	3153	1.525	0.064	0.249	0.323
Prevalence of anemia (children)	0.790	0.030	226	513	1.134	0.038	0.729	0.850
Prevalence of anemia (women)	0.633	0.029	445	1017	1.263	0.045	0.575	0.690
Total fertility rate (three years)	4.006	0.296	4298	9657	1.644	0.074	3.414	4.599
Neonatal mortality rate (last 0-4 years)	29.308	4.484	1780	3944	0.980	0.153	20.341	38.276
Postneonatal mortality rate (last 0-4 years)	21.739	4.282	1781	3948	1.101	0.197	13.175	30.303
Infant mortality rate (last 0-4 years)	51.047	6.211	1784	3953	1.060	0.122	38.626	63.469
Child mortality rate (last 0-4 years)	9.592	2.578	1757	3911	1.059	0.269	4.435	14.749
Under-5 mortality rate (last 0-4 years)	60.149	7.027	1785	3956	1.104	0.117	46.095	74.203

Table B.10 Sampling errors: Al-Jawf sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.320	0.084	654	181	4.515	0.262	0.152	0.487
Literacy	0.511	0.030	654	181	1.512	0.058	0.452	0.570
No education	0.440	0.031	654	181	1.608	0.071	0.378	0.503
Secondary or higher education	0.221	0.045	654	181	2.747	0.203	0.131	0.311
Never married (never in union)	0.221	0.025	654	181	1.515	0.111	0.172	0.271
Currently married (in union)	0.686	0.030	654	181	1.649	0.044	0.626	0.746
Married before age 20	0.721	0.030	504	141	1.510	0.042	0.660	0.781
Currently pregnant	0.082	0.010	654	181	0.889	0.116	0.063	0.101
Children ever born	2.916	0.171	654	181	1.461	0.058	2.575	3.257
Children surviving	2.783	0.167	654	181	1.498	0.060	2.449	3.118
Children ever born to women age 40-49	7.301	0.191	94	25	0.793	0.026	6.919	7.684
Knows any contraceptive method	0.982	0.007	427	124	1.162	0.008	0.967	0.997
Knows any modern contraceptive method	0.982	0.007	427	124	1.162	0.008	0.967	0.997
Currently using any method	0.263	0.052	427	124	2.406	0.196	0.160	0.367
Currently using a modern method	0.260	0.052	427	124	2.414	0.199	0.156	0.363
Currently using a traditional method	0.004	0.003	427	124	0.931	0.730	0.000	0.009
Currently using pill	0.107	0.039	427	124	2.585	0.364	0.029	0.185
Currently using condoms	0.001	0.001	427	124	0.535	1.035	0.000	0.002
Currently using injectables	0.079	0.012	427	124	0.912	0.151	0.055	0.103
Currently using female sterilization	0.001	0.001	427	124	0.810	1.025	0.000	0.004
Currently using rhythm	0.002	0.002	427	124	1.001	1.002	0.000	0.007
Currently using withdrawal	0.001	0.002	427	124	0.816	1.034	0.000	0.004
Used public sector source	0.098	0.048	84	29	1.459	0.489	0.002	0.194
Want no more children	0.340	0.016	427	124	0.718	0.048	0.307	0.373
Want to delay birth at least two years	0.262	0.035	427	124	1.636	0.133	0.192	0.332
Ideal number of children	5.161	0.204	447	132	1.371	0.040	4.753	5.569
Mothers protected against tetanus for last birth	0.105	0.028	326	95	1.673	0.264	0.050	0.160
Births with skilled attendant at delivery	0.538	0.083	497	144	3.312	0.155	0.371	0.704
Had diarrhea in the last two weeks	0.357	0.038	476	140	1.731	0.106	0.281	0.433
Treated with ORS	0.516	0.078	157	50	2.023	0.151	0.360	0.672
Sought medical treatment for diarrhea	0.585	0.052	157	50	1.369	0.090	0.480	0.690
Vaccination card seen	0.140	0.052	85	24	1.399	0.368	0.037	0.244
Received BCG vaccination	0.408	0.070	85	24	1.341	0.172	0.268	0.548
Received penta vaccination (three doses)	0.208	0.058	85	24	1.349	0.280	0.092	0.324
Received polio vaccination (three doses)	0.202	0.051	85	24	1.200	0.254	0.100	0.304
Received measles vaccination	0.293	0.063	85	24	1.307	0.216	0.166	0.419
Received all vaccinations	0.158	0.054	85	24	1.389	0.341	0.051	0.266
Received pnemococcal vaccination (three doses)	0.089	0.033	85	24	1.102	0.376	0.022	0.155
Height-for-age (-2SD)	0.571	0.048	447	130	2.024	0.085	0.474	0.668
Weight-for-height (-2SD)	0.121	0.014	447	130	0.917	0.115	0.093	0.149
Weight-for-age (-2SD)	0.370	0.038	447	130	1.423	0.102	0.295	0.446
Body mass index (BMI) < 18.5	0.203	0.036	566	158	2.129	0.177	0.131	0.275
Prevalence of anemia (children)	0.987	0.009	121	35	0.864	0.009	0.970	1.005
Prevalence of anemia (women)	0.882	0.024	199	59	1.067	0.027	0.834	0.929
Total fertility rate (three years)	5.772	0.693	1796	497	1.966	0.120	4.385	7.159
Neonatal mortality rate (last 0-4 years)	14.954	5.071	984	278	1.042	0.339	4.811	25.096
Postneonatal mortality rate (last 0-4 years)	11.168	5.199	989	279	1.421	0.466	0.770	21.566
Infant mortality rate (last 0-4 years)	26.122	9.434	984	278	1.446	0.361	7.253	44.990
Child mortality rate (last 0-4 years)	6.112	3.005	976	275	1.077	0.492	0.102	12.122
Under-5 mortality rate (last 0-4 years)	32.074	10.557	985	279	1.511	0.329	10.960	53.188

Table B.11 Sampling errors: Hajjah sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.129	0.013	1236	1374	1.327	0.098	0.104	0.154
Literacy	0.289	0.031	1236	1374	2.422	0.108	0.226	0.352
No education	0.671	0.032	1236	1374	2.419	0.048	0.607	0.736
Secondary or higher education	0.121	0.017	1236	1374	1.853	0.142	0.086	0.155
Never married (never in union)	0.349	0.020	1236	1374	1.440	0.056	0.310	0.388
Currently married (in union)	0.631	0.020	1236	1374	1.467	0.032	0.591	0.672
Married before age 20	0.573	0.024	949	1052	1.520	0.043	0.524	0.622
Currently pregnant	0.093	0.012	1236	1374	1.418	0.126	0.070	0.117
Children ever born	2.931	0.111	1236	1374	1.184	0.038	2.709	3.153
Children surviving	2.734	0.098	1236	1374	1.138	0.036	2.538	2.931
Children ever born to women age 40-49	7.323	0.281	161	175	1.064	0.038	6.762	7.885
Knows any contraceptive method	0.960	0.011	790	867	1.521	0.011	0.939	0.981
Knows any modern contraceptive method	0.959	0.011	790	867	1.495	0.011	0.938	0.980
Currently using any method	0.171	0.024	790	867	1.760	0.138	0.124	0.218
Currently using a modern method	0.164	0.022	790	867	1.655	0.133	0.121	0.208
Currently using a traditional method	0.006	0.004	790	867	1.465	0.651	0.000	0.015
Currently using pill	0.063	0.012	790	867	1.409	0.193	0.039	0.088
Currently using condoms	0.002	0.002	790	867	1.098	1.000	0.000	0.005
Currently using injectables	0.057	0.011	790	867	1.338	0.194	0.035	0.079
Currently using female sterilization	0.016	0.005	790	867	1.153	0.318	0.006	0.027
Currently using rhythm	0.005	0.003	790	867	1.208	0.601	0.000	0.011
Currently using withdrawal	0.001	0.001	790	867	0.996	0.994	0.000	0.004
Used public sector source	0.666	0.056	117	133	1.269	0.084	0.555	0.778
Want no more children	0.558	0.022	790	867	1.234	0.039	0.514	0.601
Want to delay birth at least two years	0.158	0.017	790	867	1.290	0.106	0.124	0.192
Ideal number of children	4.126	0.128	790	870	1.261	0.031	3.870	4.382
Mothers protected against tetanus for last birth	0.316	0.034	563	620	1.732	0.108	0.248	0.385
Births with skilled attendant at delivery	0.201	0.026	922	1019	1.685	0.128	0.150	0.253
Had diarrhea in the last two weeks	0.294	0.016	891	983	1.049	0.056	0.261	0.327
Treated with ORS	0.205	0.027	265	289	1.053	0.132	0.151	0.259
Sought medical treatment for diarrhea	0.205	0.024	265	289	0.913	0.118	0.156	0.253
Vaccination card seen	0.456	0.055	171	186	1.429	0.121	0.346	0.567
Received BCG vaccination	0.593	0.063	171	186	1.649	0.106	0.468	0.719
Received penta vaccination (three doses)	0.491	0.064	171	186	1.641	0.130	0.364	0.618
Received polio vaccination (three doses)	0.476	0.056	171	186	1.447	0.118	0.364	0.588
Received measles vaccination	0.562	0.063	171	186	1.646	0.113	0.435	0.689
Received all vaccinations	0.341	0.063	171	186	1.714	0.185	0.215	0.466
Received pnuemococcal vaccination (3 doses)	0.356	0.060	171	186	1.630	0.170	0.235	0.476
Height-for-age (-2SD)	0.588	0.028	833	926	1.558	0.048	0.531	0.644
Weight-for-height (-2SD)	0.211	0.020	833	926	1.343	0.094	0.172	0.251
Weight-for-age (-2SD)	0.550	0.024	833	926	1.312	0.044	0.502	0.599
Body mass index (BMI) < 18.5	0.400	0.021	1080	1202	1.418	0.053	0.357	0.442
Prevalence of anemia (children)	0.922	0.016	261	287	1.022	0.018	0.890	0.955
Prevalence of anemia (women)	0.815	0.023	408	462	1.220	0.029	0.768	0.861
Total fertility rate (three years)	5.530	0.451	3434	3809	1.853	0.082	4.627	6.432
Neonatal mortality rate (last 0-4 years)	20.323	3.914	1963	2163	1.025	0.193	12.494	28.152
Post-neonatal mortality rate (last 0-4 years)	12.282	3.036	1960	2159	1.112	0.247	6.209	18.354
Infant mortality rate (last 0-4 years)	32.605	5.361	1964	2164	1.105	0.164	21.882	43.328
Child mortality rate (last 0-4 years)	11.231	2.353	1974	2173	0.952	0.209	6.525	15.936
Under-5 mortality rate (last 0-4 years)	43.469	6.309	1972	2172	1.124	0.145	30.851	56.087

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.374	0.024	1366	3261	1.793	0.063	0.327	0.421
Literacy	0.418	0.031	1366	3261	2.285	0.073	0.357	0.479
No education	0.501	0.031	1366	3261	2.270	0.061	0.439	0.562
Secondary or higher education	0.177	0.027	1366	3261	2.619	0.153	0.122	0.231
Never married (never in union)	0.380	0.018	1366	3261	1.392	0.048	0.343	0.416
Currently married (in union)	0.580	0.018	1366	3261	1.357	0.031	0.543	0.616
Married before age 20	0.569	0.020	1035	2466	1.306	0.035	0.528	0.609
Currently pregnant	0.082	0.007	1366	3261	0.916	0.083	0.069	0.096
Children ever born	2.523	0.089	1366	3261	0.998	0.035	2.346	2.701
Children surviving	2.289	0.081	1366	3261	1.013	0.035	2.127	2.450
Children ever born to women age 40-49	6.802	0.303	170	399	1.058	0.045	6.196	7.409
Knows any contraceptive method	0.985	0.004	791	1891	1.039	0.005	0.976	0.994
Knows any modern contraceptive method	0.985	0.004	791	1891	1.039	0.005	0.976	0.994
Currently using any method	0.165	0.021	791	1891	1.622	0.130	0.122	0.208
Currently using a modern method	0.137	0.020	791	1891	1.661	0.148	0.097	0.178
Currently using a traditional method	0.028	0.006	791	1891	1.058	0.222	0.015	0.040
Currently using pill	0.074	0.011	791	1891	1.228	0.154	0.051	0.097
Currently using condoms	0.000	0.000	791	1891	NA	NA	0.000	0.000
Currently using injectables	0.018	0.005	791	1891	1.104	0.294	0.007	0.028
Currently using female sterilization	0.017	0.004	791	1891	0.923	0.250	0.008	0.025
Currently using rhythm	0.019	0.004	791	1891	0.811	0.209	0.011	0.026
Currently using withdrawal	0.005	0.003	791	1891	1.231	0.591	0.000	0.012
Used public sector source	0.442	0.053	101	257	1.074	0.121	0.336	0.549
Want no more children	0.442	0.024	791	1891	1.365	0.055	0.393	0.490
Want to delay birth at least two years	0.233	0.014	791	1891	0.953	0.062	0.204	0.261
Ideal number of children	4.573	0.105	769	1852	1.157	0.023	4.363	4.784
Mothers protected against tetanus for last birth	0.256	0.024	519	1257	1.280	0.095	0.207	0.304
Births with skilled attendant at delivery	0.489	0.046	842	2037	2.104	0.093	0.397	0.580
Had diarrhea in the last two weeks	0.288	0.026	799	1932	1.512	0.090	0.236	0.340
Treated with ORS	0.283	0.036	241	557	1.119	0.127	0.211	0.354
Sought medical treatment for diarrhea	0.445	0.048	241	557	1.347	0.109	0.348	0.542
Vaccination card seen	0.540	0.044	150	368	1.090	0.082	0.452	0.628
Received BCG vaccination	0.666	0.049	150	368	1.281	0.074	0.568	0.764
Received penta vaccination (three doses)	0.563	0.051	150	368	1.275	0.091	0.460	0.666
Received polio vaccination (three doses)	0.589	0.057	150	368	1.427	0.097	0.475	0.703
Received measles vaccination	0.652	0.050	150	368	1.290	0.076	0.552	0.751
Received all vaccinations	0.395	0.048	150	368	1.204	0.122	0.299	0.491
Received pnemococcal vaccination (three doses)	0.381	0.048	150	368	1.220	0.127	0.285	0.478
Height-for-age (-2SD)	0.486	0.024	739	1798	1.195	0.050	0.438	0.535
Weight-for-height (-2SD)	0.262	0.020	739	1798	1.191	0.076	0.223	0.302
Weight-for-age (-2SD)	0.544	0.025	739	1798	1.227	0.046	0.494	0.594
Body mass index (BMI) < 18.5	0.403	0.021	1206	2880	1.466	0.051	0.362	0.445
Prevalence of anemia (children)	0.940	0.019	201	478	0.996	0.020	0.902	0.979
Prevalence of anemia (women)	0.849	0.021	425	1014	1.206	0.025	0.807	0.891
Total fertility rate (three years)	4.441	0.305	3746	8936	1.495	0.069	3.832	5.050
Neonatal mortality rate (last 0-4 years)	28.774	4.539	1687	4055	0.990	0.158	19.695	37.852
Postneonatal mortality rate (last 0-4 years)	20.527	4.472	1691	4062	1.264	0.218	11.582	29.471
Infant mortality rate (last 0-4 years)	49.300	5.687	1690	4062	1.009	0.115	37.927	60.673
Child mortality rate (last 0-4 years)	17.670	3.284	1683	4024	0.968	0.186	11.103	24.238
Under-5 mortality rate (last 0-4 years)	66.099	7.478	1696	4074	1.167	0.113	51.144	81.054

Table B.13 Sampling errors: Hadramout sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.458	0.034	1283	1427	2.428	0.074	0.390	0.526
Literacy	0.654	0.040	1283	1427	2.970	0.061	0.575	0.733
No education	0.308	0.039	1283	1427	3.015	0.127	0.230	0.386
Secondary or higher education	0.179	0.023	1283	1427	2.174	0.130	0.133	0.226
Never married (never in union)	0.328	0.019	1283	1427	1.423	0.057	0.291	0.366
Currently married (in union)	0.620	0.018	1283	1427	1.337	0.029	0.583	0.656
Married before age 20	0.580	0.030	990	1092	1.922	0.052	0.520	0.641
Currently pregnant	0.069	0.007	1283	1427	1.023	0.105	0.054	0.083
Children ever born	2.420	0.062	1283	1427	0.798	0.025	2.297	2.543
Children surviving	2.298	0.062	1283	1427	0.858	0.027	2.173	2.422
Children ever born to women age 40-49	5.542	0.170	223	242	0.882	0.031	5.201	5.882
Knows any contraceptive method	0.972	0.011	796	884	1.948	0.012	0.949	0.995
Knows any modern contraceptive method	0.972	0.011	796	884	1.948	0.012	0.949	0.995
Currently using any method	0.373	0.024	796	884	1.417	0.065	0.325	0.422
Currently using a modern method	0.275	0.022	796	884	1.370	0.079	0.232	0.319
Currently using a traditional method	0.098	0.010	796	884	0.974	0.105	0.078	0.119
Currently using pill	0.154	0.021	796	884	1.626	0.135	0.113	0.196
Currently using condoms	0.005	0.003	796	884	1.084	0.567	0.000	0.010
Currently using injectables	0.016	0.008	796	884	1.803	0.504	0.000	0.032
Currently using female sterilization	0.013	0.003	796	884	0.762	0.237	0.007	0.019
Currently using rhythm	0.055	0.008	796	884	1.047	0.154	0.038	0.072
Currently using withdrawal	0.043	0.009	796	884	1.203	0.201	0.026	0.060
Used public sector source	0.651	0.050	191	211	1.449	0.077	0.551	0.752
Want no more children	0.198	0.019	796	884	1.332	0.095	0.160	0.235
Want to delay birth at least two years	0.316	0.018	796	884	1.079	0.056	0.280	0.351
Ideal number of children	5.189	0.132	715	794	1.671	0.025	4.926	5.452
Mothers protected against tetanus for last birth	0.365	0.049	487	543	2.265	0.135	0.266	0.464
Births with skilled attendant at delivery	0.653	0.063	664	738	2.871	0.096	0.528	0.778
Had diarrhea in the last two weeks	0.137	0.015	644	716	1.098	0.113	0.106	0.168
Treated with ORS	0.106	0.026	87	98	0.784	0.242	0.054	0.157
Sought medical treatment for diarrhea	0.365	0.062	87	98	1.159	0.170	0.241	0.489
Vaccination card seen	0.517	0.059	114	125	1.236	0.113	0.400	0.635
Received BCG vaccination	0.765	0.055	114	125	1.381	0.072	0.655	0.876
Received penta vaccination (three doses)	0.775	0.061	114	125	1.554	0.079	0.652	0.897
Received polio vaccination (three doses)	0.683	0.057	114	125	1.301	0.084	0.569	0.798
Received measles vaccination	0.628	0.054	114	125	1.188	0.087	0.519	0.737
Received all vaccinations	0.517	0.058	114	125	1.228	0.113	0.401	0.634
Received pnemococcal vaccination (three doses)	0.427	0.059	114	125	1.250	0.138	0.309	0.545
Height-for-age (-2SD)	0.301	0.023	523	519	1.075	0.075	0.255	0.346
Weight-for-height (-2SD)	0.180	0.024	523	519	1.393	0.133	0.132	0.228
Weight-for-age (-2SD)	0.265	0.026	523	519	1.252	0.098	0.213	0.317
Body mass index (BMI) < 18.5	0.201	0.023	1066	1187	1.906	0.116	0.154	0.248
Prevalence of anemia (children)	0.901	0.029	125	124	1.034	0.033	0.842	0.960
Prevalence of anemia (women)	0.752	0.028	309	345	1.140	0.037	0.696	0.808
Total fertility rate (three years)	3.441	0.199	3553	3948	1.189	0.058	3.044	3.838
Neonatal mortality rate (last 0-4 years)	16.797	3.267	1408	1571	0.820	0.195	10.262	23.331
Postneonatal mortality rate (last 0-4 years)	9.714	3.382	1419	1582	1.141	0.348	2.949	16.479
Infant mortality rate (last 0-4 years)	26.511	4.618	1410	1574	0.943	0.174	17.274	35.748
Child mortality rate (last 0-4 years)	6.089	1.934	1431	1597	0.922	0.318	2.222	9.957
Under-5 mortality rate (last 0-4 years)	32.439	5.351	1414	1578	1.007	0.165	21.737	43.140

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.167	0.024	1247	1670	2.231	0.141	0.120	0.214
Literacy	0.350	0.032	1247	1670	2.376	0.092	0.286	0.415
No education	0.601	0.035	1247	1670	2.533	0.059	0.530	0.671
Secondary or higher education	0.076	0.017	1247	1670	2.193	0.216	0.043	0.109
Never married (never in union)	0.289	0.023	1247	1670	1.822	0.081	0.242	0.336
Currently married (in union)	0.662	0.022	1247	1670	1.672	0.034	0.618	0.707
Married before age 20	0.667	0.026	911	1222	1.678	0.039	0.614	0.719
Currently pregnant	0.101	0.011	1247	1670	1.279	0.108	0.080	0.123
Children ever born	3.051	0.135	1247	1670	1.393	0.044	2.781	3.321
Children surviving	2.704	0.110	1247	1670	1.298	0.041	2.484	2.923
Children ever born to women age 40-49	7.975	0.287	159	211	1.116	0.036	7.400	8.549
Knows any contraceptive method	0.970	0.015	826	1106	2.456	0.015	0.940	0.999
Knows any modern contraceptive method	0.969	0.015	826	1106	2.410	0.015	0.939	0.998
Currently using any method	0.352	0.036	826	1106	2.181	0.103	0.279	0.425
Currently using a modern method	0.332	0.037	826	1106	2.236	0.111	0.259	0.406
Currently using a traditional method	0.020	0.007	826	1106	1.347	0.331	0.007	0.033
Currently using pill	0.082	0.015	826	1106	1.617	0.189	0.051	0.113
Currently using condoms	0.009	0.003	826	1106	0.888	0.332	0.003	0.014
Currently using injectables	0.063	0.011	826	1106	1.266	0.169	0.042	0.085
Currently using female sterilization	0.042	0.009	826	1106	1.342	0.223	0.023	0.061
Currently using rhythm	0.006	0.004	826	1106	1.492	0.656	0.000	0.014
Currently using withdrawal	0.013	0.005	826	1106	1.168	0.348	0.004	0.023
Used public sector source	0.483	0.038	218	310	1.112	0.078	0.407	0.558
Want no more children	0.404	0.024	826	1106	1.415	0.060	0.356	0.452
Want to delay birth at least two years	0.207	0.019	826	1106	1.367	0.093	0.168	0.245
Ideal number of children	4.052	0.107	738	991	1.318	0.026	3.837	4.266
Mothers protected against tetanus for last birth	0.319	0.026	599	802	1.359	0.081	0.267	0.371
Births with skilled attendant at delivery	0.221	0.029	992	1322	1.829	0.130	0.163	0.279
Had diarrhea in the last two weeks	0.310	0.027	939	1251	1.583	0.086	0.257	0.363
Treated with ORS	0.297	0.035	296	388	1.145	0.117	0.228	0.366
Sought medical treatment for diarrhea	0.240	0.032	296	388	1.184	0.134	0.176	0.304
Vaccination card seen	0.405	0.048	207	274	1.395	0.120	0.308	0.502
Received BCG vaccination	0.750	0.040	207	274	1.318	0.054	0.669	0.831
Received penta vaccination (three doses)	0.573	0.047	207	274	1.337	0.081	0.480	0.666
Received polio vaccination (three doses)	0.554	0.046	207	274	1.302	0.082	0.463	0.645
Received measles vaccination	0.657	0.046	207	274	1.382	0.070	0.565	0.749
Received all vaccinations	0.422	0.046	207	274	1.320	0.109	0.330	0.514
Received pnuemococcal vaccination (three doses)	0.346	0.044	207	274	1.308	0.128	0.258	0.434
Height-for-age (-2SD)	0.592	0.022	844	1101	1.262	0.038	0.547	0.637
Weight-for-height (-2SD)	0.151	0.016	844	1101	1.189	0.104	0.119	0.182
Weight-for-age (-2SD)	0.450	0.027	844	1101	1.401	0.060	0.395	0.504
Body mass index (BMI) < 18.5	0.232	0.020	1059	1418	1.552	0.087	0.191	0.272
Prevalence of anemia (children)	0.870	0.020	243	312	0.843	0.023	0.830	0.909
Prevalence of anemia (women)	0.655	0.024	384	509	1.001	0.037	0.606	0.704
Total fertility rate (three years)	6.236	0.470	3358	4500	1.924	0.075	5.295	7.177
Neonatal mortality rate (last 0-4 years)	26.920	3.157	2000	2656	0.822	0.117	20.607	33.233
Postneonatal mortality rate (last 0-4 years)	34.904	5.268	2012	2672	1.310	0.151	24.369	45.439
Infant mortality rate (last 0-4 years)	61.824	6.466	2007	2665	1.147	0.105	48.892	74.755
Child mortality rate (last 0-4 years)	15.424	3.505	1971	2612	1.146	0.227	8.414	22.433
Under-5 mortality rate (last 0-4 years)	76.294	7.157	2013	2673	1.125	0.094	61.979	90.609

Table B.15 Sampling errors: Shabwah sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.195	0.017	1365	528	1.611	0.089	0.161	0.230
Literacy	0.628	0.026	1365	528	1.959	0.041	0.576	0.679
No education	0.371	0.027	1365	528	2.046	0.072	0.318	0.425
Secondary or higher education	0.086	0.019	1365	528	2.478	0.220	0.048	0.123
Never married (never in union)	0.404	0.023	1365	528	1.722	0.057	0.358	0.450
Currently married (in union)	0.555	0.023	1365	528	1.690	0.041	0.509	0.600
Married before age 20	0.604	0.032	949	368	1.993	0.053	0.540	0.667
Currently pregnant	0.078	0.008	1365	528	1.136	0.106	0.062	0.095
Children ever born	2.301	0.107	1365	528	1.318	0.047	2.087	2.515
Children surviving	2.187	0.102	1365	528	1.316	0.046	1.984	2.390
Children ever born to women age 40-49	6.787	0.251	190	75	1.177	0.037	6.284	7.290
Knows any contraceptive method	0.992	0.003	759	293	0.995	0.003	0.986	0.999
Knows any modern contraceptive method	0.992	0.003	759	293	0.995	0.003	0.986	0.999
Currently using any method	0.213	0.018	759	293	1.241	0.087	0.176	0.250
Currently using a modern method	0.194	0.017	759	293	1.199	0.089	0.159	0.228
Currently using a traditional method	0.019	0.005	759	293	0.985	0.254	0.010	0.029
Currently using pill	0.099	0.014	759	293	1.327	0.146	0.070	0.128
Currently using condoms	0.004	0.003	759	293	1.383	0.767	0.000	0.011
Currently using injectables	0.022	0.007	759	293	1.268	0.308	0.008	0.035
Currently using female sterilization	0.020	0.008	759	293	1.604	0.410	0.004	0.036
Currently using rhythm	0.010	0.003	759	293	0.971	0.358	0.003	0.016
Currently using withdrawal	0.009	0.004	759	293	1.200	0.458	0.001	0.017
Used public sector source	0.321	0.046	137	53	1.150	0.143	0.229	0.414
Want no more children	0.297	0.022	759	293	1.300	0.073	0.254	0.340
Want to delay birth at least two years	0.284	0.027	759	293	1.667	0.096	0.230	0.339
Ideal number of children	5.193	0.150	535	200	1.378	0.029	4.893	5.494
Mothers protected against tetanus for last birth	0.087	0.019	507	194	1.499	0.217	0.049	0.125
Births with skilled attendant at delivery	0.530	0.032	719	275	1.451	0.060	0.467	0.593
Had diarrhea in the last two weeks	0.266	0.031	698	267	1.722	0.115	0.205	0.327
Treated with ORS	0.222	0.039	194	71	1.139	0.175	0.144	0.299
Sought medical treatment for diarrhea	0.322	0.037	194	71	0.971	0.114	0.248	0.395
Vaccination card seen	0.460	0.058	133	51	1.318	0.125	0.345	0.575
Received BCG vaccination	0.560	0.065	133	51	1.494	0.116	0.430	0.691
Received penta vaccination (three doses)	0.485	0.064	133	51	1.455	0.132	0.357	0.612
Received polio vaccination (three doses)	0.454	0.060	133	51	1.380	0.133	0.334	0.575
Received measles vaccination	0.488	0.063	133	51	1.442	0.129	0.362	0.615
Received all vaccinations	0.392	0.055	133	51	1.288	0.140	0.282	0.502
Received pnemococcal vaccination (three doses)	0.369	0.055	133	51	1.313	0.150	0.258	0.480
Height-for-age (-2SD)	0.286	0.030	593	215	1.423	0.104	0.227	0.345
Weight-for-height (-2SD)	0.215	0.021	593	215	1.114	0.099	0.172	0.257
Weight-for-age (-2SD)	0.253	0.028	593	215	1.355	0.112	0.196	0.309
Body Mass Index (BMI) < 18.5	0.206	0.020	1171	450	1.696	0.098	0.166	0.247
Prevalence of anemia (children)	0.936	0.021	129	46	0.944	0.022	0.894	0.978
Prevalence of anemia (women)	0.892	0.020	337	126	1.181	0.023	0.852	0.933
Total fertility rate (three years)	3.961	0.215	3679	1425	1.267	0.054	3.531	4.392
Neonatal mortality rate (last 0-4 years)	20.749	4.540	1472	565	1.131	0.219	11.669	29.829
Postneonatal mortality rate (last 0-4 years)	8.702	3.239	1485	569	1.106	0.372	2.224	15.180
Infant mortality rate (last 0-4 years)	29.451	6.156	1472	565	1.255	0.209	17.139	41.763
Child mortality rate (last 0-4 years)	9.334	2.150	1523	583	0.872	0.230	5.033	13.635
Under-5 mortality rate (last 0-4 years)	38.511	6.233	1475	566	1.143	0.162	26.044	50.977

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.139	0.014	1190	823	1.405	0.101	0.111	0.168
Literacy	0.335	0.029	1190	823	2.120	0.087	0.277	0.393
No education	0.645	0.029	1190	823	2.102	0.045	0.587	0.704
Secondary or higher education	0.045	0.011	1190	823	1.796	0.240	0.024	0.067
Never married (never in union)	0.353	0.028	1190	823	1.992	0.078	0.298	0.408
Currently married (in union)	0.612	0.029	1190	823	2.040	0.047	0.555	0.670
Married before age 20	0.635	0.026	876	606	1.595	0.041	0.583	0.687
Currently pregnant	0.099	0.014	1190	823	1.566	0.137	0.071	0.126
Children ever born	2.599	0.147	1190	823	1.678	0.057	2.305	2.894
Children surviving	2.416	0.127	1190	823	1.575	0.053	2.161	2.670
Children ever born to women age 40-49	6.781	0.367	160	115	1.473	0.054	6.047	7.515
Knows any contraceptive method	0.955	0.014	721	504	1.798	0.015	0.928	0.983
Knows any modern contraceptive method	0.955	0.014	721	504	1.798	0.015	0.928	0.983
Currently using any method	0.327	0.028	721	504	1.601	0.086	0.271	0.383
Currently using a modern method	0.269	0.025	721	504	1.530	0.094	0.219	0.320
Currently using a traditional method	0.058	0.013	721	504	1.495	0.225	0.032	0.084
Currently using pill	0.117	0.017	721	504	1.448	0.148	0.082	0.152
Currently using condoms	0.000	0.000	721	504	NA	NA	0.000	0.000
Currently using injectables	0.094	0.012	721	504	1.103	0.128	0.070	0.118
Currently using female sterilization	0.005	0.003	721	504	0.974	0.499	0.000	0.011
Currently using rhythm	0.012	0.004	721	504	0.997	0.341	0.004	0.020
Currently using withdrawal	0.045	0.013	721	504	1.637	0.282	0.020	0.070
Used public sector source	0.539	0.049	176	119	1.304	0.091	0.440	0.637
Want no more children	0.411	0.026	721	504	1.405	0.063	0.359	0.463
Want to delay birth at least two years	0.189	0.024	721	504	1.628	0.126	0.142	0.237
Ideal number of children	5.817	0.370	707	491	2.289	0.064	5.076	6.558
Mothers protected against tetanus for last birth	0.054	0.014	457	320	1.337	0.259	0.026	0.083
Births with skilled attendant at delivery	0.303	0.032	682	479	1.547	0.106	0.238	0.367
Had diarrhea in the last two weeks	0.351	0.022	646	454	1.137	0.062	0.307	0.395
Treated with ORS	0.448	0.049	225	159	1.391	0.108	0.351	0.546
Sought medical treatment for diarrhea	0.430	0.039	225	159	1.118	0.091	0.352	0.509
Vaccination card seen	0.174	0.039	124	89	1.162	0.223	0.096	0.252
Received BCG vaccination	0.285	0.045	124	89	1.128	0.158	0.195	0.375
Received penta vaccination (three doses)	0.200	0.039	124	89	1.112	0.197	0.121	0.278
Received polio vaccination (three doses)	0.215	0.044	124	89	1.216	0.205	0.127	0.304
Received measles vaccination	0.443	0.058	124	89	1.312	0.130	0.327	0.559
Received all vaccinations	0.130	0.037	124	89	1.238	0.282	0.057	0.204
Received pnemococcal vaccination (three doses)	0.127	0.037	124	89	1.247	0.289	0.054	0.200
Height-for-age (-2SD)	0.585	0.037	517	365	1.581	0.063	0.511	0.658
Weight-for-height (-2SD)	0.170	0.023	517	365	1.314	0.136	0.124	0.216
Weight-for-age (-2SD)	0.497	0.026	517	365	1.171	0.053	0.445	0.550
Body mass index (BMI) < 18.5	0.192	0.018	981	675	1.431	0.094	0.156	0.228
Prevalence of anemia (children)	0.990	0.007	177	127	0.947	0.007	0.977	1.004
Prevalence of anemia (women)	0.836	0.025	342	235	1.262	0.030	0.786	0.887
Total fertility rate (three years)	4.024	0.423	3223	2226	2.334	0.105	3.177	4.871
Neonatal mortality rate (last 0-4 years)	23.120	5.390	1488	1052	1.307	0.233	12.340	33.899
Postneonatal mortality rate (last 0-4 years)	20.470	3.522	1479	1047	0.904	0.172	13.425	27.515
Infant mortality rate (last 0-4 years)	43.590	7.202	1488	1052	1.260	0.165	29.185	57.994
Child mortality rate (last 0-4 years)	10.409	3.501	1494	1061	1.195	0.336	3.407	17.410
Under-5 mortality rate (last 0-4 years)	53.544	8.991	1491	1054	1.431	0.168	35.563	71.526

Table B.17 Sampling errors: Sana'a sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	R+2SE
Urban residence	0.038	0.016	1369	1265	3.101	0.425	0.006	0.070
Literacy	0.484	0.039	1369	1265	2.879	0.081	0.406	0.562
No education	0.502	0.039	1369	1265	2.844	0.077	0.425	0.579
Secondary or higher education	0.106	0.016	1369	1265	1.943	0.152	0.074	0.139
Never married (never in union)	0.314	0.017	1369	1265	1.360	0.054	0.280	0.349
Currently married (in union)	0.657	0.016	1369	1265	1.224	0.024	0.626	0.688
Married before age 20	0.639	0.021	1015	936	1.423	0.034	0.596	0.682
Currently pregnant	0.093	0.010	1369	1265	1.259	0.106	0.074	0.113
Children ever born	2.562	0.105	1369	1265	1.317	0.041	2.352	2.773
Children surviving	2.307	0.086	1369	1265	1.229	0.037	2.134	2.479
Children ever born to women age 40-49	6.950	0.284	147	135	1.106	0.041	6.382	7.519
Knows any contraceptive method	0.994	0.003	904	831	1.402	0.003	0.988	1.001
Knows any modern contraceptive method	0.994	0.003	904	831	1.402	0.003	0.988	1.001
Currently using any method	0.497	0.028	904	831	1.710	0.057	0.440	0.554
Currently using a modern method	0.413	0.029	904	831	1.748	0.069	0.356	0.471
Currently using a traditional method	0.084	0.010	904	831	1.109	0.122	0.063	0.104
Currently using pill	0.160	0.019	904	831	1.586	0.121	0.121	0.199
Currently using condoms	0.010	0.003	904	831	0.978	0.327	0.003	0.016
Currently using injectables	0.034	0.008	904	831	1.328	0.236	0.018	0.050
Currently using female sterilization	0.041	0.008	904	831	1.187	0.191	0.025	0.056
Currently using rhythm	0.011	0.003	904	831	0.867	0.277	0.005	0.017
Currently using withdrawal	0.073	0.010	904	831	1.141	0.135	0.053	0.093
Used public sector source	0.422	0.055	331	300	2.000	0.129	0.313	0.532
Want no more children	0.484	0.023	904	831	1.363	0.047	0.439	0.529
Want to delay birth at least two years	0.277	0.018	904	831	1.223	0.066	0.240	0.313
Ideal number of children	3.524	0.096	861	788	1.327	0.027	3.333	3.715
Mothers protected against tetanus for last birth	0.167	0.029	648	598	1.954	0.172	0.110	0.224
Births with skilled attendant at delivery	0.358	0.031	992	919	1.742	0.087	0.296	0.421
Had diarrhea in the last two weeks	0.340	0.025	943	874	1.494	0.073	0.291	0.390
Treated with ORS	0.290	0.035	322	297	1.228	0.121	0.220	0.360
Sought medical treatment for diarrhea	0.333	0.036	322	297	1.226	0.108	0.261	0.405
Vaccination card seen	0.491	0.055	197	183	1.548	0.113	0.380	0.602
Received BCG vaccination	0.646	0.054	197	183	1.573	0.083	0.538	0.753
Received penta vaccination (three doses)	0.514	0.059	197	183	1.638	0.114	0.397	0.631
Received polio vaccination (three doses)	0.514	0.058	197	183	1.632	0.114	0.397	0.631
Received measles vaccination	0.591	0.048	197	183	1.356	0.081	0.495	0.686
Received all vaccinations	0.379	0.059	197	183	1.691	0.156	0.261	0.497
Received pnemococcal vaccination (three doses)	0.385	0.057	197	183	1.626	0.148	0.271	0.498
Height-for-age (-2SD)	0.478	0.027	850	735	1.416	0.056	0.425	0.531
Weight-for-height (-2SD)	0.140	0.014	850	735	1.116	0.098	0.113	0.168
Weight-for-age (-2SD)	0.341	0.025	850	735	1.384	0.073	0.292	0.391
Body mass index (BMI) < 18.5	0.217	0.016	1184	1094	1.357	0.075	0.185	0.250
Prevalence of anemia (children)	0.835	0.028	231	205	1.190	0.033	0.779	0.891
Prevalence of anemia (women)	0.651	0.028	416	384	1.217	0.044	0.595	0.708
Total fertility rate (three years)	4.905	0.294	3741	3453	1.433	0.060	4.317	5.492
Neonatal mortality rate (last 0-4 years)	29.329	4.554	1872	1728	1.139	0.155	20.222	38.436
Postneonatal mortality rate (last 0-4 years)	31.240	4.777	1869	1725	1.127	0.153	21.685	40.794
Infant mortality rate (last 0-4 years)	60.568	6.864	1876	1731	1.189	0.113	46.841	74.296
Child mortality rate (last 0-4 years)	11.625	2.916	1859	1715	1.038	0.251	5.793	17.457
Under-5 mortality rate (last 0-4 years)	71.489	7.431	1879	1734	1.178	0.104	56.628	86.351

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	1.000	0.000	1145	921	NA	0.000	1.000	1.000
Literacy	0.800	0.027	1145	921	2.261	0.033	0.746	0.854
No education	0.146	0.019	1145	921	1.803	0.129	0.108	0.183
Secondary or higher education	0.461	0.034	1145	921	2.295	0.074	0.393	0.528
Never married (never in union)	0.421	0.017	1145	921	1.135	0.039	0.387	0.454
Currently married (in union)	0.529	0.016	1145	921	1.064	0.030	0.497	0.560
Married before age 20	0.345	0.020	896	720	1.285	0.059	0.304	0.386
Currently pregnant	0.056	0.007	1145	921	1.090	0.133	0.041	0.070
Children ever born	1.776	0.078	1145	921	1.126	0.044	1.620	1.931
Children surviving	1.681	0.073	1145	921	1.138	0.044	1.534	1.828
Children ever born to women age 40-49	4.105	0.311	204	162	1.562	0.076	3.483	4.728
Knows any contraceptive method	1.000	0.000	597	487	NA	0.000	1.000	1.000
Knows any modern contraceptive method	1.000	0.000	597	487	NA	0.000	1.000	1.000
Currently using any method	0.469	0.036	597	487	1.782	0.078	0.396	0.542
Currently using a modern method	0.404	0.028	597	487	1.398	0.070	0.348	0.460
Currently using a traditional method	0.065	0.014	597	487	1.345	0.210	0.038	0.092
Currently using pill	0.209	0.021	597	487	1.233	0.098	0.168	0.250
Currently using condoms	0.021	0.006	597	487	0.931	0.258	0.010	0.032
Currently using injectables	0.046	0.011	597	487	1.281	0.239	0.024	0.068
Currently using female sterilization	0.017	0.006	597	487	1.076	0.337	0.006	0.028
Currently using rhythm	0.025	0.006	597	487	0.934	0.241	0.013	0.036
Currently using withdrawal	0.040	0.010	597	487	1.234	0.247	0.020	0.060
Used public sector source	0.566	0.034	225	180	1.015	0.059	0.499	0.634
Want no more children	0.428	0.021	597	487	1.031	0.049	0.386	0.470
Want to delay birth at least two years	0.205	0.018	597	487	1.077	0.087	0.169	0.240
Ideal number of children	3.872	0.168	643	523	1.613	0.043	3.536	4.208
Mothers protected against tetanus for last birth	0.529	0.032	355	291	1.212	0.060	0.466	0.593
Births with skilled attendant at delivery	0.837	0.046	471	389	2.214	0.055	0.745	0.930
Had diarrhea in the last two weeks	0.193	0.018	455	377	0.993	0.095	0.156	0.230
Treated with ORS	0.285	0.061	88	73	1.258	0.213	0.164	0.406
Sought medical treatment for diarrhea	0.435	0.071	88	73	1.345	0.164	0.293	0.578
Vaccination card seen	0.699	0.051	85	72	1.046	0.073	0.597	0.801
Received BCG vaccination	0.902	0.029	85	72	0.928	0.032	0.843	0.960
Received penta vaccination (three doses)	0.729	0.048	85	72	1.006	0.065	0.634	0.824
Received polio vaccination (three doses)	0.754	0.047	85	72	1.033	0.063	0.659	0.848
Received measles vaccination	0.798	0.034	85	72	0.801	0.043	0.730	0.867
Received all vaccinations	0.638	0.056	85	72	1.093	0.088	0.526	0.750
Received pnemococcal vaccination (three doses)	0.589	0.052	85	72	0.999	0.089	0.484	0.694
Height-for-age (-2SD)	0.237	0.025	429	347	1.226	0.107	0.187	0.288
Weight-for-height (-2SD)	0.182	0.024	429	347	1.210	0.129	0.135	0.229
Weight-for-age (-2SD)	0.272	0.032	429	347	1.376	0.118	0.207	0.336
Body mass index (BMI) < 18.5	0.157	0.012	1003	807	1.044	0.077	0.133	0.181
Prevalence of anemia (children)	0.940	0.024	100	82	1.021	0.025	0.893	0.988
Prevalence of anemia (women)	0.885	0.016	295	242	0.846	0.018	0.854	0.916
Total fertility rate (three years)	2.871	0.161	3226	2590	1.155	0.056	2.549	3.193
Neonatal mortality rate (last 0-4 years)	21.709	5.027	949	783	1.045	0.232	11.654	31.763
Postneonatal mortality rate (last 0-4 years)	13.316	4.727	945	779	1.144	0.355	3.863	22.769
Infant mortality rate (last 0-4 years)	35.025	7.850	949	783	1.171	0.224	19.325	50.724
Child mortality rate (last 0-4 years)	4.894	2.314	923	764	1.001	0.473	0.265	9.523
Under-5 mortality rate (last 0-4 years)	39.747	7.565	949	783	1.087	0.190	24.618	54.876

Table B.19 Sampling errors: Lahj sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.111	0.020	948	678	1.918	0.177	0.071	0.150
Literacy	0.545	0.043	948	678	2.672	0.080	0.459	0.632
No education	0.385	0.040	948	678	2.504	0.103	0.306	0.465
Secondary or higher education	0.283	0.042	948	678	2.872	0.149	0.199	0.368
Never married (never in union)	0.374	0.023	948	678	1.477	0.062	0.327	0.420
Currently married (in union)	0.597	0.027	948	678	1.677	0.045	0.543	0.650
Married before age 20	0.465	0.038	729	521	2.036	0.081	0.389	0.540
Currently pregnant	0.064	0.011	948	678	1.404	0.175	0.041	0.086
Children ever born	2.181	0.121	948	678	1.367	0.055	1.939	2.423
Children surviving	2.077	0.118	948	678	1.406	0.057	1.841	2.314
Children ever born to women age 40-49	5.358	0.371	151	104	1.412	0.069	4.617	6.100
Knows any contraceptive method	0.980	0.007	559	405	1.187	0.007	0.966	0.994
Knows any modern contraceptive method	0.976	0.009	559	405	1.380	0.009	0.958	0.994
Currently using any method	0.332	0.026	559	405	1.320	0.079	0.279	0.385
Currently using a modern method	0.304	0.024	559	405	1.219	0.078	0.256	0.351
Currently using a traditional method	0.029	0.009	559	405	1.338	0.330	0.010	0.047
Currently using pill	0.197	0.026	559	405	1.552	0.133	0.145	0.249
Currently using condoms	0.003	0.003	559	405	1.236	1.014	0.000	0.008
Currently using injectables	0.023	0.007	559	405	1.129	0.309	0.009	0.038
Currently using female sterilization	0.015	0.005	559	405	0.966	0.327	0.005	0.025
Currently using rhythm	0.013	0.006	559	405	1.326	0.490	0.000	0.026
Currently using withdrawal	0.014	0.006	559	405	1.293	0.467	0.001	0.026
Used public sector source	0.775	0.038	140	106	1.065	0.049	0.700	0.851
Want no more children	0.474	0.031	559	405	1.463	0.065	0.412	0.536
Want to delay birth at least two years	0.199	0.025	559	405	1.455	0.124	0.150	0.248
Ideal number of children	4.353	0.191	559	407	1.611	0.044	3.970	4.735
Mothers protected against tetanus for last birth	0.313	0.036	386	276	1.506	0.113	0.242	0.384
Births with skilled attendant at delivery	0.518	0.039	596	416	1.594	0.076	0.439	0.597
Had diarrhea in the last two weeks	0.262	0.027	573	402	1.362	0.103	0.208	0.316
Treated with ORS	0.340	0.042	143	105	1.059	0.125	0.255	0.425
Sought medical treatment for diarrhea	0.386	0.052	143	105	1.180	0.134	0.283	0.490
Vaccination card seen	0.715	0.045	106	75	1.023	0.063	0.625	0.805
Received BCG vaccination	0.738	0.048	106	75	1.106	0.064	0.643	0.833
Received penta vaccination (three doses)	0.731	0.049	106	75	1.135	0.067	0.632	0.829
Received polio vaccination (three doses)	0.717	0.047	106	75	1.069	0.066	0.623	0.811
Received measles vaccination	0.689	0.064	106	75	1.404	0.092	0.562	0.816
Received all vaccinations	0.547	0.067	106	75	1.369	0.122	0.413	0.680
Received pnuemococcal vaccination (three doses)	0.550	0.058	106	75	1.190	0.106	0.434	0.666
Height-for-age (-2SD)	0.379	0.032	500	330	1.351	0.085	0.314	0.443
Weight-for-height (-2SD)	0.143	0.017	500	330	1.041	0.119	0.109	0.177
Weight-for-age (-2SD)	0.342	0.036	500	330	1.516	0.105	0.270	0.415
Body mass index (BMI) < 18.5	0.214	0.021	823	587	1.483	0.099	0.171	0.256
Prevalence of anemia (children)	0.950	0.026	103	65	1.138	0.027	0.898	1.002
Prevalence of anemia (women)	0.903	0.020	245	172	1.039	0.022	0.864	0.943
Total fertility rate (three years)	4.519	0.434	2632	1884	1.700	0.096	3.650	5.388
Neonatal mortality rate (last 0-4 years)	18.283	4.923	1093	782	1.130	0.269	8.436	28.129
Postneonatal mortality rate (last 0-4 years)	10.344	3.111	1096	784	1.041	0.301	4.123	16.565
Infant mortality rate (last 0-4 years)	28.627	5.854	1094	783	1.062	0.205	16.918	40.335
Child mortality rate (last 0-4 years)	5.799	2.359	1056	760	0.886	0.407	1.082	10.516
Under-5 mortality rate (last 0-4 years)	34.260	6.578	1094	783	1.062	0.192	21.105	47.415

Table B.20 Sampling errors: Mareb sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.141	0.029	1006	183	2.662	0.208	0.082	0.199
Literacy	0.596	0.028	1006	183	1.796	0.047	0.540	0.651
No education	0.371	0.024	1006	183	1.554	0.064	0.324	0.419
Secondary or higher education	0.240	0.034	1006	183	2.508	0.141	0.172	0.308
Never married (never in union)	0.325	0.025	1006	183	1.719	0.078	0.274	0.376
Currently married (in union)	0.606	0.023	1006	183	1.470	0.037	0.561	0.652
Married before age 20	0.631	0.025	738	135	1.388	0.039	0.582	0.681
Currently pregnant	0.086	0.013	1006	183	1.435	0.147	0.061	0.112
Children ever born	2.683	0.087	1006	183	0.851	0.032	2.509	2.856
Children surviving	2.445	0.074	1006	183	0.807	0.030	2.298	2.593
Children ever born to women age 40-49	7.751	0.461	123	22	1.628	0.059	6.829	8.674
Knows any contraceptive method	0.997	0.002	607	111	1.029	0.002	0.992	1.001
Knows any modern contraceptive method	0.997	0.002	607	111	1.029	0.002	0.992	1.001
Currently using any method	0.257	0.026	607	111	1.485	0.103	0.205	0.310
Currently using a modern method	0.213	0.022	607	111	1.331	0.104	0.168	0.257
Currently using a traditional method	0.045	0.011	607	111	1.356	0.255	0.022	0.067
Currently using pill	0.079	0.012	607	111	1.105	0.153	0.055	0.103
Currently using condoms	0.003	0.003	607	111	1.298	0.981	0.000	0.009
Currently using injectables	0.025	0.007	607	111	1.104	0.282	0.011	0.039
Currently using female sterilization	0.012	0.004	607	111	0.806	0.294	0.005	0.019
Currently using rhythm	0.013	0.007	607	111	1.448	0.512	0.000	0.026
Currently using withdrawal	0.026	0.010	607	111	1.485	0.372	0.007	0.045
Used public sector source	0.541	0.068	114	22	1.452	0.126	0.404	0.678
Want no more children	0.318	0.025	607	111	1.313	0.078	0.268	0.367
Want to delay birth at least two years	0.307	0.023	607	111	1.213	0.074	0.261	0.352
Ideal number of children	5.342	0.205	603	113	1.693	0.038	4.932	5.751
Mothers protected against tetanus for last birth	0.298	0.033	432	78	1.486	0.110	0.233	0.363
Births with skilled attendant at delivery	0.452	0.045	671	120	1.908	0.099	0.363	0.542
Had diarrhea in the last two weeks	0.338	0.033	637	114	1.622	0.097	0.272	0.403
Treated with ORS	0.338	0.033	215	39	0.939	0.097	0.272	0.403
Sought medical treatment for diarrhea	0.358	0.040	215	39	1.098	0.112	0.278	0.438
Vaccination card seen	0.366	0.047	131	24	1.108	0.129	0.272	0.460
Received BCG vaccination	0.553	0.052	131	24	1.187	0.093	0.450	0.657
Received penta vaccination (three doses)	0.419	0.059	131	24	1.365	0.142	0.300	0.537
Received polio vaccination (three doses)	0.458	0.055	131	24	1.256	0.120	0.348	0.568
Received measles vaccination	0.536	0.062	131	24	1.417	0.116	0.412	0.660
Received all vaccinations	0.296	0.050	131	24	1.233	0.168	0.197	0.396
Received pnemococcal vaccination (three doses)	0.276	0.045	131	24	1.135	0.163	0.186	0.367
Height-for-age (-2SD)	0.413	0.034	586	101	1.471	0.082	0.345	0.481
Weight-for-height (-2SD)	0.138	0.020	586	101	1.277	0.142	0.099	0.177
Weight-for-age (-2SD)	0.313	0.038	586	101	1.768	0.122	0.236	0.390
Body mass index (BMI) < 18.5	0.207	0.021	872	159	1.514	0.100	0.166	0.249
Prevalence of anemia (children)	0.833	0.028	176	31	0.988	0.034	0.777	0.890
Prevalence of anemia (women)	0.786	0.036	325	59	1.601	0.046	0.713	0.858
Total fertility rate (three years)	4.694	0.340	2725	499	1.361	0.072	4.014	5.374
Neonatal mortality rate (last 0-4 years)	31.879	4.914	1340	238	0.996	0.154	22.051	41.707
Postneonatal mortality rate (last 0-4 years)	20.708	4.977	1343	239	1.126	0.240	10.753	30.662
Infant mortality rate (last 0-4 years)	52.587	8.321	1342	239	1.267	0.158	35.944	69.229
Child mortality rate (last 0-4 years)	8.491	2.579	1325	236	0.986	0.304	3.332	13.649
Under-5 mortality rate (last 0-4 years)	60.631	8.291	1344	239	1.183	0.137	44.050	77.212

Table B.21 Sampling errors: Al-Mhweit sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.090	0.006	1079	623	0.693	0.067	0.078	0.103
Literacy	0.392	0.037	1079	623	2.467	0.094	0.318	0.465
No education	0.537	0.032	1079	623	2.073	0.059	0.473	0.600
Secondary or higher education	0.144	0.025	1079	623	2.300	0.171	0.095	0.193
Never married (never in union)	0.286	0.018	1079	623	1.327	0.064	0.250	0.323
Currently married (in union)	0.681	0.018	1079	623	1.269	0.026	0.645	0.717
Married before age 20	0.704	0.020	811	469	1.234	0.028	0.664	0.744
Currently pregnant	0.110	0.011	1079	623	1.189	0.103	0.088	0.133
Children ever born	3.097	0.098	1079	623	0.962	0.032	2.901	3.292
Children surviving	2.760	0.084	1079	623	0.950	0.030	2.592	2.927
Children ever born to women age 40-49	7.499	0.244	155	90	0.952	0.033	7.010	7.987
Knows any contraceptive method	0.961	0.012	736	425	1.715	0.013	0.937	0.986
Knows any modern contraceptive method	0.960	0.013	736	425	1.772	0.013	0.934	0.986
Currently using any method	0.231	0.025	736	425	1.614	0.109	0.181	0.281
Currently using a modern method	0.196	0.020	736	425	1.388	0.104	0.156	0.237
Currently using a traditional method	0.034	0.011	736	425	1.572	0.307	0.013	0.056
Currently using pill	0.067	0.012	736	425	1.281	0.176	0.043	0.091
Currently using condoms	0.000	0.000	736	425	NA	NA	0.000	0.000
Currently using injectables	0.040	0.009	736	425	1.306	0.237	0.021	0.058
Currently using female sterilization	0.032	0.010	736	425	1.524	0.308	0.012	0.052
Currently using rhythm	0.011	0.004	736	425	1.157	0.401	0.002	0.020
Currently using withdrawal	0.023	0.008	736	425	1.515	0.362	0.006	0.040
Used public sector source	0.651	0.050	132	73	1.194	0.077	0.552	0.751
Want no more children	0.498	0.021	736	425	1.136	0.042	0.456	0.540
Want to delay birth at least two years	0.210	0.016	736	425	1.060	0.076	0.178	0.242
Ideal number of children	4.046	0.106	725	417	1.162	0.026	3.834	4.258
Mothers protected against tetanus for last birth	0.312	0.037	521	304	1.845	0.119	0.238	0.387
Births with skilled attendant at delivery	0.342	0.047	876	517	2.385	0.137	0.248	0.436
Had diarrhea in the last two weeks	0.431	0.028	832	492	1.502	0.066	0.374	0.488
Treated with ORS	0.223	0.035	345	212	1.406	0.156	0.154	0.293
Sought medical treatment for diarrhea	0.348	0.041	345	212	1.481	0.117	0.266	0.430
Vaccination card seen	0.577	0.055	169	101	1.461	0.095	0.467	0.686
Received BCG vaccination	0.628	0.050	169	101	1.360	0.079	0.529	0.728
Received penta vaccination (three doses)	0.624	0.053	169	101	1.460	0.086	0.517	0.731
Received polio vaccination (three doses)	0.625	0.043	169	101	1.178	0.069	0.539	0.712
Received measles vaccination	0.694	0.050	169	101	1.447	0.073	0.593	0.795
Received all vaccinations	0.407	0.053	169	101	1.423	0.130	0.302	0.513
Received pnuemococcal vaccination (3 doses)	0.477	0.050	169	101	1.315	0.104	0.378	0.577
Height-for-age (-2SD)	0.549	0.027	771	450	1.390	0.049	0.495	0.602
Weight-for-height (-2SD)	0.162	0.018	771	450	1.300	0.110	0.127	0.198
Weight-for-age (-2SD)	0.410	0.026	771	450	1.360	0.063	0.358	0.462
Body mass index (BMI) < 18.5	0.321	0.030	940	543	1.967	0.094	0.261	0.380
Prevalence of anemia (children)	0.958	0.017	237	137	1.238	0.018	0.924	0.993
Prevalence of anemia (women)	0.866	0.020	352	201	1.121	0.024	0.825	0.907
Total fertility rate (three years)	5.800	0.317	2959	1710	1.295	0.055	5.167	6.434
Neonatal mortality rate (last 0-4 years)	34.329	5.085	1708	1009	1.080	0.148	24.160	44.498
Postneonatal mortality rate (last 0-4 years)	20.469	3.216	1709	1009	0.976	0.157	14.038	26.900
Infant mortality rate (last 0-4 years)	54.798	5.557	1708	1009	0.980	0.101	43.683	65.913
Child mortality rate (last 0-4 years)	16.433	3.401	1666	984	1.068	0.207	9.630	23.235
Under-5 mortality rate (last 0-4 years)	70.330	6.019	1715	1013	0.949	0.086	58.293	82.368

Table B.22 Sampling errors: Al-Mhrah sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.455	0.044	570	95	2.102	0.097	0.367	0.543
Literacy	0.542	0.041	570	95	1.947	0.075	0.460	0.623
No education	0.338	0.034	570	95	1.723	0.101	0.270	0.407
Secondary or higher education	0.177	0.021	570	95	1.323	0.120	0.134	0.219
Never married (never in union)	0.344	0.031	570	95	1.573	0.091	0.282	0.407
Currently married (in union)	0.640	0.031	570	95	1.544	0.049	0.578	0.702
Married before age 20	0.606	0.037	431	72	1.571	0.061	0.532	0.680
Currently pregnant	0.083	0.011	570	95	0.943	0.132	0.061	0.104
Children ever born	2.600	0.120	570	95	0.970	0.046	2.360	2.841
Children surviving	2.402	0.106	570	95	0.932	0.044	2.191	2.613
Children ever born to women age 40-49	6.834	0.440	84	14	1.407	0.064	5.954	7.714
Knows any contraceptive method	0.914	0.041	363	61	2.752	0.045	0.833	0.996
Knows any modern contraceptive method	0.904	0.040	363	61	2.547	0.044	0.825	0.984
Currently using any method	0.329	0.045	363	61	1.819	0.137	0.239	0.419
Currently using a modern method	0.200	0.045	363	61	2.146	0.227	0.109	0.291
Currently using a traditional method	0.129	0.026	363	61	1.460	0.200	0.077	0.180
Currently using pill	0.077	0.032	363	61	2.265	0.415	0.013	0.141
Currently using condoms	0.001	0.001	363	61	0.613	1.031	0.000	0.003
Currently using injectables	0.012	0.006	363	61	1.035	0.487	0.000	0.024
Currently using female sterilization	0.010	0.005	363	61	0.927	0.490	0.000	0.019
Currently using rhythm	0.025	0.008	363	61	0.987	0.321	0.009	0.042
Currently using withdrawal	0.103	0.025	363	61	1.567	0.243	0.053	0.154
Used public sector source	0.826	0.057	43	7	0.970	0.069	0.712	0.939
Want no more children	0.249	0.021	363	61	0.915	0.084	0.207	0.290
Want to delay birth at least two years	0.348	0.041	363	61	1.648	0.119	0.265	0.430
Ideal number of children	6.511	0.311	348	57	1.808	0.048	5.890	7.133
Mothers protected against tetanus for last birth	0.350	0.044	250	42	1.442	0.124	0.263	0.438
Births with skilled attendant at delivery	0.647	0.060	375	63	2.018	0.092	0.528	0.767
Had diarrhea in the last two weeks	0.193	0.028	362	61	1.216	0.145	0.137	0.249
Treated with ORS	0.253	0.052	69	12	0.940	0.206	0.149	0.357
Sought medical treatment for diarrhea	0.492	0.067	69	12	1.072	0.136	0.358	0.627
Vaccination card seen	0.527	0.068	79	13	1.177	0.129	0.390	0.663
Received BCG vaccination	0.848	0.046	79	13	1.144	0.055	0.755	0.940
Received penta vaccination (three doses)	0.751	0.045	79	13	0.898	0.060	0.660	0.841
Received polio vaccination (three doses)	0.592	0.075	79	13	1.304	0.127	0.441	0.742
Received measles vaccination	0.711	0.065	79	13	1.226	0.091	0.582	0.840
Received all vaccinations	0.460	0.068	79	13	1.184	0.148	0.324	0.596
Received pnuemococcal vaccination (three doses)	0.412	0.063	79	13	1.114	0.153	0.286	0.537
Height-for-age (-2SD)	0.231	0.034	299	48	1.341	0.146	0.163	0.299
Weight-for-height (-2SD)	0.172	0.020	299	48	0.862	0.119	0.132	0.213
Weight-for-age (-2SD)	0.228	0.036	299	48	1.434	0.160	0.155	0.301
Body mass index (BMI) < 18.5	0.173	0.028	498	82	1.634	0.161	0.117	0.229
Prevalence of anemia (children)	0.925	0.026	85	14	0.916	0.028	0.874	0.976
Prevalence of anemia (women)	0.821	0.029	179	31	1.008	0.035	0.764	0.878
Total fertility rate (three years)	4.256	0.410	1576	263	1.682	0.096	3.437	5.075
Neonatal mortality rate (last 0-4 years)	24.769	6.514	728	122	1.115	0.263	11.741	37.797
Postneonatal mortality rate (last 0-4 years)	16.447	4.685	727	121	0.828	0.285	7.077	25.816
Infant mortality rate (last 0-4 years)	41.216	9.676	730	122	1.089	0.235	21.864	60.567
Child mortality rate (last 0-4 years)	11.189	3.731	744	124	0.877	0.333	3.726	18.651
Under-5 mortality rate (last 0-4 years)	51.943	10.114	734	122	1.092	0.195	31.716	72.170

Table B.23 Sampling errors: Amran sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.222	0.013	1164	852	1.026	0.056	0.197	0.247
Literacy	0.390	0.025	1164	852	1.767	0.065	0.340	0.441
No education	0.585	0.025	1164	852	1.742	0.043	0.535	0.635
Secondary or higher education	0.120	0.016	1164	852	1.676	0.133	0.088	0.152
Never married (never in union)	0.279	0.016	1164	852	1.252	0.059	0.246	0.312
Currently married (in union)	0.698	0.017	1164	852	1.271	0.025	0.664	0.732
Married before age 20	0.644	0.024	858	633	1.457	0.037	0.596	0.692
Currently pregnant	0.123	0.013	1164	852	1.313	0.103	0.098	0.148
Children ever born	2.853	0.141	1164	852	1.543	0.049	2.571	3.135
Children surviving	2.525	0.117	1164	852	1.477	0.046	2.291	2.758
Children ever born to women age 40-49	7.677	0.310	138	103	1.205	0.040	7.057	8.297
Knows any contraceptive method	0.989	0.006	811	595	1.582	0.006	0.978	1.001
Knows any modern contraceptive method	0.989	0.006	811	595	1.582	0.006	0.978	1.001
Currently using any method	0.483	0.023	811	595	1.300	0.047	0.438	0.529
Currently using a modern method	0.419	0.025	811	595	1.432	0.059	0.370	0.469
Currently using a traditional method	0.064	0.012	811	595	1.424	0.191	0.039	0.089
Currently using pill	0.101	0.014	811	595	1.348	0.141	0.072	0.129
Currently using condoms	0.008	0.003	811	595	0.907	0.350	0.002	0.014
Currently using injectables	0.047	0.010	811	595	1.403	0.221	0.026	0.068
Currently using female sterilization	0.027	0.006	811	595	1.050	0.221	0.015	0.039
Currently using rhythm	0.007	0.004	811	595	1.190	0.494	0.000	0.014
Currently using withdrawal	0.057	0.011	811	595	1.348	0.193	0.035	0.079
Used public sector source	0.619	0.038	201	147	1.112	0.062	0.543	0.695
Want no more children	0.458	0.017	811	595	0.970	0.037	0.424	0.492
Want to delay birth at least two years	0.272	0.025	811	595	1.598	0.092	0.222	0.322
Ideal number of children	4.147	0.096	803	590	1.564	0.023	3.955	4.338
Mothers protected against tetanus for last birth	0.328	0.031	608	445	1.597	0.093	0.267	0.389
Births with skilled attendant at delivery	0.353	0.037	916	670	1.984	0.105	0.279	0.428
Had diarrhea in the last two weeks	0.359	0.018	862	632	1.091	0.051	0.323	0.395
Treated with ORS	0.308	0.033	307	227	1.221	0.109	0.241	0.375
Sought medical treatment for diarrhea	0.309	0.036	307	227	1.209	0.115	0.238	0.380
Vaccination card seen	0.483	0.052	168	125	1.354	0.108	0.379	0.587
Received BCG vaccination	0.590	0.055	168	125	1.463	0.094	0.480	0.701
Received penta vaccination (three doses)	0.626	0.054	168	125	1.464	0.087	0.517	0.735
Received polio vaccination (three doses)	0.635	0.040	168	125	1.095	0.064	0.554	0.716
Received measles vaccination	0.632	0.052	168	125	1.408	0.082	0.528	0.737
Received all vaccinations	0.420	0.049	168	125	1.300	0.117	0.321	0.518
Received pnemococcal vaccination (three doses)	0.390	0.048	168	125	1.289	0.124	0.293	0.486
Height-for-age (-2SD)	0.577	0.019	821	602	1.065	0.033	0.539	0.616
Weight-for-height (-2SD)	0.132	0.015	821	602	1.200	0.112	0.102	0.162
Weight-for-age (-2SD)	0.404	0.024	821	602	1.282	0.059	0.356	0.452
Body mass index (BMI) < 18.5	0.250	0.021	964	711	1.504	0.084	0.208	0.292
Prevalence of anemia (children)	0.914	0.024	219	165	1.271	0.027	0.865	0.963
Prevalence of anemia (women)	0.748	0.032	359	263	1.408	0.043	0.683	0.812
Total fertility rate (three years)	6.053	0.387	3208	2351	1.264	0.064	5.280	6.827
Neonatal mortality rate (last 0-4 years)	30.657	3.631	1869	1360	0.817	0.118	23.396	37.918
Postneonatal mortality rate (last 0-4 years)	28.012	5.546	1862	1358	1.189	0.198	16.921	39.103
Infant mortality rate (last 0-4 years)	58.669	6.973	1869	1360	1.070	0.119	44.723	72.615
Child mortality rate (last 0-4 years)	16.085	3.191	1854	1350	1.002	0.198	9.702	22.467
Under-5 mortality rate (last 0-4 years)	73.810	6.990	1874	1365	0.942	0.095	59.830	87.791

Table B.24 Sampling errors: Aldhalae sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.152	0.024	1328	641	2.456	0.160	0.103	0.200
Literacy	0.515	0.034	1328	641	2.462	0.066	0.447	0.582
No education	0.449	0.029	1328	641	2.113	0.064	0.391	0.507
Secondary or higher education	0.176	0.028	1328	641	2.656	0.158	0.120	0.231
Never married (never in union)	0.369	0.019	1328	641	1.420	0.051	0.332	0.407
Currently married (in union)	0.598	0.022	1328	641	1.637	0.037	0.554	0.643
Married before age 20	0.641	0.023	980	475	1.469	0.035	0.596	0.686
Currently pregnant	0.083	0.008	1328	641	1.041	0.095	0.067	0.099
Children ever born	2.742	0.107	1328	641	1.219	0.039	2.528	2.956
Children surviving	2.526	0.098	1328	641	1.225	0.039	2.331	2.722
Children ever born to women age 40-49	7.209	0.216	186	94	0.966	0.030	6.776	7.642
Knows any contraceptive method	0.990	0.007	781	384	1.969	0.007	0.977	1.004
Knows any modern contraceptive method	0.990	0.007	781	384	1.969	0.007	0.977	1.004
Currently using any method	0.342	0.024	781	384	1.401	0.070	0.294	0.389
Currently using a modern method	0.291	0.022	781	384	1.353	0.076	0.247	0.335
Currently using a traditional method	0.050	0.013	781	384	1.650	0.257	0.024	0.076
Currently using pill	0.089	0.014	781	384	1.380	0.158	0.061	0.117
Currently using condoms	0.002	0.001	781	384	0.906	0.711	0.000	0.005
Currently using injectables	0.052	0.009	781	384	1.189	0.183	0.033	0.070
Currently using female sterilization	0.056	0.011	781	384	1.313	0.193	0.034	0.078
Currently using rhythm	0.021	0.009	781	384	1.703	0.413	0.004	0.039
Currently using withdrawal	0.027	0.008	781	384	1.356	0.291	0.011	0.043
Used public sector source	0.553	0.049	197	94	1.372	0.088	0.456	0.651
Want no more children	0.473	0.024	781	384	1.331	0.050	0.426	0.521
Want to delay birth at least 2 years	0.206	0.018	781	384	1.251	0.088	0.170	0.242
Ideal number of children	5.046	0.131	754	371	1.320	0.026	4.784	5.308
Mothers protected against tetanus for last birth	0.284	0.036	514	251	1.808	0.126	0.213	0.356
Births with skilled attendant at delivery	0.449	0.043	785	384	2.045	0.095	0.363	0.534
Had diarrhea in the last two weeks	0.356	0.021	761	373	1.139	0.059	0.315	0.398
Treated with ORS	0.238	0.028	272	133	1.018	0.117	0.183	0.294
Sought medical treatment for diarrhea	0.335	0.030	272	133	0.972	0.089	0.276	0.395
Vaccination card seen	0.299	0.071	133	67	1.831	0.239	0.156	0.442
Received BCG vaccination	0.561	0.075	133	67	1.741	0.133	0.412	0.711
Received penta vaccination (three doses)	0.420	0.072	133	67	1.711	0.172	0.276	0.565
Received polio vaccination (three doses)	0.441	0.070	133	67	1.651	0.159	0.300	0.581
Received measles vaccination	0.522	0.062	133	67	1.445	0.119	0.398	0.647
Received all vaccinations	0.338	0.069	133	67	1.710	0.204	0.200	0.476
Received pnemococcal vaccination (three doses)	0.236	0.066	133	67	1.815	0.278	0.105	0.367
Height-for-age (-2SD)	0.519	0.026	677	333	1.282	0.051	0.466	0.571
Weight-for-height (-2SD)	0.136	0.016	677	333	1.183	0.119	0.104	0.169
Weight-for-age (-2SD)	0.394	0.026	677	333	1.247	0.065	0.343	0.446
Body mass index (BMI) < 18.5	0.210	0.016	1154	556	1.312	0.075	0.178	0.241
Prevalence of anemia (children)	0.807	0.031	209	106	1.133	0.038	0.745	0.869
Prevalence of anemia (women)	0.678	0.040	394	193	1.725	0.060	0.598	0.759
Total fertility rate (three years)	4.503	0.326	3635	1757	1.649	0.072	3.852	5.154
Neonatal mortality rate (last 0-4 years)	32.658	4.844	1640	808	0.966	0.148	22.971	42.346
Postneonatal mortality rate (last 0-4 years)	10.036	2.429	1639	808	0.938	0.242	5.177	14.894
Infant mortality rate (last 0-4 years)	42.694	4.280	1641	808	0.813	0.100	34.135	51.253
Child mortality rate (last 0-4 years)	4.893	1.686	1620	797	0.961	0.345	1.521	8.264
Under-5 mortality rate (last 0-4 years)	47.378	5.155	1642	809	0.933	0.109	37.067	57.689

Table B.25 Sampling errors: Reimah sample, Yemen 2013

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
Urban residence	0.010	0.000	1097	520	0.162	0.049	0.009	0.011
Literacy	0.294	0.033	1097	520	2.412	0.113	0.228	0.361
No education	0.644	0.035	1097	520	2.388	0.054	0.575	0.714
Secondary or higher education	0.072	0.017	1097	520	2.118	0.230	0.039	0.105
Never married (never in union)	0.327	0.017	1097	520	1.168	0.051	0.294	0.360
Currently married (in union)	0.635	0.017	1097	520	1.163	0.027	0.601	0.669
Married before age 20	0.675	0.022	801	381	1.335	0.033	0.630	0.719
Currently pregnant	0.112	0.011	1097	520	1.136	0.096	0.091	0.134
Children ever born	3.110	0.136	1097	520	1.290	0.044	2.838	3.382
Children surviving	2.776	0.111	1097	520	1.192	0.040	2.555	2.998
Children ever born to women age 40-49	8.156	0.333	130	64	1.159	0.041	7.491	8.821
Knows any contraceptive method	0.980	0.007	686	330	1.333	0.007	0.965	0.994
Knows any modern contraceptive method	0.980	0.007	686	330	1.333	0.007	0.965	0.994
Currently using any method	0.140	0.020	686	330	1.510	0.143	0.100	0.180
Currently using a modern method	0.124	0.018	686	330	1.466	0.149	0.087	0.161
Currently using a traditional method	0.016	0.005	686	330	1.072	0.321	0.006	0.026
Currently using pill	0.054	0.012	686	330	1.338	0.215	0.030	0.077
Currently using condoms	0.002	0.002	686	330	1.123	0.997	0.000	0.006
Currently using injectables	0.034	0.008	686	330	1.213	0.246	0.017	0.051
Currently using female sterilization	0.007	0.003	686	330	0.964	0.429	0.001	0.014
Currently using rhythm	0.006	0.003	686	330	0.950	0.471	0.000	0.011
Currently using withdrawal	0.007	0.003	686	330	1.015	0.457	0.001	0.014
Used public sector source	0.572	0.075	91	39	1.432	0.131	0.422	0.722
Want no more children	0.426	0.028	686	330	1.478	0.066	0.370	0.482
Want to delay birth at least two years	0.175	0.014	686	330	0.988	0.082	0.147	0.204
Ideal number of children	4.340	0.176	650	315	1.887	0.041	3.989	4.692
Mothers protected against tetanus for last birth	0.143	0.022	507	246	1.432	0.154	0.099	0.187
Births with skilled attendant at delivery	0.126	0.020	867	423	1.436	0.155	0.087	0.165
Had diarrhea in the last two weeks	0.306	0.029	826	401	1.538	0.096	0.248	0.365
Treated with ORS	0.339	0.045	243	123	1.216	0.133	0.249	0.430
Sought medical treatment for diarrhea	0.334	0.050	243	123	1.366	0.151	0.233	0.435
Vaccination card seen	0.537	0.070	158	77	1.779	0.131	0.397	0.677
Received BCG vaccination	0.697	0.041	158	77	1.137	0.059	0.615	0.780
Received penta vaccination (three doses)	0.610	0.057	158	77	1.483	0.093	0.496	0.724
Received polio vaccination (three doses)	0.528	0.056	158	77	1.431	0.107	0.415	0.640
Received measles vaccination	0.677	0.050	158	77	1.364	0.074	0.577	0.778
Received all vaccinations	0.343	0.056	158	77	1.483	0.163	0.231	0.455
Received pnemococcal vaccination (three doses)	0.398	0.057	158	77	1.478	0.144	0.284	0.513
Height-for-age (-2SD)	0.627	0.029	774	388	1.452	0.045	0.570	0.684
Weight-for-height (-2SD)	0.153	0.019	774	388	1.371	0.122	0.116	0.190
Weight-for-age (-2SD)	0.509	0.024	774	388	1.221	0.047	0.462	0.557
Body mass index (BMI) < 18.5	0.255	0.028	950	448	1.950	0.109	0.199	0.310
Prevalence of anemia (children)	0.894	0.020	227	116	0.873	0.022	0.855	0.934
Prevalence of anemia (women)	0.783	0.033	310	153	1.430	0.042	0.717	0.848
Total fertility rate (three years)	5.874	0.336	2989	1422	1.476	0.057	5.202	6.545
Neonatal mortality rate (last 0-4 years)	32.602	3.764	1759	853	0.831	0.115	25.075	40.130
Postneonatal mortality rate (last 0-4 years)	21.520	5.052	1752	848	1.243	0.235	11.415	31.624
Infant mortality rate (last 0-4 years)	54.122	5.840	1760	853	0.979	0.108	42.442	65.802
Child mortality rate (last 0-4 years)	13.043	3.214	1758	854	1.158	0.246	6.616	19.470
Under-5 mortality rate (last 0-4 years)	66.459	6.897	1764	855	1.014	0.104	52.666	80.253

DATA QUALITY TABLES

Table C.1   Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Yemen 2013

Age	Ever-married women Number	Percent	Never-married women Number	Percent	Age	Ever-married women Number	Percent	Never-married women Number	Percent
0	1,656	2.9	1,632	3.1	37	446	0.8	328	0.6
1	1,462	2.6	1,516	2.9	38	562	1.0	418	0.8
2	1,468	2.6	1,571	3.0	39	377	0.7	287	0.5
3	1,429	2.5	1,547	2.9	40	772	1.4	844	1.6
4	1,488	2.6	1,610	3.1	41	213	0.4	186	0.4
5	1,255	2.2	1,292	2.5	42	332	0.6	348	0.7
6	1,811	3.2	1,865	3.5	43	363	0.6	269	0.5
7	1,751	3.1	1,844	3.5	44	173	0.3	155	0.3
8	1,855	3.3	1,775	3.4	45	621	1.1	662	1.3
9	1,513	2.7	1,490	2.8	46	216	0.4	155	0.3
10	1,793	3.2	1,856	3.5	47	192	0.3	163	0.3
11	1,273	2.2	1,480	2.8	48	332	0.6	260	0.5
12	1,661	2.9	1,912	3.6	49	152	0.3	154	0.3
13	1,680	3.0	1,682	3.2	50	830	1.5	650	1.2
14	1,487	2.6	1,475	2.8	51	380	0.7	185	0.4
15	1,379	2.4	1,449	2.8	52	509	0.9	253	0.5
16	1,306	2.3	1,247	2.4	53	396	0.7	216	0.4
17	1,258	2.2	1,097	2.1	54	209	0.4	115	0.2
18	1,559	2.8	1,375	2.6	55	654	1.2	491	0.9
19	1,150	2.0	902	1.7	56	187	0.3	166	0.3
20	1,613	2.8	1,319	2.5	57	126	0.2	129	0.2
21	797	1.4	641	1.2	58	208	0.4	136	0.3
22	1,066	1.9	894	1.7	59	98	0.2	93	0.2
23	1,089	1.9	805	1.5	60	587	1.0	723	1.4
24	825	1.5	627	1.2	61	83	0.1	104	0.2
25	1,509	2.7	1,049	2.0	62	132	0.2	163	0.3
26	833	1.5	601	1.1	63	117	0.2	132	0.3
27	800	1.4	601	1.1	64	63	0.1	82	0.2
28	979	1.7	692	1.3	65	329	0.6	397	0.8
29	679	1.2	455	0.9	66	58	0.1	82	0.2
30	1,353	2.4	1,184	2.3	67	60	0.1	73	0.1
31	424	0.8	322	0.6	68	63	0.1	94	0.2
32	623	1.1	561	1.1	69	30	0.1	41	0.1
33	522	0.9	370	0.7	70+	1,503	2.7	1,769	3.4
34	420	0.7	291	0.6	Don't know/missing	6	0.0	11	0.0
35	1,043	1.8	944	1.8					
36	408	0.7	314	0.6	Total	56,593	100.0	52,621	100.0

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

Table C.2 Age distribution of eligible and interviewed women

De facto household population of women age 10-54, interviewed women age 15-49; and percent distribution and percentage of eligible women who were interviewed (weighted), by five-year age groups, Yemen 2013

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
		Number	Percentage	
10-14	7,893	na	na	na
15-19	6,651	6,265	24.9	94.2
20-24	5,390	5,139	20.4	95.4
25-29	4,801	4,598	18.3	95.8
30-34	3,342	3,193	12.7	95.5
35-39	2,837	2,742	10.9	96.7
40-44	1,853	1,779	7.1	96.0
45-49	1,512	1,444	5.7	95.5
50-54	2,324	na	na	na
15-49	26,386	25,161	100.0	95.4

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the Household Questionnaire.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Yemen 2013

Subject	Reference group	Percentage with information missing	Number of cases
Birth date	Births in the 15 years preceding the survey		
Month only		25.39	45,831
Month and year		0.10	45,831
Age at death	Deceased children born in the 15 years preceding the survey	2.61	2,856
Age/date at first union[1]	Ever-married women age 15-49	0.79	16,564
Respondent's education	All women age 15-49	0.00	25,434
Diarrhea in last 2 weeks	Living children 0-59 months	0.63	15,170
Anthropometry of children	Living children age 0-59 months from the Household Questionnaire		
Height		7.27	15,616
Weight		5.73	15,616
Height or weight		7.41	15,616
Anthropometry of women	All women 15-49 from the Household Questionnaire		
Height		6.18	26,385
Weight		6.01	26,385
Height or weight		6.29	26,385
Anemia			
Children	Living children age 6-59 months from the Household Questionnaire	15.94	4,500
Women	All women from the Household Questionnaire	12.74	8,463

[1] Both year and age missing

Table C.4   Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), Yemen 2013

Calendar year	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]		
	L	D	T	L	D	T	L	D	T	L	D	T
2013	2,722	112	2,834	100.0	99.9	100.0	97.9	99.1	97.9	na	na	na
2012	3,129	144	3,273	100.0	98.4	99.9	103.4	150.3	105.1	na	na	na
2011	3,052	128	3,180	100.0	99.3	99.9	106.7	146.0	108.0	101.1	87.8	100.4
2010	2,911	147	3,058	100.0	100.0	100.0	107.7	151.5	109.5	95.5	103.6	95.8
2009	3,048	155	3,203	100.0	98.3	99.9	106.4	111.8	106.7	112.9	94.1	111.8
2008	2,489	184	2,673	99.9	97.9	99.8	105.3	125.8	106.6	76.3	97.0	77.4
2007	3,479	223	3,702	65.5	54.2	64.8	105.7	99.7	105.3	120.8	114.5	120.4
2006	3,273	206	3,479	61.7	51.1	61.0	104.6	107.9	104.8	97.7	88.9	97.1
2005	3,221	241	3,462	61.3	46.5	60.3	99.5	113.7	100.5	109.6	122.8	110.5
2004	2,603	186	2,789	57.9	45.3	57.1	101.8	91.9	101.1	83.0	81.1	82.9
2009-2013	14,862	685	15,548	100.0	99.1	99.9	104.5	130.6	105.5	na	na	na
2004-2008	15,065	1,041	16,105	68.1	57.9	67.5	103.4	107.2	103.6	na	na	na
1999-2003	12,935	1,093	14,028	55.4	44.1	54.5	107.1	144.4	109.6	na	na	na
19941998	8,500	1,127	9,627	51.8	42.6	50.7	103.9	114.7	105.1	na	na	na
< 1994	7,202	1,349	8,551	47.3	38.8	46.0	104.5	122.3	107.1	na	na	na
All	58,563	5,295	63,858	68.5	52.3	67.1	104.7	122.6	106.0	na	na	na

na = Not applicable
[1] Both year and month of birth given
[2] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively
[3] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5   Reporting of age at death in days

Distribution of reported deaths under 1 month by age at death in days and the percentage of neonatal deaths reported to occur at age 0-6 days, for five-year periods of birth preceding the survey (weighted), Yemen 2013

Age at death (days)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1	80	89	72	74	315
1	109	126	104	89	427
2	35	23	52	14	125
3	55	52	53	41	201
4	22	21	20	10	73
5	12	11	14	10	47
6	7	7	5	6	25
7	19	22	24	31	96
8	4	5	3	6	19
9	3	3	1	1	8
10	6	10	18	7	42
11	0	0	3	0	3
12	5	7	3	9	23
13	3	2	2	3	9
14	12	11	13	4	40
15	9	11	27	25	72
17	0	0	1	0	1
18	0	0	1	7	8
19	0	0	0	0	0
20	9	9	10	7	35
21	7	4	2	7	20
22	5	0	2	1	8
23	0	2	2	0	4
24	0	0	0	1	2
25	2	5	2	0	9
Total 0-30	405	424	432	352	1,612
Percentage early neonatal[1]	79.2	77.9	74.1	69.0	75.3

[1] 0-6 days / 0-30 days

Table C.6   Reporting of age at death in months

Distribution of reported deaths under age 2 by age at death in months and percentage of infant deaths reported at age under 1 month, by five-year periods preceding the survey, Yemen 2013

Age at death (months)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1[a]	405	424	432	352	1,612
1	37	64	77	63	241
2	43	33	58	40	174
3	23	35	45	36	140
4	23	37	34	55	150
5	12	34	19	33	98
6	23	43	34	30	130
7	19	44	48	45	156
8	20	26	27	39	112
9	9	28	17	34	88
10	5	14	16	7	41
11	4	11	4	8	27
12	39	55	97	124	315
13	3	1	0	2	5
14	0	5	2	1	8
15	1	1	2	0	5
16	6	0	1	0	8
17	0	2	3	0	5
18	3	10	7	3	22
19	0	0	6	2	9
20	0	1	0	2	3
21	3	3	0	1	6
22	0	0	2	2	4
Total 0-11	623	793	809	742	2,968
Percentage neonatal[1]	64.9	53.5	53.4	47.4	54.3

[a] Includes deaths under 1 month reported in days
[1] Under 1 month / under 1 year

Table C.7   Nutritional status of children based on the NCHS/CDC/WHO International Reference Population

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, based on the NCHS/CDC/WHO International Reference Population, Yemen 2013

Background characteristic	Height-for-age[1]			Weight-for-height				Weight-for-age				Number of children
	Percent-age below -3 SD	Percent-age below -2 SD[2]	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	
Age in months												
<6	2.5	10.2	-0.4	2.2	8.8	4.7	-0.3	1.2	9.1	3.0	-0.5	1,364
6-8	6.9	23.2	-1.0	3.3	17.3	2.2	-0.9	10.0	33.3	0.2	-1.5	730
9-11	8.4	23.3	-1.1	4.3	18.5	1.5	-1.1	10.8	39.8	0.1	-1.7	671
12-17	16.0	37.3	-1.6	4.7	24.3	1.5	-1.1	15.9	49.6	0.1	-1.9	1,640
18-23	22.6	48.6	-2.0	3.6	19.0	0.9	-1.1	14.7	46.9	0.4	-1.9	1,131
24-35	20.9	44.1	-1.8	2.0	12.9	0.6	-1.0	16.8	49.3	0.3	-2.0	2,804
36-47	24.2	50.6	-2.1	2.0	11.7	0.7	-1.0	13.5	49.5	0.3	-2.0	2,668
48-59	24.4	51.4	-2.1	1.4	11.5	1.0	-1.0	12.4	51.0	0.3	-2.0	2,791
Sex												
Male	19.4	41.3	-1.7	2.7	15.1	1.3	-1.0	12.7	43.9	0.4	-1.8	7,038
Female	17.9	40.5	-1.7	2.4	13.6	1.5	-0.9	13.0	44.6	0.7	-1.8	6,762
Residence												
Urban	10.2	28.3	-1.3	2.1	12.2	1.8	-0.9	7.0	33.7	0.7	-1.5	3,782
Rural	21.8	45.7	-1.9	2.7	15.2	1.2	-1.0	15.0	48.2	0.5	-1.9	10,018
Governorate												
Ibb	17.9	41.5	-1.7	1.4	7.9	1.5	-0.7	9.5	35.6	0.3	-1.6	1,553
Abyan	5.3	18.4	-0.9	2.0	18.1	0.4	-1.1	4.7	31.8	0.4	-1.4	284
Sana'a City	7.8	25.3	-1.2	1.5	9.0	1.8	-0.8	5.0	27.0	0.9	-1.4	1,166
Al-Baidha	12.5	29.9	-1.3	4.3	12.8	0.5	-0.9	9.0	33.6	0.2	-1.5	534
Taiz	15.9	39.7	-1.7	1.6	13.6	1.2	-1.0	13.2	44.7	0.9	-1.8	1,859
Al-Jawf	25.1	49.4	-2.0	1.9	8.1	1.3	-0.8	11.1	44.4	0.3	-1.8	130
Hajjah	28.5	52.8	-2.2	2.3	18.3	0.9	-1.1	21.1	61.2	0.5	-2.2	933
Al-Hodiedah	20.3	43.2	-1.8	5.2	25.2	1.0	-1.3	20.0	61.1	0.1	-2.2	1,808
Hadramout	10.0	25.4	-1.1	3.2	16.0	2.5	-0.9	5.8	31.5	0.5	-1.4	517
Dhamar	29.0	54.1	-2.1	1.7	12.0	1.0	-0.8	17.2	49.5	0.9	-1.9	1,097
Shabwah	11.4	24.3	-0.9	5.3	19.8	4.5	-0.9	6.8	30.0	1.0	-1.3	214
Sadah	31.2	54.6	-2.2	5.3	14.9	2.1	-0.9	18.6	55.4	1.4	-2.0	372
Sana'a	17.3	41.5	-1.7	2.2	13.4	1.2	-0.8	10.4	37.8	0.2	-1.7	731
Aden	5.4	19.3	-0.9	0.8	14.6	1.9	-1.0	5.4	32.0	0.6	-1.4	345
Lahj	11.4	31.0	-1.4	2.0	14.2	1.9	-1.0	7.6	38.4	0.6	-1.7	332
Mareb	14.9	36.4	-1.5	2.0	11.9	1.6	-0.8	10.6	36.8	0.8	-1.6	101
Al-Mhweit	22.1	47.7	-1.9	3.0	14.9	1.6	-0.9	12.9	46.8	0.4	-1.9	450
Al-Mhrah	5.4	19.1	-0.9	2.1	14.6	1.3	-0.9	3.4	30.5	0.5	-1.3	48
Amran	25.5	54.3	-2.1	1.3	10.0	1.2	-0.8	12.5	47.9	0.1	-1.9	599
Aldhalae	21.7	44.8	-1.9	1.8	11.4	1.0	-0.9	12.6	42.2	0.8	-1.8	338
Reimah	32.4	58.7	-2.3	2.6	12.9	1.5	-0.9	19.0	56.4	0.1	-2.1	390
Wealth quintile												
Lowest	28.2	53.6	-2.1	3.6	19.5	0.9	-1.1	22.6	59.9	0.5	-2.2	3,128
Second	23.7	49.3	-2.0	2.5	15.8	1.1	-1.0	15.2	50.7	0.3	-1.9	2,979
Middle	19.6	42.6	-1.8	2.3	11.5	1.3	-0.9	11.6	41.7	0.6	-1.7	2,797
Fourth	12.0	32.4	-1.4	2.2	12.4	2.0	-0.9	7.3	36.5	0.6	-1.6	2,504
Highest	5.8	20.8	-1.0	1.7	11.2	1.6	-0.8	4.2	26.8	0.8	-1.3	2,392
Total	18.7	40.9	-1.7	2.5	14.3	1.4	-0.9	12.8	44.2	0.5	-1.8	13,800

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SDs) from the median of the NCHS/CDC/WHO International Reference Population. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.
[1] Recumbent length is measured for children under age 2, or in the few cases where the age of the child is unknown and the child is less than 85 cm, standing height is measured for all other children to be consistent with Table 11.1.1.
[2] Includes children who are below -3 standard deviations (SDs) from the International Reference Population median.

Table C.8   Need and demand for family planning for currently married women (definition used in 1997)

Percentage of currently married women age 15-49 with unmet need for family planning, the percentage with met need for family planning, the total demand for family planning, and the percentage of the demand for contraception that is satisfied, by background characteristics, Yemen 2013

Background characteristic	Unmet need for family planning			Met need for family planning (currently using)			Total demand for family planning[1]			Percentage of demand satisfied[2]	Percentage of demand satisfied by modern methods[3]	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total			
Age												
15-19	26.4	2.4	28.8	11.9	1.3	13.2	38.3	3.7	42.0	31.4	28.7	1,084
20-24	21.8	5.4	27.2	19.9	5.6	25.4	41.7	11.0	52.7	48.3	43.6	2,968
25-29	19.1	9.2	28.2	23.3	13.1	36.4	42.3	22.3	64.6	56.3	50.7	3,574
30-34	11.8	15.0	26.8	18.1	22.0	40.2	30.0	37.0	67.0	59.9	53.0	2,675
35-39	9.1	21.1	30.3	11.6	28.9	40.5	20.7	50.1	70.7	57.2	48.7	2,409
40-44	3.5	21.2	24.7	4.4	32.9	37.4	7.9	54.1	62.0	60.2	49.3	1,579
45-49	1.7	19.5	21.2	2.7	26.6	29.2	4.4	46.0	50.4	58.0	45.4	1,277
Residence												
Urban	10.5	8.0	18.4	23.9	23.5	47.5	34.4	31.5	65.9	72.0	61.0	4,949
Rural	16.1	15.2	31.3	11.6	15.3	27.0	27.7	30.5	58.3	46.3	41.2	10,617
Governorate												
Ibb	18.9	13.2	32.1	14.9	17.8	32.7	33.8	31.0	64.8	50.5	47.4	1,678
Abyan	7.1	10.0	17.2	19.2	13.2	32.4	26.3	23.2	49.6	65.4	59.6	326
Sana'a City	7.4	6.0	13.4	29.8	26.4	56.2	37.2	32.4	69.6	80.8	69.1	1,510
Al-Baidha	14.8	14.1	28.9	15.3	18.6	33.9	30.1	32.6	62.8	54.0	48.1	702
Taiz	12.9	11.2	24.1	13.4	18.0	31.4	26.3	29.2	55.5	56.6	49.9	2,053
Al-Jawf	19.0	15.1	34.1	13.6	12.7	26.3	32.6	27.9	60.5	43.6	42.9	124
Hajjah	21.5	25.5	47.0	4.7	12.4	17.1	26.1	37.9	64.0	26.7	25.7	867
Al-Hodiedah	18.0	19.7	37.8	5.7	10.9	16.5	23.7	30.6	54.3	30.4	25.3	1,891
Hadramout	12.2	4.2	16.4	27.2	10.1	37.3	39.4	14.3	53.8	69.4	51.2	884
Dhamar	15.8	14.7	30.6	17.4	17.8	35.2	33.2	32.6	65.8	53.5	50.5	1,106
Shabwah	19.1	9.9	29.0	11.9	9.4	21.3	31.0	19.3	50.3	42.3	38.5	293
Sadah	11.3	10.7	22.0	16.4	16.3	32.7	27.7	27.0	54.7	59.8	49.2	504
Sana'a	10.7	10.7	21.4	21.3	28.4	49.7	32.0	39.1	71.1	69.9	58.1	831
Aden	7.8	6.2	14.0	17.3	29.5	46.9	25.1	35.7	60.9	77.0	66.4	487
Lahj	9.9	12.8	22.8	12.6	20.6	33.2	22.5	33.4	56.0	59.3	54.2	405
Mareb	20.7	11.2	31.8	15.3	10.5	25.7	35.9	21.6	57.6	44.7	37.0	111
Al-Mhweit	20.0	20.2	40.2	7.1	16.0	23.1	27.1	36.2	63.3	36.5	31.0	425
Al-Mhrah	9.8	5.4	15.2	21.6	11.3	32.9	31.4	16.7	48.0	68.4	41.6	61
Amran	10.6	9.4	20.0	20.4	28.0	48.3	31.0	37.4	68.4	70.7	61.3	595
Aldhalae	12.7	12.2	24.9	12.2	22.0	34.2	24.9	34.2	59.1	57.8	49.3	384
Reimah	20.5	19.2	39.7	5.3	8.7	14.0	25.8	27.9	53.7	26.1	23.1	330
Education												
No education	13.4	18.2	31.6	9.2	18.7	28.0	22.6	36.9	59.5	47.0	41.6	8,336
Fundamental	16.0	7.7	23.7	20.4	17.3	37.7	36.4	25.0	61.5	61.4	52.8	5,090
Secondary	15.3	5.3	20.6	27.2	15.4	42.6	42.5	20.7	63.2	67.4	59.1	1,511
Higher	10.1	3.3	13.3	31.4	19.0	50.4	41.5	22.3	63.8	79.1	64.0	629
Wealth quintile												
Lowest	19.1	22.5	41.6	5.1	9.4	14.5	24.3	31.9	56.1	25.9	24.3	2,840
Second	17.2	15.2	32.3	9.6	14.4	24.0	26.7	29.6	56.4	42.6	37.3	3,076
Middle	14.5	12.8	27.3	14.0	19.8	33.8	28.5	32.6	61.1	55.3	50.0	3,141
Fourth	12.0	8.8	20.8	21.2	21.1	42.2	33.2	29.8	63.0	67.0	56.9	3,147
Highest	9.6	6.7	16.3	25.9	23.8	49.7	35.5	30.5	66.0	75.3	64.0	3,362
Total	14.3	12.9	27.2	15.5	18.0	33.5	29.8	30.9	60.7	55.2	48.0	15,566

Note: Numbers in this table correspond to the OLD definition of unmet need.
[1] Total demand is the sum of unmet need and met need.
[2] Percentage of demand satisfied is met need divided by total demand.
[3] Modern methods include female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, and lactational amenorrhea method (LAM).

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Mohammed Abdullah Khalil	Abdullah Naji Al Hammadi
Ibrahim Abdul Latif Al-Shawkaani	Adnan Hussein
Dr. Nora Ahmed Mahdi	Sam Al-Bashiri
Ahmed Nasser Al-Mithala	Abdullah Mohammed Shamsan
Labib Ahmad Al-Absi	Ibrahim Abdul Latif Al-Shawkaani
Ahmed Amer Hamati	Labib Ahmad Taher
Abdullah Maaodah	Ahmed Al-Mithali

Household Listing Update and Enumeration: Fieldwork Teams

Governorate	Team Number	Name	Position
Ibb	1	Hassan Ali Mohammed Al-Arami	Team Leader
		Ahmed Sorour	Interviewer
		Abdullah Mohammed Rageh	Interviewer
		Akram Abdullah Eida	Interviewer
		Osama Khalid Mcrad	Interviewer
		Ibrahim Al-Khawlaani	Driver
Ibb	2	Mohammad Ali Qasim Al-Maitami	Team Leader
		Mohammed Yahya Al-Aerami	Interviewer
		Salah Al-Hubaishi	Interviewer
		Ibrahim Al-Kibsi	Interviewer
		Khaled Ahmad Mosaad	Driver
Abbyan	1	Mohammed Ali Al-Fatmi	Team Leader
		Mohammed Abdullah Mouzahem	Interviewer
		Salem Mohammed	Interviewer
		Ahmed Mohamed Al-Shubaily	Interviewer
		Khaled Al-Barkani	Driver
Abbyan	2	Saleh Waheeb Ali	Team Leader
		Hassan Afif Hassan	Interviewer
		Nasser Ahmed	Interviewer
		Fadel Muhammad Hydra	Interviewer
		Nasser Ali Ebadi	Interviewer
		Muhammad Ali Al-Dmdmi	Driver

Governorate	Team Number	Name	Position
Sana'a City	1	Tahir Abdlwali Haider	Team Leader
		Amin Saeed Ismail	Interviewer
		Ali Abdul Rahim Ahmad	Interviewer
		Ziad Mohammed Al-Mashriki	Interviewer
		Abd Al-Bari Lotf Al-Hadrami	Interviewer
		Bandar Alecoqbani	Driver
Sana'a City	2	Ahmed Ahmed Sayani	Team Leader
		Ali Ahmed Faqih	Interviewer
		Nizar Abdel-Mogni	Interviewer
		Ahmed Abdel Karim Jobran	Interviewer
		Bashir Hamid Alnafish	Interviewer
		Hamid Alecoqbani	Driver
Al-Baidha	1	Aref Ali Qahtan	Team Leader
		Abdullah Al-Badani	Interviewer
		Abdel Moneim Al-Museibli	Interviewer
		Abdullah Al-Jalal	Interviewer
		Ammar Al-Wosabi	Interviewer
		Ali Al-Badani	Driver
Al-Baidha	2	Mustafa Ahmed Kamli	Team Leader
		Mokbel Al-Dhahiri	Interviewer
		Mujahid Almdhraie	Interviewer
		Saleh Alhsaisai	Interviewer
		Salem Alqrfush	Interviewer
		Zaid Dhmh	Driver
Taiz	1	Mohammed Al-Ghannam	Team Leader
		Abdo Saad bin Saad Qradah	Interviewer
		Amin Mohammed Radman	Interviewer
		Fouad Raweh Haider	Interviewer
		Waheeb Al-awadi	Interviewer
		Mohammed Ahmed Al-Othri	Driver
Taiz	2	Amin HSA Dgesh	Team Leader
		AbduleIlah Noman Al-Barkani	Interviewer
		Amer Wali Al-Mufich	Interviewer
		Abdullah Abdu Saif Al-Zoreiky	Interviewer
		Fuad Yahya Muharram	Interviewer
		Abdul Karim Al-Kadi	Driver
Socotra	1	Saeed Saif	Team Leader
Al-Jawf	1	Saleh Ali Abbar	Team Leader
		Arafat Ali Saeed	Interviewer
		Abdullah Abdullah Al-Haimi	Interviewer
		Essam Al-Sanabani	Interviewer
		Nabil Youssef Najmei	Interviewer
		Saleh Al-Qasimi	Driver

Governorate	Team Number	Name	Position
Al-Jawf	2	Khaled Saleh Al-Shabei	Team Leader
		Ali Ali Moqadar	Interviewer
		Abdullah Al-Fadhli	Interviewer
		Abed Rabbo Ahmd Hussein	Interviewer
		Abdulsalam Al-Dorani	Interviewer
		Saleh Al-Qasimi	Driver
Hajah	1	Iskandar Abdo Ali	Team Leader
		Mohammed Abdullah Damaqi	Interviewer
		Mohammad Hossein Al-Batahi	Interviewer
		Abdel Basset Azi Alskie	Interviewer
		Aidroos Nasser Al-Wadi'i	Interviewer
		Abdu Qasim Ali Ismail	Driver
Hajah	2	Abbas Mohammed Al-Ashram	Team Leader
		Khalid Abdullah Sora	Interviewer
		Hadrami Hadi Al-Hadrami	Interviewer
		Khaled Ahmed Mohamed Jomal	Interviewer
		Hashim Mohammed Hamza Fadaeel	Interviewer
		Abdul Razak Abdullah Murashed	Driver
Hadramout Al-Mukla	1	Omar Salem Bamkhtar	Team Leader
		Mohammad Ba Fadl	Interviewer
		Khaled Alcaldi	Interviewer
		Jihad Salmeen	Interviewer
		Ahmed Baharoon	Interviewer
		Bandar Abdo Saeed	Driver
Hadramout Seiyun	1	Hesham Mohamed Mnibari	Team Leader
		Mahfouz Salem Gafzan	Interviewer
		Abdullah Mubarak Badhaoui	Interviewer
		Sabri Said bin Sawad	Interviewer
		Hamed Al-Shamiri	Driver
Dhamar	1	Najib Mohammed Al-Komaim	Team Leader
		Abdul Jabbar Saad Al-Ansi	Interviewer
		Ahmed Mohammed Al-Shabibi	Interviewer
		Mohammed Al-Omaisi	Interviewer
		Majid Ali Naji Ayed	Interviewer
		Mohammed Hassan Ahmed Aobbad	Driver
Dhamar	2	Mohammed Hamoud Alqawani	Team Leader
		Bakil Mohammed Al-Kherash	Interviewer
		Tariq Abdullah Aidah	Interviewer
		Wadah Mohamed Othman	Interviewer
		Ezzedine Al-Humaidah	Interviewer
		Ali Al-Hassani	Driver
Shabwah	1	Saeed Ahmed Taleb Jaol	Team Leader
		Ali Abdul-Malik	Interviewer
		Abd AlKarim Al-Radhi	Interviewer
		Ahmed Saeed Ba htir	Interviewer
		Walid Tawfiq Al-Absi	Interviewer
		Ali Abdullah Saeed	Driver

Governorate	Team Number	Name	Position
Shabwah	2	Mehdi Salem Boraq	Team Leader
		Abdullah Saleh Aboud	Interviewer
		Abdullah Abu Bakr Al-Aqeel	Interviewer
		Jamal Omar Alaittali	Interviewer
		Ali Breek Abdullah	Interviewer
		Ahmed Al-Hasel	Driver
Sadah	1	Mohammed Salman Al-Mahdlj	Team Leader
		Ahmed Raji Al-Mhdhira	Interviewer
		Khaled Yahya Al-Marrani	Interviewer
		Mohammed Abdullah Al-Muzhar	Interviewer
		Amin Ahmed Al-Kibsi	Interviewer
		Ahmed Al-Gurabei	Driver
Sadah	2	Sadiq Moqbel Grsan	Team Leader
		Adnan Ali Mohamed Ibrahim	Interviewer
		Hamdi Faisal Mohammed Zafar	Interviewer
		Mohammed Ali Al-Huthi	Interviewer
		Ibrahim Hassan Al-Moaed	Interviewer
		Muhammad Ali Al-Bishari	Driver
Al-Hodeidah	1	Mehdi Ahmed Mahdi	Team Leader
		Ahmed Alfaz	Interviewer
		Morshed Hussein Ali	Interviewer
		Abdulkarim Al-Moalimei	Interviewer
		Hazza Almsorei	Interviewer
		Kamal Alois	Driver
Al-Hodeidah	2	Abdel Wahed Mohamed Ahmed	Team Leader
		Wajdi Mojamed Shaher	Interviewer
		Amin Al-Sharif	Interviewer
		Abdullah Barakat Shami	Interviewer
		Yasser Awad	Interviewer
		Mohammed Mohsen Al-Arows	Driver
Sana'a	1	Abed Rabbo Abdulwahab Al-Sobahi	Team Leader
		Abd Alnasser	Interviewer
		Najib Al-Harazi	Interviewer
		Muthanna Abdullatif Al-Shaibani	Interviewer
		Ali Naji Jubair	Interviewer
		Ali Hamid Khala	Driver
Sana'a	2	Bakil Mohammed Azam	Team Leader
		Badr Alqradi	Interviewer
		Khalid Al-Dar	Interviewer
		Ali Al-Harazi	Interviewer
		Taha Al-Shwkani	Interviewer
		Ali Al-Na'ami	Driver
Aden	1	Ali Abdu Saleh	Team Leader
		Yusuf Mohamed Saleh	Interviewer
		Ali Qaid Massoud	Interviewer
		Abdulrahman Abdullah Al Hammadi	Interviewer
		Jamal Mujahid Al-Athuri	Interviewer
		Abdel Nasser Mohammed Abdullah	Driver

Governorate	Team Number	Name	Position
Aden	2	Bassel Ahmed Abdullah	Team Leader
		Mohammed Abdulwase	Interviewer
		Rami Ahmed Saleh	Interviewer
		Khaled Taher	Interviewer
		Ahmed Haza	Interviewer
		Mohammed Hamid Gosailh	Driver
Lahj	1	Fadel Saleh Salami	Team Leader
		Badr Ahmed Fadel	Interviewer
		Abalhafez Hazem Hamood	Interviewer
		Salah Aladimi	Interviewer
		Haitham Othman Al-Qurashi	Interviewer
		Marwan Abdullah Abbas	Driver
Lahj	2	Sami Mohammed Saeed	Team Leader
		Mahmoud Ramadan Said	Interviewer
		Monasar Ahmed Mohsen	Interviewer
		Hani Al-Dosari	Interviewer
		Mohammed Farea Alzoreiky	Interviewer
		Khaled Saqeer	Driver
Mareb	1	Sadiq Hameed Alsamey	Team Leader
		Abdu Rashid	Interviewer
		Mohammed Hussein Al-Saleh	Interviewer
		Fawaz Ghalib Al-Salihi	Interviewer
		Abed Rabbo Moftah	Interviewer
		Said Salhi	Driver
Mareb	2	Abdulhakim Muhammad Sabei	Team Leader
		Abdulqawi Abdullah Ali	Interviewer
		Maher Sultan Al-Maqtari	Interviewer
		Abdo Raboh Moftah	Interviewer
		Sinan Al Abbasi	Driver
Al-mhweit	1	Ismail Lotf Al-Sormi	Team Leader
		Ghamdan Rashid Abdul Kader	Interviewer
		Majeed Sharaf Al-Wadi'i	Interviewer
		Waheed Ali Fjkhal	Interviewer
		Nasser Hamid Al-Sadiq	Interviewer
		Faisal Abdullah Awad	Driver
Al-mhweit	2	Muhammad Ali Sfran	Team Leader
		Mohammed Al-Absi	Interviewer
		Mohammed Alhvashi	Interviewer
		Khad Omar Al-Waelah	Interviewer
		Walid Gosailh	Driver
Al-Mahrah	1	Rdeim Mustahail Mubarak	Team Leader
		Rajab Said Awad	Interviewer
		Ali Omar Salim Al-Adl	Interviewer
		Mustafa Hydra Saleh	Interviewer
		Ahmed Qael Balhaf	Interviewer
		Mohammed Yehia Al-Khatabi	Driver

Governorate	Team Number	Name	Position
Al-Dhalee	1	Jubran Abdullah Ahmad	Team Leader
		Yusuf Mohamed Said	Interviewer
		Zayed Mohammed Hassan	Interviewer
		Eliaa Abdallah Mohammed Abubakar	Interviewer
		Nagib Mahmoud Morgan	Interviewer
		Sadiq Ali Mohammed	Driver
Al-Dhalee	2	Abdulkadir Ali Obadi Hassan	Team Leader
		Muhammad Ali Abboud	Interviewer
		Tariq Mosaeed Mohammed	Interviewer
		Ibrahim Ahmed Mohsen	Interviewer
		Saddam Mahmoud Saleh	Interviewer
		Abdulrahman Ali Naji	Driver
Amran	1	Kaid Favor Al-Hujairi	Team Leader
		Fayez Morfaq	Interviewer
		Akram Haider Hazza	Interviewer
		Mansour Abdul Jalil	Interviewer
		Mokbel Hezam Ziad	Interviewer
		Abdul Khaliq Abdo Mohammed	Driver
Amran	2	Yassin Ibrahim Saif	Team Leader
		Ziad Al-Bashari	Interviewer
		Abdulrahman Al Harfi	Interviewer
		Ibrahim Al-Tmah	Interviewer
		Ibrahim Al-Shamsi	Interviewer
		Mujahid Al-snhani	Driver
Rymah	1	Abdo Mohammed Abdullah Yahya	Team Leader
		Abdul Rahman Saleh	Interviewer
		Yahya Mahdi Saleh	Interviewer
		Ahmed Abdo Kaid	Interviewer
		Adel Saad Ali	Interviewer
		Mohammed Abdo Salah	Driver
Rymah	2	Ahmed Mahdi Mohammed Al-Aoqbi	Team Leader
		Amin Abdo Mohammed	Interviewer
		Abdulsalam Almsori	Interviewer
		Mushtaq Al-Absi	Interviewer
		Muammar Numan Moqbel	Interviewer
		Ali Mohamed Azman	Driver

Operations Team for Household Listing Update and Enumeration

Mohammed Khalil
Jamal Al-Duais
Adel Al-Sanhani

Ahmed Sawab
Ahmed Al-Hamati

Editing Team

Radiah Qasim Farei	Abdullah Maaodah
Fatmah Saif	Hayat Nassar
Nabeel Al-Ghaithi	Rana Al-Mrich
Wahbeia Al-Yemeni	Ahmad Waheeb
Iman Al-Turkey	Mustafa Al-Baidhani
Yasmin Othrb	Majid Al-Sabri
Abdul-Latif Al-Nunu	Abdul Salam Hanash
Hanan Al-Akwa	Fatehieah Abo Qaid
Bushra Al-Sanani	Hanan Abo Qaid
Nasr Salem	Ola Al-Jerizaa
Ibrahim Abdul Latif Al-Shawkaani	Elham Saleh Manshaline
Salwa Al-Ahdal	

Data Processing Team

Redha Mohammad	Abdullah Ahmad Hanash
Abdul-Aziz Al-Obeidi	Ammar Abdlwah Al-Wosabi
Alaa Al-Hakami	Mohammed Ahmed Alehizana
Mona Abdel-Rahman Commander	Muhammad Ali Al-Sharafi
Omar Mohamed Abdel Mogni	Nadia Ahmed Al-Romaih
Ahmed Ali Al-Ashwal	Amr Abdel-Ghani Al-Obeidi
Najib Morgan	Haitham Kassem Alwtari
Salah Ali Al-Wadi'i	Amat Al-Salam Mohammed Issa
Amat Al Salam Fatehi	Mukhtar Al-Hawafa

PRE-TEST

First: Training Team
Mr. Ahmed Abdullah Al-Kibsi
Dr. Nora Ahmed Mahdi

Fieldwork Team

Names	Position	Teams
Chakib Abdou Abdel Lord	Team Leader	Sana'a City
Murtada Abdul Al-Hadi	Editor	Al Hotheily
Lamia Abdullah Al-Akwa	Interviewer	First Team (Urban)
Khiria Abdullah Al-Shami	Interviewer	
Rana Abdul Wahid Youssef	Interviewer	
Iman Yahya Al-Marrani	Interviewer	
Nabeel Haider	Team Leader	Sana'a City
Ihab Jafar	Editor	Jeder
Hayat Muhammad Naseer Ahmad	Interviewer	Second Team (Urban)
Hanan Abdullah Ali	Interviewer	
Fetehiye Ali Abdullah	Interviewer	
Sahar Abdu Rashid	Interviewer	
Dammaj Mohammed Abdo Jameel	Team Leader	Sana'a City
Khalid Abdullah Ibrahim	Editor	Al-Hawri
Mona Omar Alohjeri	Interviewer	Hamdan District

Names	Position	Teams
Amira Abdel-Hamid Khaled	Interviewer	Third Team (Rural)
Entesar of Mohammed Ali Jawad	Interviewer	
Bushra Mohammed Al-Sanani	Interviewer	
Riad Hammoud Al-Saloi	Team Leader	Sana'a City
Saad Mohammed Al-Qurashi	Editor	Al-Jaki
Ishraq Ahmed Al-Kidny	Interviewer	Sanhan, Bani Bahlol
Ibtisam Mohammed Azzan	Interviewer	Fourth Team (Rural)
Fatima Mohammed Ishaq	Interviewer	
Khadija Hamad Shwk	Interviewer	

MAIN SURVEY

Preparation and Document Review

Dr. Abdul-Jabbar Ali Ghaithi
Mr. Mohammed Abdullah Khalil
Mr. Ahmed Kibsi
Dr. Nora Ahmed Mahdi
Mr. Ibrahim Abdul Latif Al-Shawkaani
Ms. Radiah Qasim Farei

Training Team

Mr. Ahmed Kibsi	Technical Survey Manager
Mr. Ahmed Almithali	Samples Team Head
Mr. Labib Taher	Leader of Fieldwork Team
Mr. Ibrahim Al-Shawkaani	Leader of Office Documents Preparation
Dr. Nora Mehdi	Member of office Documents Preparation
Mr. Mansour Mohammed Al-Qadasi	Nutrition Management MOHP
Mr. Abdo Saeed Al-Qudsi	Nutrition Management MOHP
Ms. Noor Ahmed Tantawi	Nutrition Management MOHP
Ms. Sally Ahmad Al-Iryani	Nutrition Management MOHP

Governorate	Team Number	Name	Position
Ibb	1	Salah Al-Hubaishi	Team Leader
		Mohammed Yahya Al-Aerami	Editor
		Lamia Hussein Abdul Razak	Interviewer
		Afrah Mahmoud Al-Qudsi	Interviewer
		Noha Abdullah Mohammed	Interviewer
		Bodoor Hussein Ali Abdu	Interviewer
		Khalid Al-Fareh	Driver
Ibb	2	Adel Abdullah Murshid	Team Leader
		Abdullah Mohammed Rageh	Editor
		Samira Ali Al-Rahbi	Interviewer
		Rabab Hamoud Al Ameri	Interviewer
		Hana Fuad Al-Ariqi	Interviewer
		Amal Abdul Mohammed Saif	Interviewer
		Sameer Al-Haimi	Driver

Governorate	Team Number	Name	Position
Abyn	1	Mohammed Al-Fatimi	Team Leader
		Nasser Ali Obadi	Editor
		Raja Abdo Mohammed	Interviewer
		Slimah Ali Hassan	Interviewer
		Wedad Omar Hassan	Interviewer
		Sarah Wahab Mohammed Abubakar	Interviewer
		Khalid Harun	Driver
Abyn	2	Nasser yslim Al-Awlaki	Team Leader
		Hassan Afif Hassan	Editor
		Asrar Mohammed Saeed	Interviewer
		Noria Abdulkarim	Interviewer
		Pune Awad Nqatha	Interviewer
		Najla Noman Ali	Interviewer
		Mohammed Ahmed Al-Saadi	Driver
Sana'a City	1	Ahmed Ahmed Al-Sayani	Team Leader
		Mohammed Ali Al-Absi	Editor
		Bushra Mohammed Al-Ward	Interviewer
		Afrah Yahya Qaheem	Interviewer
		Bushra Al-Sanani	Interviewer
		Samar Al-Ghanimi	Interviewer
		Bandar Ali Abdullah Al-Coqbani	Driver
Sana'a City	2	Abdulsalam Hanash	Team Leader
		Abdulrahman Hassan Thabet	Editor
		Lamia Abdullah Al-Akwa	Interviewer
		Bushra Abdullah Al-Sakkaf	Interviewer
		Hayat Ahmed Naseer	Interviewer
		Hanan Ali Aboukaaid	Interviewer
		Hamid Abdullah Al-Coqbani	Driver
Al-Baidhaa	1	Ahmed Hussein Dheifallah Awadi	Team Leader
		Fatehi Fadel Jadaan	Editor
		Amna Jabl Al-Saadi	Interviewer
		Wafaa Mohamed Abdo	Interviewer
		Fadia Abdalferd	Interviewer
		Hana Sufi Mohammad	Interviewer
		Saddam Hammoud Abdo	Driver
Al-Baidhaa	2	Saleh Salem Nasser	Team Leader
		Mustafa Ahmed Al-Kamli	Editor
		Jameelan Ali Masar	Interviewer
		Salwa Zain Allah	Interviewer
		Saadia Mohammed Arman	Interviewer
		Nossebah Al-Arabi	Interviewer
		Ahmed Hammoud Al-Hassel	Driver

Governorate	Team Number	Name	Position
Taiz	1	Fayez Abdo Hamoud Al-Taj	Team Leader
		Ziad Mohammed Al-Mashriqi	Editor
		Glila Hameed Hezam	Interviewer
		Najat Abdullah Al-Hakimi	Interviewer
		Ishraq Mohammed Sarhan	Interviewer
		Anisa Abdasameea Al-Arifi	Interviewer
Taiz	2	Abdul Razak Abdullah Murshed	Driver
		Amin Mohammed Radman	Team Leader
		Khaled Taher + Radhwan Qhtan	Editor
		Fawzia Abdullah Hassan	Interviewer
		Samah Ali Kaid	Interviewer
		Leila Khaled Said	Interviewer
		Lina Abdul Salam Ali Mohammed	Interviewer
		Mohammed Ahmed Al-Ahjeri	Driver
Al-Jawf	1	Ali Ali Moqadar	Team Leader
		Fadel Ghanem Jezelan	Editor
		Vzna Hassan Yahya Hagras	Interviewer
		Arwa Abdullah Awad	Interviewer
		Hyay Yahya Hamoud Al-Jabali	Interviewer
		Fatima Saleh Abadan	Interviewer
		Saleh Al-Qasimi	Driver
Al-Jawf	2	Zyad Al-Raebi	Team Leader
		Ibrahim Al-Mohaqery	Editor
		Khamisa Saleh Qaswah	Interviewer
		Mvlha Muhammad Ali Al-Aekm	Interviewer
		Sayedah Ali Hassan Ezzedine	Interviewer
		Jamilah Muhammad Hajar	Interviewer
		Khalid Al-Sheaibi	Driver
Hjjah	1	Iskandar Abdo Ali	Team Leader
		Muetasim Ali Abdalmagna	Editor
		Angam Sadeq Al-Hadrami	Interviewer
		Afaf Ahmed Bekele Abdullah	Interviewer
		AmatAllah Ahmed Qashwah	Interviewer
		Muntaha Ali Dhoush	Interviewer
		Iskandar Abdo	Driver
Hjjah	2	Abbas Mohammed Al-Ashram	Team Leader
		Hadrami Hadi Al-Hadrami	Editor
		AFrah Saleh Qaswah	Interviewer
		Salwa Hammoud Aljaboubi	Interviewer
		Reza Al-Qaedi	Interviewer
		Mariam Ahmed Al-Hussam	Interviewer
		Abbas Mohammed Al-Sherah	Driver

Governorate	Team Number	Name	Position
Hdaramout Al-Mukala	1	Omar Salem Bamkhtar	Team Leader
		Mohammed BaFadal	Editor
		Sukeinah Omar Baothman	Interviewer
		Afrah Saeed Belala	Interviewer
		Zakeeah Saeed Ali	Interviewer
		Rasha Abdul-Khaliq Al-Banaa	Interviewer
		Mohammed Saleh Al-Shawesh	Driver
Socotra		Saeed Saif	Editor
		Zamzam Ali Khalid Ali	Interviewer
Hadramout Seiyun	1	Hesham Mohamed Mnibara	Team Leader
		Jaman Kchmim	Editor
		Mona Ashour bin Mshmos	Interviewer
		Afrah Yasleem bin Cleep	Interviewer
		Thowani Hadi Obad	Interviewer
		Intesar Berak Al-Batati	Interviewer
		Labib Al-Absi	Driver
Dhmar	1	Najib Mohammed Al-Komim	Team Leader
		Abdullatif Al-Nunu	Editor
		Iman Al-Arashi	Interviewer
		Enas Mahmoud Lotf Al-Haimi	Interviewer
		Fawzia Ahmed Al-Faqih	Interviewer
		Amani Majid Al-Wosabi	Interviewer
		Ali Hammoud Ahmed Al-Mukhtar	Driver
Dhmar	2	Mohammed Hamoud Al-Qawana	Team Leader
		Abdullatif Jubair	Editor
		Amira Abdullah Al-Samet	Interviewer
		Bodoor the Sultan	Interviewer
		Ahlam Ali Abd Al Moghni	Interviewer
		Najla Al-Yadomi	Interviewer
		Mohammed Hassan Ahmed	Driver
Shabwah	1	Abdulhakim Al-Sabaee	Team Leader
		Mustafa Al-Baidhani	Editor
		Fatima Abdullah Saeed	Interviewer
		Rania Ali Abdullah	Interviewer
		Nabiha Diamond Mohammed Taleb	Interviewer
		Mohammed Al-Zaidi solution	Interviewer
		Rashid Al-Khaddabi	Driver
Shabwah	2	Saeed Ahmed Taleb Jaol	Team Leader
		Samir Ahmed Ali	Editor
		Bodoor Ali Salah	Interviewer
		Ishraq Mohammed Mubarak	Interviewer
		Waheedah Zine El Abidine	Interviewer
		Jamaica Ahmed Nasser Salem	Interviewer
		Ali Mohammed Naji	Driver

Governorate	Team Number	Name	Position
Sadah	1	Hamdi Faisal Mohammed Zafar	Team Leader
		Ahmed Hussein Raji	Editor
		Nujood Saleh Faraj	Interviewer
		Taqwa Khaled Ahmed	Interviewer
		Jojood Mohsen Sifan	Interviewer
		Nora Hassan Kassem	Interviewer
		Abdul Ghani Mohammed Hussein	Driver
Sadah	2	Ibrahim Hassan Al-Moaeed	Team Leader
		Jamil Nasher Grsan	Editor
		Ibtisam Ali Nasser Al-Qodimi	Interviewer
		Fadia Mohammed Al-Mutawakil	Interviewer
		Nabila Yahya Hadi	Interviewer
		Amatul-Rauf Khalid	Interviewer
		Zaid Mohammed Al-Moaed	Driver
Al-Hodiedah	1	Adel Ali Rpad	Team Leader
		Mehdi Ahmed Mahdi	Editor
		Hanan Yahya Ahmed	Interviewer
		Huda Ahmed Al-Hakami	Interviewer
		Aswan Hassan Al-Ahumaighani	Interviewer
		Hanan Nabil Al-Aladimi	Interviewer
		Mohammed Mohsen Al-Arows	Driver
Al-Hodiedah	2	Abdel Wahed Mohamed Ahmed	Team Leader
		Ahmed Alfaz	Editor
		Fatima Ishaq	Interviewer
		Khadija Hamad Ezi Shawk	Interviewer
		Ibtisam Ahmed Abdul Jalil	Interviewer
		Sawud Jaber Haron	Interviewer
		Hiav Abdullah	Driver
Sana'a	1	Abed Rabbo Abdulwahab Al-Sabahi	Team Leader
		Maeen Mohamed Barakat	Editor
		Inteasar Abed Rabbo Abdulwahab	Interviewer
		Jihad Lotf Alzkar	Interviewer
		Tareed Shamsan	Interviewer
		Zainab Al-Kahlani	Interviewer
		Ali Hamid Hammoud Khlaa	Driver
Sana'a	2	Bakil Mohammed Azam	Team Leader
		Majid Al-Sabri	Editor
		Saeedah Muhammad Al-Khawlaani	Interviewer
		Altaf Naji Al-Zubayri	Interviewer
		Rana Abdul Wahid Almrich	Interviewer
		Jamilah Yahya Al-Ansi	Interviewer
		Mohammed Ahmed Abdullah Al-Coqbani	Driver

Governorate	Team Number	Name	Position
Aden	1	Ali Abdu Saleh	Team Leader
		Mohammed Abdulwase	Editor
		Salwa Abdul-Halim Abdul-Wadood	Interviewer
		Fawzia Abdul Rab Rajah	Interviewer
		Rana Mahmood Abdulrahman	Interviewer
		Manal Mahioub Mohammed Radman	Interviewer
		Abdel Nasser Mohammed Abdullah	Driver
Aden	2	Mazen Jaafar	Team Leader
		Ahd Jamil Ghanem	Editor
		Zahra Saleh Ali	Interviewer
		Rana Mohammed Imam Aldein	Interviewer
		Ghada Ahmed Ali Abdu	Interviewer
		Afaf Abdullah Muthanna	Interviewer
		Shaya Ali Arabi	Driver
Lahj	1	Badr Ahmed Fadel	Team Leader
		Noah Allan	Editor
		Donia Abdo AlJabbar Ali	Interviewer
		Jamilah Mohammed Al-Maqtari	Interviewer
		Sana Khalid Fadel	Interviewer
		Wafa Ali Alawi	Interviewer
		Abdullah Al-Sharei	Driver
Lahj	2	Mahmoud Said Ramadan	Team Leader
		Sami Mohammed Saeed	Editor
		Jawdah Abdo Ali	Interviewer
		Ibtisam Ayyash Awad	Interviewer
		Nojood Mansour Sobeait	Interviewer
		Huda Nasser Awad	Interviewer
		Adnan Qasim	Driver
Mareb	1	Sadiq Abdul-Hameed Al-Samey	Team Leader
		Amin Mgidea	Editor
		Jamilah Qaid Thaber Maodah	Interviewer
		Rabab Ali Hassan Dhabayl	Interviewer
		Salhah Saleh Obad	Interviewer
		Fatima Ali Ali Al-Montaser	Interviewer
		Hassan Rajh	Driver
Al-mahweit	1	Ismail Lotf Al-Surmi	Team Leader
		Muhammad Ali Sfran	Editor
		Ibtisam Ahmed Al-Kebzra	Interviewer
		Sabah Mohammed Al-Shwbah	Interviewer
		Fatima Sharaf Al-Qadasi	Interviewer
		Ahlam Abdul Alkhaliq Mohammed	Interviewer
		Ismail Lotf Al-Surmi	Driver

Governorate	Team Number	Name	Position
Al-mahweit	2	Khaled Omar Alwealah	Team Leader
		Hamid Nasir Al-Akhram	Editor
		Safaa Sharaf Mohammed Salem	Interviewer
		Majida Al-Qarni	Interviewer
		Ahlam Mohammed Al-Saheer	Interviewer
		Hana Noman Al-Keibibi	Interviewer
		Hassan Rajh	Driver
Al-Marah	1	Ali Omar Salim Al-Adal	Team Leader
		Rajab Said Awad	Editor
		Samira Salem Awad Al-Nubian	Interviewer
		Ayedah Saeed Abdullah	Interviewer
		Amina Saad Khayef	Interviewer
		Fawzia Afraid Faraj	Interviewer
		Mohammed Yehia Al-Khatabi	Driver
Al-Dhalee	1	Jubran Abdullah Ahmad	Team Leader
		Yusuf Mohamed Said Hadi	Editor
		Haifa Mohammed bin Mohammed Hussein	Interviewer
		Intesar Ali Bin Ali	Interviewer
		Yasmin Mohammed Ali	Interviewer
		Elham Mohammad Ali Mohammed	Interviewer
		Sadiq Ali Mohammed Saeed	Driver
Al-Dhalee	2	Abdulkadir Ali Hassan Ebadi	Team Leader
		Muhammad Ali Abboud	Editor
		Intesar Ali Abdullah	Interviewer
		Olom Hamoud Abdullah	Interviewer
		Afrah Abdulkadir Hussein	Interviewer
		Aitzaz Ahmed Sufian	Interviewer
		Abdul Karim Fadel	Driver
Amran	1	Kaid Saleh Al-Hujairi	Team Leader
		Yassin Ibrahim Saif	Editor
		Amal Abdul Rahman Sharaf Al-Din	Interviewer
		Aman Naji AlFarji	Interviewer
		Khiria Abdullah Al-Shami	Interviewer
		Amatul-Khaleq Abbas Al-Mahdi	Interviewer
		Ali Saleh Anbar	Driver
Amran	2	Ibrahim Al-Tmah	Team Leader
		Akram Abdullah Eida	Editor
		Halima Hussein Muqbel Al-Ssar	Interviewer
		Hanan Ali Lotf Ata	Interviewer
		Fateheah Mohamed Ahmed Al-Wari	Interviewer
		Siham Ali Ahmed Marsh	Interviewer
		Saleh Al-Mdriki	Driver
Raymah	1	Abdullah Abdo Mohammed Yahya	Team Leader
		Ammar Abdul Wahab A-Wosabi	Editor
		Yasmin Mansoor Ali Haider	Interviewer
		Nadia Ali Mohamed Hassan	Interviewer
		Fateheah Nahishal	Interviewer
		Fatheah Ahmed Al-Salf	Interviewer
		Mohammed Salah Abdu-Salafi	Driver

Governorate	Team Number	Name	Position
Raymah	2	Ahmed Mahdi Mohammed Al-Oqbi	Team Leader
		Ali Mujahid Al-Samawi	Editor
		Noria Ahmed Abdamahmoud	Interviewer
		Aidah Abas Saleh	Interviewer
		Latifa Mohammed Al-Amrani	Interviewer
		Jalal Mohammed Ali Al-Dobaibi	Driver

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Labib Ahmad Al-Absi	Abdullah Maaodah
Ahmed Nasser Al-Mithala	Sadiq Al-Ashwal
Mr. Adnan Al-Muraysi	Majd Mohammed Jawad
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Alaa Abdo Hamoud Al-Hakami	Osama Ahmed Saeed Al-Azazi
Ali Abdel-Latif Ali Al-Shaibani	Osama Ahmed Abdel-Wadood Al-Aghbari
Ali Abdullah Hussein Al-Dhfiri	Osama Othman Mohamed Al-Qurashi
Ali Ali Al-Amrani	Asma Muhammad Ali Awda
Ali Yahya Mohammed Al-Rymi	Amani Ahmed Al-Bana
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Jihad Khaled Ahmed Abdel Moghni

Khaled Ismail Mohammed Al-Aizra

Mohamed Ahmed Ali Abdullah al-Shehri

Mohammed Ali Ahmed Al-Sarraji

Mohammed Hamid Hamid Al-Qalthi

Munir Abdul Qadir Abdul Latif Al-Humairi

Mustafa Amin Dahane Al-Badani

Nadia Ahmed Abdullah Al-Romaih

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Omar Abdul-Aziz Abdul Rahman Al-Thobhani

Ramzi Sharaf Mohammed Al-Atwani

Rana Abdul Rashid Abdul Salam Al-Absi

Tamween Said Abdul-Jabbar Mcard

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Samah Yahya Ahmed Al-Shalali

Samiha Ali Abdu Wosabi

Susan Abdalrguib Ghalib Al-Maqtari

Shaima Ahmed Saleh Al-Sanabani

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Saddam Abdul Ghaffar Mohammed Muthana

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QUESTIONNAIRES

REPUBLIC OF YEMEN
MINISTRY OF PUBLIC HEALTH & POPULATION
CENTRAL STATISTICAL ORGANIZATION
NATIONAL HEALTH & DEMOGRAPHIC SURVEY
2013

6/19/2013

QUES. NO.

HOUSEHOLD QUESTIONNAIRE

IDENTIFICATION	
ADMINISTRATIVE INFORMATION	**LISTING INFORMATION**
GOVERNORATE	SECTOR NUMBER
DIRECTORATE NAME	SECTION NUMBER
SUB-DIRECTORATE NAME	CLUSTER NUMBER
URBAN = 1 RURAL = 2	HOUSEHOLD NUMBER
	HOUSEHOLD CLUSTER NUMBER
NAME OF HOUSEHOLD HEAD	

IS THIS HOUSEHOLD SELECTED FOR ANEMIA TESTING? YES = 1   NO= 2

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	/ / 2013	/ / 2013	/ / 2013	DAY
				MONTH
				YEAR 2 0 1 3
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT: DATE	./ ./ 2013	./ ./ 2013		TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:
1   COMPLETED
2   NO HOUSEHOLD MEMBER AT HOME OR NO
     COMPETENT RESPONDENT
3   ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD
     OF TIME
4   POSTPONED
5   REFUSED
6   DWELLING VACANT OR ADDRESS NOT A DWELLING
7   DWELLING DESTROYED
8   DWELLING NOT FOUND
9   OTHER _____
          (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD

TOTAL ELIGIBLE EVER MARRIED WOMEN IN AGE 15-49

TOTAL ELIGIBLE NEVER MARRIED WOMEN IN AGE 15-49

TOTAL CHILDREN 0-5

LINE NO. OF RESPONDENT IN HH

	FIELD EDITOR	SUPERVISOR	OFFICE EDITOR	KEYER
NAME				
SIGNATURE				
DATE	/ / 2013	/ / 2013	/ / 2013	/ / 2013
CODE				

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____. I am working on the National Health & Demographic Survey which is implemented (by the Ministry of Public Health & Population and the Central Statistical Organization). We are conducting a survey about health all over Yemen. The information we collect will help the government to plan health services. Your household was selected for the survey. All of the answers you give will be confidential under Article (5) of the Statistics Law No. (28) for the year 1995 and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

Do you have any questions? May I begin the interview now?

RESPONDENT AGREES TO BE INTERVIEWED .   1   RESPONDENT DOES NOT AGREE TO BE INTERVIEWED .   2→ END
                                          ↓

SIGNATURE OF INTERVIEWER: _____   DATE: _____

---

1. HOUSEHOLD SCHEDULE - GENERAL INFORMATION

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	ELIGIBILITY		
							IF AGE 10 OR OLDER			
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**9a**	**10**
	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. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-35 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF 95 OR MORE, RECORD '95'. IF LESS THAN 1 YEAR RECORD '00'.	What is (NAME)'s current marital status? 1 = MARRIED 2 = DIVORCED/ 3 = WIDOWED 4 = NEVER-MARRIED	CIRCLE LINE NUMBER OF ALL EVER MARRIED WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL NEVER-MARRIED WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-5
			M F	Y N	Y N	IN YEARS				
01		0 1	1 2	1 2	1 2	☐	☐	01	01	01
02		☐	1 2	1 2	1 2	☐	☐	02	02	02
03		☐	1 2	1 2	1 2	☐	☐	03	03	03
04		☐	1 2	1 2	1 2	☐	☐	04	04	04
05		☐	1 2	1 2	1 2	☐	☐	05	05	05
06		☐	1 2	1 2	1 2	☐	☐	06	06	06
07		☐	1 2	1 2	1 2	☐	☐	07	07	07
08		☐	1 2	1 2	1 2	☐	☐	08	08	08
09		☐	1 2	1 2	1 2	☐	☐	09	09	09
10		☐	1 2	1 2	1 2	☐	☐	10	10	10
11		☐	1 2	1 2	1 2	☐	☐	11	11	11
12		☐	1 2	1 2	1 2	☐	☐	12	12	12
13		☐	1 2	1 2	1 2	☐	☐	13	13	13
14		☐	1 2	1 2	1 2	☐	☐	14	14	14
15		☐	1 2	1 2	1 2	☐	☐	15	15	15

TICK HERE IF CONTINUATION SHEET USED ☐

2A) Just to make sure that I have a complete listing: are there any other persons such as small children or infants that we have not listed? YES ☐ ADD TO TABLE NO ☐

2B) Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here? YES ☐ ADD TO TABLE NO ☐

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed? YES ☐ ADD TO TABLE NO ☐

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD	08 = BROTHER OR SISTER
02 = WIFE OR HUSBAND	09 = OTHER RELATIVE
03 = SON OR DAUGHTER	10 = ADOPTED/FOSTER/
04 = SON-IN-LAW OR DAUGHTER-IN-LAW	CHILD
05 = GRANDCHILD	11 = STEPCHILD
	12= NOT RELATED
06 = PARENT	98 = DON'T KNOW
07 = PARENT-IN-LAW	

	IF 6 YEARS OR MORE	IF 15 YEARS OR MORE	IF AGE 0-17 YEARS				IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS		IF AGE 0-4 YEARS
LINE NO.	EMPLOYMENT STATUS	EMPLOYMENT STATUS	SURVIVORSHIP AND RESIDENCE OF BIOLOGICAL PARENTS				EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE		BIRTH REGIS-TRATION
	11A	11B OCCUPATION / CODE	12	13	14	15	16	17	18	19	20
	Was (NAME) working most of the time last month? 01 = WORKING 02 = NOT WORKING/USED TO WORK 03 = NOT WORKING/NEVER WORKED 04=STUDENT 05=HOUSEWIFE 06=SELF 07=RETIRED 08=HANDICAPPED 96= OTHER (SPECIFY)	ONLY IF THE ANSWER IS 01. 02 OR 07 TO Q. 11A, ASK: What was/is your main occupation?	Is (NAME)'s natural mother alive?	Does (NAME)'s natural mother usually live in this household or was she a guest last night? IF YES: RECORD MOTHER'S LINE NUMBER. IF NO, '00'.	Is (NAME)'s natural father alive?	Does (NAME)'s natural father usually live in this household or was he a guest last night? IF YES: RECORD FATHER'S LINE NUMBER. IF NO, '00'.	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? What is the highest grade (NAME) completed at that level? SEE CODES BELOW.	Did (NAME) attend school at any time during the current school year (2013-2014)?	During this/that school year, what level and grade [is/was] (NAME) attending? SEE CODES BELOW.	Does (NAME) have a birth certificate? IF NO, PROBE: Has (NAME)'s birth ever been registered with the civil authority? 1 = HAS CERTIFICATE 2 = REGISTERED 3 = NEITHER 8 = DON'T KNOW
			Y N DK		Y N DK		Y N DK	LEVEL GRADE	Y N DK	LEVEL GRADE	
01	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
02	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
03	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
04	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
05	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
06	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
07	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
08	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
09	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
10	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
11	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
12	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
13	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
14	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐
15	☐ ☐		1 2—8 GO TO 14	☐ ☐	1 2—8 GO TO 16	☐ ☐	1 2—8 GO TO Q21	☐ ☐	1 2—8 GO TO Q21	☐ ☐	☐

CODES FOR Qs. 17 AND 19: EDUCATION

LEVEL	GRADE
0= PRE-PRIMARY	00 = LESS THAN 1 YEAR COMPLETED
1= PRIMARY	(USE '0' FOR Q. 17 ONLY.
2= FUNDAMENTAL (PREPARATORY, UNIFIED)	THIS CODE IS NOT ALLOWED
3= DIPLOMA BEFORE SECONDARY	FOR Q. 19)
4= SECONDARY	98 = DON'T KNOW
5= DIPLOMA AFTER SECONDARY	
6= UNIVERSITY/HIGHER	
8= DON'T KNOW	

2. PREVALENCE OF CHRONIC DISEASES & SOME HARMFUL PRACTICES

	SPREAD OF CHRONIC DISEASES								IF 10 YEARS OR PLUS SOCIAL HABITS		
LINE NO.											
1	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**27a**	**28**	**29**	**30**
	I would now like to ask you some questions about the health of all family members. Does (NAME) suffer from any chronic disease?	What is the disease suffered by (NAME)? RECORD THE NAME OF THE DISEASE AND THE CODE	Does any physician inform (NAME) that (s)he suffers from this disease?	Does (NAME) get treatment regularly?	Does (NAME) suffer from any other chronic disease?	What is the second disease suffered by (NAME)? RECORD THE NAME OF THE SECOND DISEASE AND THE CODE	Does any physician inform (NAME) that (s)he suffers from this second disease?	Does (NAME) take treatment regularly?	Does (NAME) smoke cigarettes, or any other kind of tobacco, or was smoking in the past? 1 = YES CURRENTLY 2 = YES BEFORE 3 = SOMETIMES 4 = NEVER 8 = DK	Does (NAME) currently chew al-Qat? 1 = YES DAILY 2 = YES WEEKLY 3 = SOMETIMES 4 = YES BEFORE 5 = NEVER 8 = DON'T KNOW	Does (NAME) use orange snuff, or was using snuff in the past? 1 = YES CURRENTLY 2 = YES BEFORE 3 = SOMETIMES 4 = NEVER 8 = DK
	Y N	DISEASE CODE	Y N	Y N	Y N	DISEASE CODE	Y N	Y N	CODE	CODE	CODE
01	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
02	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
03	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
04	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
05	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
06	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
07	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
08	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
09	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
10	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
11	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
12	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
13	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
14	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			
15	1 2 ↓ GO TO 28		1 2	1 2	1 2 ↓ GO TO 28		1 2	1 2			

CODES FOR Qs.22-26: CHRONIC DISEASE

01=BLOOD PRESSURE	10=ARTHRITIS	19=PROSTATITIS
02=DIABETES	11=TB	20=CATARACT
03=INFLAMMATION OR ULCERS	12=CHRONIC HEADACHE	21=OPACITY OF EYE LENS
04=ANEMIA	13=STROKE	22= CHRONIC BACK PAIN OR PROBLEMS IN THE SPINAL CORD
05=SICKLE CELL ANEMIA	14=EPILEPSY	23=MENTAL/PSYCHOLOGICAL ILLNESS
06=THALASSAMIA	15= ASTHMA	24=SKIN DISEASE
07=HEART DISEASE	16=LUNG DISEASE	25= CANCEROUS TUMORS
08=KIDNEY DISEASE	17=HYPERACTIVE THYROID	26= GUM AND MOUTH DISEASE
09=LIVER DISEASE	18=HYPOACTIVE THYROID	96= OTHER _____ (SPECIFY)

3. DISABILITY MODULE

<table>
<tr><th></th><th colspan="5">DISABILITY</th></tr>
<tr>
<td>LINE NO.</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Has (NAME) suffered from any physical or mental conditions in the past 6 months or more that would limit from exercising or performing normal daily activities as other people of the same age?

IF 'YES' PROBE BY ASKING:
Does this state severely or moderately limit exer-cising or daily activities?

1 = YES, SEVERELY
2 = YES, FAIRLY
3 = NO
8 = DON'T KNOW</td>
<td>Does (NAME) face limitations of any of the following:

A = SIGHT?
B = HEARING?
C = COMPREHENSION & COMMUNICATION?
D = MOBILITY?
E = SELF-CARE?
F = DEALING WITH PEOPLE?

CIRCLE ALL MENTIONED</td>
<td>What is the main reason for (NAME)'s disability?

01=CONGENITAL
02=CONDITIONS RELATED TO CHILDBIRTH
03=CONTAGIOUS
04=OTHER DISEASE
05=PHYSICAL & PSYCH. ABUSE
06=AGING
07=INJURY/ ACCEDIENT
08=ENVY/MAGIC
96=OTHER
98=DON'T KNOW</td>
<td>How old was (NAME) when this condition started?

95=AT BIRTH
98=DON'T KNOW</td>
<td>During the last 12 moths did (NAME) receive any care or support?

A = MEDICAL CARE
B = WELFARE
C = FINANCIAL SUPPORT
D = NUTRITIONAL SUPPORT
Y = NO CARE/SUPPORT

WITH THE EXCEPTION OF Y' CIRCLE ALL MENTIONED
IF YES CIRCLE TYPE OF CARE OR SUPPORT</td>
</tr>
<tr>
<td></td>
<td>Y-S Y-F N DK</td>
<td>CODE</td>
<td>CODE</td>
<td>AGE</td>
<td>CODE</td>
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<tr>
<td>01</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>02</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>03</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>04</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>05</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>06</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>07</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>08</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>09</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>10</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>11</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>12</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>13</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>14</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
<tr>
<td>15</td>
<td>1 2 3—8
GO TO NEXT LINE OR 41</td>
<td>A B C D E F</td>
<td>☐☐</td>
<td>☐☐</td>
<td>A B C D Y</td>
</tr>
</table>

4. INJURIES, ACCIDENTS & HEALTH SERVICES IN THE TWO YEARS PRECEDING THE SURVEY

41	Have you and/or any member of your household been injured or had an accident in the two years preceding the survey?	YES .... 1 NO .... 2 → MODULE 5

41A	**FOR HOUSEHOLD MEMBERS WITH INJURIES**	**NO. OF HH WITH INJURIES** ☐☐

LINE NO.			
	42	**43**	**44**

	Who are the members of your household injured in the two years preceding the survey? Please provide their names.	What injury or accident did you or any member of your household have?
		
		 CIRCLE INJURY OR ACCIDENT CODE AS SHOWN BELOW.
			IF (NAME) IS DEAD, ASK: What is the injury or the accident that caused the death?
			
			 IF (NAME) IS NOT DEAD, GO TO NEXT LINE OR Q.45

	NAME	CODE (SPECIFY)	INJURY/ACCIDENT/ (SPECIFY) CODE
01		A B C D E F G H I X _____	☐
02		A B C D E F G H I X _____	☐
03		A B C D E F G H I X _____	☐
04		A B C D E F G H I X _____	☐
05		A B C D E F G H I X _____	☐
06		A B C D E F G H I X _____	☐
07		A B C D E F G H I X _____	☐
08		A B C D E F G H I X _____	☐
09		A B C D E F G H I X _____	☐
10		A B C D E F G H I X _____	☐

CODE Q. 43:

A = TRAFFIC ACCIDENT
B = FALL
C = BLOW/BY A PERSON OR OBJECT
D = STABBED
E = GUNSHOT
F = BURNS (FIRE, THERMAL FLAMES)
G = DROWNING
H = POISONING
I = ELECTRIC SHOCK
X = OTHER _____
            (SPECIFY)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
45	Did a member of your household go to any health facility for treatment in the two years preceding the survey?	YES . . . . 1 NO . . . . 2 DON'T KNO\ 8	→ 51
46	Where did (s)he receive the health services last time?	PUBLIC HEALTH FACILITY . . . . 1 PRIVATE HEALTH FACILITY . . . . 2 MILITARY/POLICE HEALTH FACILITY . . . . . 3 NGOs . . . . 4 FREE MEDICAL CAMPS . . . . 5 OTHER _____ 6 (SPECIFY)	
47	Did you have to pay a fee for the service?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 49
48	Who paid for the fees?	THE PERSON HIMSELF . . . . 01 EMPLOYER . . . . 02 FAMILY MEMBER . . . . 03 HEALTH INSURANCE . . . . 04 PHILANTHROPIST . . . . 05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
49	Were the following health services were provided: 1- Medical examination? 2- Laboratory work? 3- Radiology? 4- Operations 5- Hospital stay? 6- Medicine? 7- Physiotherapy?	YES NO DK MEDICAL EXAMINATION . . . . 1 2 8 LABORATORY . . . . 1 2 8 RADIOLOGY . . . . 1 2 8 OPERATIONS . . . . 1 2 8 HOSPITAL STAY . . . . 1 2 8 MEDICINE . . . . 1 2 8 PHYSIOTHERAPY 1 2 8	

5. MODULE ON CONTROLLING CHILDREN'S BEHAVIOR

TABLE 1: FOR CHILDREN AGE 2-14 YEARS

RECORD IN THE FOLLOWING TABLE IN ORDER THE LINE NUMBER IN THE FIRST COLUMN AND DON'T TAKE INTO ACCOUNT INDIVIDUALS OUTSIDE THE AGE GROUP 2-14 YEARS. ENTER THE CHILDREN'S LINE NUMBERS, THE NAME, SEX AND AGE OF CHILDREN, AND IN Q.56, ENTER THE TOTAL OF CHILDREN AGED 2-14 YEARS.

51 LINE NO.	52 LINE NUMBER FROM THE HOUSEHOLD SCHEDULE, COL.1	53 CHILDREN 'S NAMES FROM THE HOUSEHOLD SCHEDULE, COL.2	54 SEX FROM THE HOUSEHOLD SCHEDULE, COL.4	55 AGE FROM THE HOUSEHOLD SCHEDULE, COL.7
	LINE NO.		MALE FEMALE	AGE
01	☐☐	....	1 2	☐☐
02	☐☐	....	1 2	☐☐
03	☐☐	....	1 2	☐☐
04	☐☐	....	1 2	☐☐
05	☐☐	....	1 2	☐☐
06	☐☐	....	1 2	☐☐
07	☐☐	....	1 2	☐☐
08	☐☐	....	1 2	☐☐
56	RECORD THE TOTAL NUMBER OF CHILDREN AGE 2-14 YEARS			☐☐

CHECK Q.56, IF ONLY ONE CHILD AGE 2-14, SKIP TABLE 2, AND GO TO Q.58. ENTER THE LINE NO. FROM TABLE 1 Q.51AND CONTINUE

TABLE 2: RANDOM SELECTION OF THE CHILD FOR THE QUESTIONS ON CHILDREN BEHAVIOR

USE THIS TABLE TO SELECT A CHILD IN THE AGED GROUP 2-14 YEARS, IF THERE IS MORE THAN ONE CHILD IN THAT CATEGORY IN THE HOUSEHOLD. CHECK THE HOUSEHOLD NUMBER OF THE COVER PAGE AND THE FIRST DIGIT OF THE HOUSEHOLD NUMBER IS THE ROW NUMBER AND THE TOTAL NUMBER OF CHILDREN 2-14 YEARS RECORDED IN Q.56 IS THE COLUMN NUMBER. THE NUMBER IN THE BOX WHICH MEETS THE SELECTED ROW AND COLUMN IS THE ORDINAL NUMBER OF THE CHILD THAT WILL BE SELECTED TO THE QUESTIONS ON CHILDREN'S BEHAVIOR. ENTER THIS NUMBER IN Q.58, AND IN Q. 59, RECORD THE LINE NUMBER AND THE NAME OF THE SELECTED CHILD AS INDICATED IN Qs. 52 AND 53. THEN LOOK FOR THE MOTHER/CARETAKER OF THE CHILD AND ASK HER THE QUESTIONS STARTING WITH Q. 61.

57 FIRST DIGITAL NO. FROM HH NO. IN COVER PAGE	TOTAL NUMBER OF CHILDREN 2-14 YEARS (Q.56)							
	1	2	3	4	5	6	7	8
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5
58	ENTER THE NUMBER OF THE SELECTED CHILD IN THE BOX							☐☐

5. MODULE ON CONTROLLING CHILDREN'S BEHAVIOR

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	IDENTIFY THE ELIGIBLE CHILDREN AGED 2-14 YEARS USING THE TABLES IN THE PREVIOUS PAGE ACCORDING TO THE INSTRUCTIONS. ASK TO INTERVIEW THE MOTHER/CARETAKER OF THE SELECTED CHILD IDENTIFIED BY THE MOTHER'S/CARETAKER'S LINE NUMBER IN 58.		
59	REFER TO Qs. 52 & 53 AND ENTER THE NAME AND THE LINE NUMBER OF THE SELECTED CHILD BASED ON THE ORDINAL NUMBER OF Q.58 RECORD MOTHER/CARETAKER'S LINE NUMBER WHO WILL ANSWER THE FOLLOWING QUESTIONS	NAME _____ CHILD LINE NUMBER ☐☐ MOTHER/CARETAKER'S LINE NO. ☐☐	
60	Many parents use some of these ways to teach their children proper behavior or to deal with behavioral problems. I will tell you some of the ways that are used and I would like you to tell me if you or anyone in the household used this method with (NAME) during last month:		
61	Taking away a privilege from (NAME), taking away something (s)he wants or loves, or not letting him/her leave the house	YES . . . . 1 NO 2	
62	Explain to the child why his/her behavior is wrong	YES . . . . 1 NO 2	
63	Hitting the child on the shoulder or spanking on the rear	YES . . . . 1 NO 2	
64	Hitting on the rear or on any other place of the child's body using something such as a belt, a hair brush, a stick, or something solid	YES . . . . 1 NO 2	
65	Hitting the child in the face or hitting the child's head or ear	YES . . . . 1 NO 2	
66	Hitting the child's hand, arm, or leg	YES . . . . 1 NO 2	
67	Punishing the child by using a tool, and then continuing to hit the child very hard PROBE FOR MORE INFORMATION, IF NECESSARY	YES . . . . 1 NO 2	
68	Do you think that a child must be punished physically in order to be raised in an appropriate way?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NO OPINION 8	

6.HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
100	What type of dwelling unit does your household live in?	INDEPENDENT HOUSE/ROOM .... 01 VILLA .... 02 APARTMENT IN BUILDING .... 03 TENT .... 04 HUT .... 05 TEMPORARY SHELTER .... 06 OTHER . _____ 96 (SPECIFY)	
102	What is the main source of drinking water for members of your household?	PIPED GOVERNMENT NETWORK ..... 01 PIPED LOCAL NETWORK .... 02 TUBE WELL OR BOREHOLE .... 03 REGULAR WELL .... 04 WATER FROM SPRING .... 05 SURFACE WATER/PROTECTED .... 06 SURFACE WATER/UNPROTECTED .... 07 TANKER TRUCK .... 08 RAIN WATER COLLECTION .... 09 BOTTLED WATER .... 10 OTHER _____ 96 (SPECIFY)	
103	Where is that water source located?	IN OWN DWELLING .... 1 IN OWN YARD/PLOT .... 2 ELSEWHERE _____ 6 (SPECIFY)	→ 105
104	How long does it take to go there, get water, and come back?	MINUTES .... [ ][ ][ ] DON'T KNOW 998	
105	Do you do anything to the water to make it safer to drink?	YES .... 1 NO .... 2 DON'T KNOW 8	→ 107
106	What do you usually do to make the water safer to drink? RECORD ALL MENTIONED.	BOIL .... A ADD BLEACH/CHLORINE .... B STRAIN THROUGH A CLOTH .... C USE WATER FILTER .... D TREATED AT SOURCE .... E LET IT STAND AND SETTLE .... F OTHER _____ X (SPECIFY)	
107	Is there a special room or closed space used as a toilet facility inside or outside the dwelling?	YES IN DWELLING .... 1 YES OUTSIDE DWELLING .... 2 NO TOILET FACILITY IN DWELLING 3	→ 108
107A	Where do you go or what do you use when you need to go to the toilet?	IN OPEN AIR .... 1 PUBLIC TOILET .... 2 OTHER _____ 6 (SPECIFY)	→ 109
108	Do you share this toilet facility with other households?	YES SHARED .... 1 NO, NOT SHARED 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

108A	What type of toilet?	FLUSH TO PIPED SEWER
		   SYSTEM 1
		FLUSH TO SEPTIC TANK 2
		BUCKET 3
		PIT 4
		LATRINE 5
		OTHER _____ 6
		             (SPECIFY)	

109	Is there a special room used for cooking inside or outside the dwelling?	YES INSIDE THE DWELLING . . . . 1 YES OUTSIDE THE DWELLING . . . . 2 NO KITCHEN 3	

110	What type of fuel does your household mainly use for cooking?	ELECTRICITY 01
		BIOGAS 02
		KEROSENE 03
		CHARCOAL 04
		WOOD 05
		ANIMAL DUNG 06
		NO FOOD COOKED
		   IN HOUSEHOLD 95
		OTHER _____ 96
		             (SPECIFY)	

111	What is the main source of light?	PUBLIC ELECTRIC NETWORK . . . . 01 COOP. ELECTRIC NETWORK . . . . 02 PRIVATE ELECTRIC NETWORK . . . . 03 SPECIAL GENERATOR . . . . 04 SOLAR ENERGY . . . . 05 GAZ (KEROSENE) . . . . 06 OTHER _____ 96 (SPECIFY) NO LIGHTING 97	

112	MAIN MATERIAL OF THE FLOOR
	
	      RECORD OBSERVATION.
		CEMENT 01
		PLAIN TILE 02
		PLASTER 03
		DIRT/CLAY 04
		STONE 05
		MARBLE 06
		OTHER _____ 96
		             (SPECIFY)	

113	MAIN MATERIAL OF THE ROOF
	
	      RECORD OBSERVATION.
		CONCRETE ROOF/CEMENT 01
		WOOD AND CEMENT 02
		WOOD AND DIRT 03
		WOOD 04
		METAL PLATES (ZINC) 05
		STRAW/CANE 06
		CANE AND MUD 07
		METAL PLATES AND MUD 08
		OTHER _____ 96
		             (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
114	MAIN MATERIAL OF THE EXTERIOR WALLS	CARVED STONE . . . . 01 PLAIN STONE . . . . 02 CEMENT BLOCKS . . . . 03 LOCAL ADOBE . . . . 04 COVERED ADOBE . . . . 05 DIRT . . . . 06 STRAW/CANE . . . . 07 CLOTH/WOOL . . . . 08 OTHER _____ 96 (SPECIFY)	
115	How many rooms in this household are used by the family?	ROOMS . . . . ☐☐	
116	How many rooms in this household are used for sleeping?	ROOMS . . . . ☐☐	
117	Does any member of your household own: 1- A bicycle? 2- A motorcycle or motor scooter? 3- An animal-drawn cart? 4- A car or truck? 5- A boat with a motor? 6- A radio? 7- A TV? 8- A cell phone? 9- A fixed phone? 10- A refrigerator? 11- A washer? 12- An air conditioner? 13- A fan? 14- A generator? 15- A water heater?	YES NO BICYCLE . . . . 1 2 MOTORCYCLE/SCOOTER . . . . . 1 2 ANIMAL-DRAWN CART . . . . 1 2 CAR/TRUCK . . . . 1 2 BOAT WITH MOTOR . . . . 1 2 RADIO . . . . 1 2 TV . . . . 1 2 CELL PHONE . . . . 1 2 FIXED PHONE . . . . 1 2 REFRIGERATOR . . . . 1 2 WASHER . . . . 1 2 AIR CONDITIONER . . . . 1 2 FAN . . . . 1 2 GENERATOR . . . . 1 2 WATER HEATER 1 2	
118	Does any member of this household own any: 1- Agricultural land? 2- Real state? 3- Commercial or industrial property?	YES NO AGRICULTURAL LAND . . . . 1 2 REAL STATE . . . . 1 2 COMMER. OR INDUS. PROPERTY. 1 2	
121	Does this household own any livestock, herds, other farm animals, or poultry?	YES . . . . 1 NO 2	→ 137
122	How many of the following animals does this household own? IF NONE, ENTER '00'. IF 95 OR MORE, ENTER '95'. IF DON'T KNOW, ENTER '98'. 1- Cows? 2- Horses, donkeys, or mules? 3- Camels? 4- Goats? 5- Sheep? 6- Chickens?	 COWS . . . . ☐☐ HORSES/DONKEYS/MULES . . . . . ☐☐ CAMELS . . . . ☐☐ GOATS . . . . ☐☐ SHEEP . . . . ☐☐ CHICKENS . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

137	Please show me where members of your household most often wash their hands.	OBSERVED 1
		NOT OBSERVED,
		    NOT IN DWELLING/YARD/PLOT 2
		NOT OBSERVED,
		    NO PERMISSION TO SEE 3
		NOT OBSERVED, OTHER REASON 6
		(SPECIFY)
			→ 140

138	OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE PLACE FOR HAND WASHING.	WATER IS AVAILABLE . . . . 1 WATER IS NOT AVAILABLE 2	
139	OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	SOAP OR DETERGENT (BAR, LIQUID, POWDER, PASTE) . . . . . A ASH, MUD, SAND . . . . B NONE . . . . Y	
140	ASK RESPONDENT FOR A TEASPOONFUL OF COOKING SALT. TEST SALT FOR IODINE	IODINE PRESENT . . . . 1 NO IODINE . . . . 2 NO SALT IN HOUSEHOLD . . . . 3 SALT NOT TESTED 6 (SPECIFY REASON)	
140A	In the last four weeks, were there cases where you did not have any kind of food to eat because of the lack of resources?	RARELY . . . . 1 SOMETIMES . . . . 2 OFTEN . . . . 3 NEVER 4	
140B	In the last four weeks, were there cases where you or a family member went to bed hungry because there was not enough food?	RARELY . . . . 1 SOMETIMES . . . . 2 OFTEN . . . . 3 NEVER 4	
140C	In the last four weeks, were there cases where you or anyone from your family spent the whole day without eating because there was not enough food?	RARELY . . . . 1 SOMETIMES . . . . 2 OFTEN . . . . 3 NEVER 4	

7- WEIGHT, HEIGHT, HEMOGLOBIN MEASUREMENT FOR CHILDREN AGE 0-5

| 201 | CHECK COLUMN 10 IN HOUSEHOLD SCHEDULE. RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE CHILDREN 0-5 YEARS IN QUESTION 202. IF MORE THAN THREE CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S). |

		CHILD 1	CHILD 2	CHILD 3
202	LINE NUMBER FROM COLUMN 10 NAME FROM COLUMN 2	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME ....
203	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR OF BIRTH FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME)'s birth date?	DAY .... ☐☐ MONTH .... ☐☐ YEAR ☐☐☐☐	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐
204	CHECK 203: CHILD BORN IN JANUARY 2008 OR LATER?	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)
205	WEIGHT IN KILOGRAMS	KG. ☐☐ . ☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐ . ☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐ . ☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996
206	HEIGHT IN CENTIMETERS	CM. ☐☐☐ . ☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐ . ☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐ . ☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996
207	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3
207A	**CHECK COVER PAGE:** IS THIS HOUSEHOLD SELECTED FOR ANEMIA TESTING?	YES ☐ NO ☐ ————————————→213		
208	CHECK 203: IS CHILD AGE 0-5 MONTHS, I.E., WAS CHILD BORN IN MONTH OF INTERVIEW OR FIVE PREVIOUS MONTHS?	0-5 MONTHS .. .. 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS .. .. 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS .. .. 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2
209	LINE NUMBER OF PARENT/ OTHER ADULT RESPONSIBLE FOR THE CHILD(FROM COLUMN 1 OF HOUSEHOLD SCHEDULE). RECORD '00' IF NOT LISTED.	LINE NUMBER .... ☐☐	LINE NUMBER .... ☐☐	LINE NUMBER .... ☐☐

		CHILD 1	CHILD 2	CHILD 3
	LINE NUMBER FROM COLUMN 10 NAME FROM COLUMN 2	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME ....
210	ASK CONSENT FOR ANEMIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. We ask all children born in 2008 or later to take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the anemia test?		
211	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 REFUSED .... 2 (SIGN) _____	GRANTED .... 1 REFUSED .... 2 (SIGN) _____	GRANTED .... 1 REFUSED .... 2 (SIGN) _____
212	RECORD HEMOGLOBIN LEVEL HERE AND IN THE ANEMIA PAMPHLET .	☐☐.☐ G\DL NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	☐☐.☐ G\DL NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	☐☐.☐ G\DL NOT PRESENT .... 994 REFUSED .... 995 OTHER 996
213	GO BACK TO 203 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE; IF NO MORE CHILDREN, GO TO 214.			

7- WEIGHT, HEIGHT, HEMOGLOBIN MEASUREMENT FOR WOMEN AGE 15-49

| 214 | CHECK COLUMN 9 AND 9A IN HOUSEHOLD SCHEDULE. RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE WOMEN IN 215. IF THERE ARE MORE THAN THREE WOMEN, USE ADDITIONAL QUESTIONNAIRE(S). |

		WOMAN 1	WOMAN 2	WOMAN 3
215	LINE NUMBER FROM COLUMN 9, 9A NAME FROM COLUMN 2	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME ....
216	WEIGHT IN KILOGRAMS	KG. ☐☐☐.☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐☐.☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐☐.☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996
217	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996
217A	MID-UPPER ARM CIRCUMFERENCE IN CENTIMETERS	CM. ☐☐.☐ NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	CM. ☐☐.☐ NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	CM. ☐☐.☐ NOT PRESENT .... 994 REFUSED .... 995 OTHER 996
217B	**CHECK COVER PAGE:** IS THIS HOUSEHOLD SELECTED FOR ANEMIA TESTING?	YES ☐ ↓	NO ☐ ──────→ 228 ↓	
218	AGE: CHECK COLUMN 7.	15-17 YEARS .... 1 18-49 YEARS .... 2 (GO TO 223) ←	15-17 YEARS .... 1 18-49 YEARS .... 2 (GO TO 223) ←	15-17 YEARS .... 1 18-49 YEARS .... 2 (GO TO 223) ←
219	MARITAL STATUS: CHECK COLUMN 8.	NEVER MARRIED .... 1 MARRIED OR EVER MARRIED ...... 2 (GO TO 223) ←	NEVER MARRIED .... 1 MARRIED OR EVER MARRIED ...... 2 (GO TO 223) ←	NEVER MARRIED .... 1 MARRIED OR EVER MARRIED ...... 2 (GO TO 223) ←
220	RECORD LINE NUMBER OF PARENT/OTHER ADULT-RESPONSIBLE FOR ADOLESCENT. RECORD '00' IF NOT LISTED.	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT .. ☐☐	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT .. ☐☐	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT .. ☐☐
221	ASK CONSENT FOR ANEMIA TEST FROM PARENT/ OTHER ADULT IDENTIFIED IN 220 AS RESPONSIBLE FOR NEVER IN UNION WOMEN AGE 15-17.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you and (NAME OF ADOLESCENT) right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF ADOLESCENT) to take the anemia test?		

		WOMAN 1	WOMAN 2	WOMAN 3
	LINE NUMBER FROM COLUMN 9, 9A NAME FROM COLUMN 2	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME	LINE NUMBER .... ☐☐ NAME ....
222	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 REFUSED .... 2 (SIGN) _____ (IF GRANTED, GO TO 227) (IF REFUSED, GO TO 228)	GRANTED .... 1 REFUSED .... 2 (SIGN) _____ (IF GRANTED, GO TO 227) (IF REFUSED, GO TO 228)	GRANTED .... 1 REFUSED .... 2 (SIGN) _____ (IF GRANTED, GO TO 227) (IF REFUSED, GO TO 228)
223	ASK CONSENT FOR ANEMIA TEST FROM RESPONDENT.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you and (NAME OF ADOLESCENT) right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test for (NAME OF ADOLESCENT), or you can say no. It is up to you to decide. Will you take the anemia test?		
224	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 REFUSED .... 2 (SIGN) _____ (IF REFUSED, GO TO 228)	GRANTED .... 1 REFUSED .... 2 (SIGN) _____ (IF REFUSED, GO TO 228)	GRANTED .... 1 REFUSED .... 2 (SIGN) _____ (IF REFUSED, GO TO 228)
225	PREGNANCY STATUS: CHECK 226 IN WOMAN'S QUESTIONNAIRE OR ASK: Are you pregnant?	YES .... 1 NO .... 2 SINGLE WOMEN .... 3 DK 8	YES .... 1 NO .... 2 SINGLE WOMEN .... 3 DK 8	YES .... 1 NO .... 2 SINGLE WOMEN .... 3 DK 8
226	CHECK 224 AND PREPARE EQUIPMENT AND SUPPLIES ONLY FOR THE TEST(S) FOR WHICH CONSENT HAS BEEN OBTAINED AND PROCEED WITH THE TEST(S).			
227	RECORD HEMOGLOBIN LEVEL HERE AND IN ANEMIA PAMPHLET	☐☐.☐ G\DL NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	☐☐.☐ G\DL NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	☐☐.☐ G\DL NOT PRESENT .... 994 REFUSED .... 995 OTHER 996
228	GO BACK TO 215 IN NEXT COLUMN OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE; IF NO MORE WOMEN, END THE HOUSEHOLD INTERVIEW.			

<u>INTERVIEWER'S OBSERVATIONS</u>

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

_____

_____

_____

_____

_____

_____

COMMENTS ON SPECIFIC QUESTIONS:

_____

_____

_____

_____

_____

ANY OTHER COMMENTS:

_____

_____

_____

_____

_____

<u>SUPERVISOR'S OBSERVATIONS</u>

_____

_____

_____

_____

_____

_____

NAME OF SUPERVISOR: _____   DATE: _____

<u>EDITOR'S OBSERVATIONS</u>

_____

_____

_____

_____

NAME OF EDITOR: _____   DATE: _____

REPUBLIC OF YEMEN
MINISTRY OF PUBLIC HEALTH & POPULATION
CENTRAL STATISTICAL ORGANIZATION
NATIONAL HEALTH & DEMOGRAPHIC SURVEY
2013

6/19/2013

EVER MARRIED WOMAN'S QUESTIONNAIRE

QUES. NO.

IDENTIFICATION

ADMINISTRATIVE INFORMATION

GOVERNORATE _____

DIRECTORATE NAME _____

SUB-DIRECTORATE NAME _____

URBAN = 1   RURAL = 2

NAME OF HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF WOMAN _____

LISTING INFORMATION

SECTOR NUMBER _____

SECTION NUMBER _____

CLUSTER NUMBER _____

HOUSEHOLD NUMBER _____

HOUSEHOLD CLUSTER NUMBER

INTERVIEWER VISITS

	1	2	3	FINAL VISIT	
DATE	/ / 2013	/ / 2013	/ / 2013	DAY	
				MONTH	
				YEAR	2 0 1 3
INTERVIEWER'S NAME				INT. NUMBER	
RESULT*				RESULT	
NEXT VISIT: DATE	./ ./ 2013	./ ./ 2013		TOTAL NUMBER OF VISITS	
TIME					

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

	FIELD EDITOR	SUPERVISOR	OFFICE EDITOR	KEYER
NAME				
SIGNATURE				
DATE	/ / 2013	/ / 2013	/ / 2013	/ / 2013
CODE				

INTRODUCTION AND CONSENT

INFORMED CONSENT
Hello. My name is _____. I am working on the National Health & Demographic Survey which is implemented (by the Ministry of Public Health & Population and the Central Statistical Organization). We are conducting a survey about health all over Yemen. The information we collect will help the government to plan health services. Your household was selected for the survey. All of the answers you give will be confidential under Article (5) of the Statistics Law No. (28) for the year 1995 and will be used for statistical and researches purposes only and will not be shared with anyone other than members of our survey team. but we hope you will agree to answer the questions since your views are important. If you don't want to answer any question, just let me know and I will go on to the next question or you can stop the interview at any time.

Do you have any questions? May I begin the interview now?

RESPONDENT AGREES TO BE INTERVIEWED . . . 1   RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2→ END

SIGNATURE OF INTERVIEWER: _____   DATE: _____

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	
102	In what month and year were you born?	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
103	How old were you on your last birthday? COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.	AGE IN COMPLETED YEARS ☐☐	
104	Have you ever attended school?	YES . . . . 1 NO 2	→ 108
105	What is the highest level of school you attended: primary, fundamental (preparatory, unified), diploma before secondary, secondary, diploma after secondary, or university/higher?	PRIMARY .... 1 FUNDAMENTAL (PREPARATORY, UNIFIED) .... 2 DIPLOMA BEFORE SECONDARY .... 3 SECONDARY . . . . 4 DIPLOMA AFTER SECONDARY…. 5 UNIVERSITY/HIGHER 6	
106	What is the highest (grade/year) you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE/YEAR . . . . ☐☐	
107	CHECK 105 PRIMARY ☐ OTHER ☐ FUNDAMENTAL 1-6 ↓ LEVELS └───────────────		→ 110

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
108	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT IF RESPONDENT CANNOT READ THE WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . 1 ABLE TO READ ONLY PARTS OF SENTENCE . . . . 2 ABLE TO READ WHOLE SENTENCE 3 BLIND/VISUALLY IMPAIRED 4	

109	CHECK 108:
	
	    CODE '2' CODE '1' OR '4'
	      OR '3' CIRCLED
	   CIRCLED
			→ 111

110	Do you read a newspaper or magazine every day, at least once a week, or not at all?	EVERY DAY . . . . 1 AT LEAST ONCE A WEEK . . . . 2 NOT AT ALL 3	
111	Do you listen to the radio every day, at least once a week, or not at all?	EVERY DAY . . . . 1 AT LEAST ONCE A WEEK . . . . 2 NOT AT ALL 3	
112	Do you watch television every day, at least once a week, or not at all?	EVERY DAY . . . . 1 AT LEAST ONCE A WEEK . . . . 2 NOT AT ALL 3	
112A	Are you currently married?	YES, MARRIED . . . . 1 NO, NOT MARRIED 2	→ 112C
112B	What is your marital status now: are you widowed or divorced?	WIDOWED . . . . 1 DIVORCED 2	
112C	Have you been married only once or more than once?	ONLY ONCE . . . . 1 MORE THAN ONCE 2	

112D	CHECK 112C:
	
	   MARRIED MARRIED
	  ONLY ONCE MORE THAN ONCE
	
	In what month and year did you start living with your husband? Now I would like to ask about your first husband. In what month and year did you start living with him?
		MONTH . . . . [ ][ ]
		
		DON'T KNOW MONTH 98
		
		YEAR . . . . [ ][ ][ ][ ]
		
		DON'T KNOW YEAR 9998
			→ 201

112E	How old were you when you started living with your (first) husband?	AGE . . . . [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
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 whom you have given birth who are now living with you?	YES . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . ☐☐ DAUGHTERS AT HOME . . . . . ☐☐	
204	Do you have any sons or daughters who are alive but do not live with you?	YES . . . . 1 NO 2	→ 206
205	How many sons do not live with you? And how many daughters do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE . . . . ☐☐ DAUGHTERS ELSEWHERE ☐☐	
206	Have you ever given birth to a boy or girl who was born alive but died later? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . ☐☐ GIRLS DEAD . . . . ☐☐	
208	SUM ANSWERS OF 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL . . . . ☐☐	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES ☐ NO ☐ → PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE ☐ NO BIRTHS ☐ ──────── BIRTHS		→ 226

211	Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had.
	RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS ON SEPARATE ROWS.
	IF THERE ARE MORE THAN 12 BIRTHS, USE AN ADDITIONAL QUESTIONNAIRE, (STARTING WITH THE SECOND ROW AND CHANGE IT TO 13).

212	213	214	215	216	217	218	219	220	221
						IF ALIVE:		DEAD:	
What name was given to your (first/next) baby?	Is (NAME) a boy or a girl?	Is (NAME) single or twins?	In what month and year was (NAME) born? PROBE: When is his/her birthday?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	Is (NAME) living with you?	RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD).	How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN 2 YEARS, OR RECORD YEARS IF MORE THAN 2 YEARS.	Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
01	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (NEXT BIRTH)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	
02	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ↵ ADD BIRTH NO ..... 2 ↵ NEXT BIRTH
03	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ↵ ADD BIRTH NO ..... 2 ↵ NEXT BIRTH
04	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ↵ ADD BIRTH NO ..... 2 ↵ NEXT BIRTH
05	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ↵ ADD BIRTH NO ..... 2 ↵ NEXT BIRTH
06	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ↵ ADD BIRTH NO ..... 2 ↵ NEXT BIRTH
07	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ↵ ADD BIRTH NO ..... 2 ↵ NEXT BIRTH

212	213	214	215	216	217	218	219	220	221
						IF ALIVE:		DEAD:	
What name was given to your (first/next) baby?	Is (NAME) a boy or a girl?	Is (NAME) single or twins?	In what month and year was (NAME) born? PROBE: When is his/her birthday?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	Is (NAME) living with you?	RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD).	How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN 2 YEARS, OR RECORD YEARS IF MORE THAN 2 YEARS.	Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
08	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ADD ↵ BIRTH NO ..... 2 NEXT ↵ BIRTH
09	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ADD ↵ BIRTH NO ..... 2 NEXT ↵ BIRTH
10	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ADD ↵ BIRTH NO ..... 2 NEXT ↵ BIRTH
11	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ADD ↵ BIRTH NO ..... 2 NEXT ↵ BIRTH
12	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES .. 1 NO ... 2 ↓ 220	AGE IN YEARS ☐☐	YES ... 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS ... 1 ☐☐ MONTHS 2 ☐☐ YEARS .. 3 ☐☐	YES .... 1 ADD ↵ BIRTH NO ..... 2 NEXT ↵ BIRTH

222	Have you had any live births since the birth of (NAME OF LAST BIRTH)? IF YES, RECORD BIRTH(S) IN TABLE.	YES .... 1 NO 2

223	COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:
	NUMBERS ARE SAME ☐ ↓ NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE)

224	CHECK 215: ENTER THE NUMBER OF BIRTHS IN 2008 OR LATER. IF NONE, CIRCLE CODE (0) AND GO TO 226	NUMBER OF BIRTHS .... ☐ NONE .... 0 → 226

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
225	C * FOR EACH BIRTH SINCE JANUARY 2008, ENTER 'B' IN THE MONTH OF BIRTH IN THE CALENDAR. WRITE THE NAME OF THE CHILD TO THE LEFT OF THE 'B' CODE. * FOR EACH BIRTH, ASK THE NUMBER OF MONTHS THE PREGNANCY LASTED AND RECORD 'P' IN EACH OF THE PRECEDING MONTHS ACCORDING TO THE DURATION OF PREGNANCY. * (NOTE: THE NUMBER OF 'P's MUST BE ONE LESS THAN THE NUMBER OF MONTHS THAT THE PREGNANCY LASTED.)		
226	Are you pregnant now?	YES . . . . 1 NO . . . . 2 UNSURE 8	→ 230
227	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. C * ENTER 'P's IN THE CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR THE TOTAL NUMBER OF COMPLETED PREGNANCY MONTHS.	MONTHS . . . . ☐☐	
228	When you got pregnant, did you want to get pregnant at that time?	YES . . . . 1 NO 2	→ 230
229	Did you want to have a baby later on or did you not want any (more) children?	LATER . . . . 1 NO MORE 2	
230	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth?	YES . . . . 1 NO 2	→ 237a
231	When was the last pregnancy that miscarried, was aborted, or ended in stillbirth?	MONTH . . . . ☐☐ YEAR . . . . ☐☐☐☐	
232	CHECK 231: LAST PREGNANCY ENDED IN JAN. 2008 OR LATER ☐ LAST PREGNANCY ENDED BEFORE JAN. 2008 ☐		→ 237a
233	How many months pregnant were you when the last such pregnancy ended? (pregnancy that miscarried, was aborted, or ended in stillbirth) RECORD NUMBER OF COMPLETED MONTHS. C * ENTER 'T' IN THE CALENDAR IN THE MONTH THAT THE PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.	MONTHS . . . . ☐☐	
234	Since January 2008, have you had any other pregnancies that did not result in a live birth?	YES . . . . 1 NO 2	→ 236
235	ASK THE DATE AND THE DURATION OF PREGNANCY FOR EACH EARLIER NON-LIVE BIRTH PREGNANCY BACK TO JANUARY 2008 C * ENTER 'T' IN THE CALENDAR IN THE MONTH THAT EACH PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS FOR EACH PREGNANCY THAT MISCARRIED, WAS ABORTED, OR END IN STILLBIRTH.		
236	Did you have any miscarriages, abortions, or stillbirths that ended before 2008?	YES . . . . 1 NO 2	→ 237A
237	When did the last pregnancy that terminated before 2008 end?	MONTH . . . . ☐☐ YEAR . . . . ☐☐☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
237A	How old were you when you had your first menstrual period?	AGE IN YEARS .... ☐☐	
238	When did your last menstrual period start? _____ (DATE, IF GIVEN)	DAYS AGO .... 1 ☐☐ WEEKS AGO .... 2 ☐☐ MONTHS AGO .... 3 ☐☐ YEARS AGO .... 4 ☐☐ IN MENOPAUSE/ HAS HAD HYSTERECTOMY ... 994 BEFORE LAST BIRTH .... 995 NEVER MENSTRUATED 996	

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. Have you ever heard of (METHOD)?		
01	**Female Sterilization**. PROBE: Women can have an operation to avoid having any more children.	YES . . . . 1 NO 2	
02	**Male Sterilization**. PROBE: Men can have an operation to avoid having any more children.	YES . . . . 1 NO 2	
03	**IUD**. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse or midwife.	YES . . . . 1 NO 2	
04	**Injectables**. PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES . . . . 1 NO 2	
05	**Implants**. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or two years.	YES . . . . 1 NO 2	
06	**Pill**. PROBE: Women can take a pill every day to avoid becoming pregnant.	YES . . . . 1 NO 2	
07	**Condom**. PROBE: Men can put a rubber sheath on their penis before sexual intercourse to avoid pregnancy.	YES . . . . 1 NO 2	
08	**Female Condom**. PROBE: Women can place a sheath in their vagina before sexual intercourse to avoid pregnancy.	YES . . . . 1 NO 2	
09	**Diaphragm**. PROBE It is a soft latex with a spring that creates a seal against the walls of the vagina.	YES . . . . 1 NO 2	
10	**Lactational Amenorrhea Method (LAM):**	YES . . . . 1 NO 2	
11	**Rhythm Method**. PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	YES . . . . 1 NO 2	
12	**Withdrawal**. PROBE: Men can be careful and pull out before climax.	YES . . . . 1 NO 2	
13	**Emergency Contraception**. PROBE: As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES . . . . 1 NO 2	
14	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES . . . . 1 _____ (SPECIFY) NO 2	
301A	CHECK 112A, 112B: MARRIED ☐ DIVORCED, WIDOWED ☐ ─────────────────────────────────→		311

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
302	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→ 311
303	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES . . . . 1 NO 2	→ 311
304	Which method are you using? CIRCLE ALL MENTIONED. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION . . . . A MALE STERILIZATION . . . . B IUD . . . . C INJECTABLES . . . . D IMPLANTS . . . . E PILL . . . . F CONDOM . . . . G FEMALE CONDOM . . . . H DIAPHRAGM . . . . I LACTATIONAL AMEN. METHOD . . . . . J RHYTHM METHOD . . . . K WITHDRAWAL . . . . L OTHER MODERN METHOD . . . . X OTHER TRADITIONAL METHOD . . . Y	→ 308A

307	In what facility did the sterilization take place?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	<u> </u>
	(NAME OF PLACE)
		GOVT. HOSPITAL 11
		GOVT. HEALTH CENTER 12
		PRIMARY HEALTH CENTER 13
		FAMILY PLANNING CLINIC 14
		MOBILE CLINIC 15
		
		PRIVATE SECTOR
		  (HOSPITAL/CLINIC/DOCTOR) 21
		NON GOVERNMENT ORGANIZATIONS
		  PR. HOSPITAL/CENTER/
		  CLINIC/MOBILE CLINIC 31
		
		OTHER <u> </u> 96
		               (SPECIFY)
		DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
308	In what month and year was the sterilization performed?		
308A	Since what month and year have you been using (CURRENT METHOD) without stopping? PROBE: For how long have you been using (CURRENT METHOD) now without stopping?	MONTH . . . . YEAR	
309	CHECK 215, 231 AND 308/308A: ANY BIRTH OR PREGNANCY TERMINATION AFTER MONTH AND YEAR OF START OF USE OF CONTRACEPTION IN 308/308A PROBE AND RECORD MONTH AND YEAR AT START OF CONTINUOUS USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION).	YES ☐ NO ☐	
310	CHECK 308/308A: YEAR IS 2008 OR LATER ☐ **C** ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND IN EACH MONTH BACK TO THE DATE STARTED USING. YEAR IS 2007 OR EARLIER ☐ **C** ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND EACH MONTH BACK TO JANUARY 2008 THEN SKIP TO ⟶ 314		
311	I would like to ask you some questions about the times you or your husband may have used a method to avoid getting pregnant during the last few years. USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOST RECENT USE, BACK TO JANUARY 2008 USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS. **C** **IN COLUMN 1**, ENTER METHOD USE CODE OR '0' FOR NONUSE IN EACH BLANK MONTH. ILLUSTRATIVE QUESTIONS: * When was the last time you used a method? Which method was that? * When did you start using that method? How long after the birth of (NAME)? * How long did you use the method then? **IN COLUMN 2**, ENTER CODES FOR DISCONTINUATION NEXT TO THE LAST MONTH OF USE. NUMBER OF CODES IN COLUMN (2) MUST BE SAME AS NUMBER OF INTERRUPTIONS OF METHOD USE IN COLUMN (1). ASK WHY SHE STOPPED USING THE METHOD. IF A PREGNANCY FOLLOWED, ASK WHETHER SHE BECAME PREGNANT UNINTENTIONALLY WHILE USING THE METHOD OR DELIBERATELY STOPPED TO GET PREGNANT. ILLUSTRATIVE QUESTIONS: * Why did you stop using the (METHOD)? Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason? * IF DELIBERATELY STOPPED TO BECOME PREGNANT, ASK: How many months did it take you to get pregnant after you stopped using (METHOD)? AND ENTER '0' IN EACH SUCH MONTH IN COLUMN (1).		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
312	CHECK THE CALENDAR (FOR INTERVIEWER: USE OF ANY CONTRACEPTIVE METHOD IN ANY MONTH?) NO METHOD USED ☐ ANY METHOD USED ☐		→ 314
313	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES . . . . 1 NO 2	→ 323A
314	CHECK 304: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	NO CODE CIRCLED . . . . 00 FEMALE STERILIZATION . . . . 01 MALE STERILIZATION . . . . 02 IUD . . . . 03 INJECTABLES . . . . 04 IMPLANTS . . . . 05 PILL . . . . 06 CONDOM . . . . 07 FEMALE CONDOM . . . . 08 DIAPHRAGM . . . . 09 LACTATIONAL AMEN. METHOD . . . . . 10 RHYTHM METHOD . . . . 11 WITHDRAWAL . . . . 12 OTHER MODERN METHOD . . . . 95 OTHER TRADITIONAL METHOD 96	→ 323A → 317A → 326 → 315A → 326

315	You first started using (CURRENT METHOD) in (DATE FROM 308/308A). Where did you get it at that time?	GOVT. HOSPITAL 11
		GOVT. HEALTH CENTER 12
		PRIMARY HEALTH CENTER 13
		FAMILY PLANNING CLINIC 14
		MOBILE CLINIC 15
		
		PRIVATE SECTOR
		  (HOSPITAL/CLINIC/DOCTOR) 21
		  PHARMACY 22
		NON GOVERNMENT ORGANIZATIONS
		  PR. HOSPITAL/CENTER/
		  CLINIC/MOBILE CLINI(. 31
		
		OTHER _____ 96
		            (SPECIFY)	

315A	Where did you learn how to use the rhythm/lactational amenorrhea method? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
316	CHECK 304: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	IUD . . . . 03 INJECTABLES . . . . 04 IMPLANTS . . . . 05 PILL . . . . 06 CONDOM . . . . 07 FEMALE CONDOM . . . . 08 DIAPHRAGM . . . . 09 LACTATIONAL AMEN. METHOD . . . . . 10 RHYTHM METHOD 11	→ 323 → 320 → 326
317	At that time, were you told about side effects or problems you might have with the method?	YES . . . . 1 NO 2	→ 319
317A	When you got sterilized, were you told about side effects or problems you might have with the method?		
318	Were you ever told by a health or family planning worker about side effects or problems you might have with the method?	YES . . . . 1 NO 2	→ 320
319	Were you told what to do if you experienced side effects or problems?	YES . . . . 1 NO 2	
320	CHECK 314: CODE '1' CODE '1' CIRCLED NOT CIRCLED At that time, were you told about other methods of family planning that you could use? When you obtained (CURRENT METHOD FROM 314) from (SOURCE OF METHOD FROM 307 OR 315), were you told about other methods of family planning that you could use?	YES . . . . 1 NO 2	→ 322
321	Were you ever told by a health or family planning worker about other methods of family planning that you could use?	YES . . . . 1 NO 2	
322	CHECK 304: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION . . . . 01 MALE STERILIZATION . . . . 02 IUD . . . . 03 INJECTABLES . . . . 04 IMPLANTS . . . . 05 PILL . . . . 06 CONDOM . . . . 07 FEMALE CONDOM . . . . 08 DIAPHRAGM . . . . 09 LACTATIONAL AMEN. METHOD . . . . . 10 RHYTHM METHOD . . . . 11 WITHDRAWAL . . . . 12 OTHER MODERN METHOD . . . . 95 OTHER TRADITIONAL METHOD . . . 96	→ 326 326

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

323	Where did you obtain (CURRENT METHOD) the last time?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		GOVT. HOSPITAL 11
		GOVT. HEALTH CENTER 12
		PRIMARY HEALTH CENTER 13
		FAMILY PLANNING CLINIC 14
		MOBILE CLINIC 15
		
		PRIVATE SECTOR
		   (HOSPITAL/CLINIC/DOCTOR) 21
		PHARMACY 22
		NON GOVERNMENT ORGANIZATIONS
		   PR. HOSPITAL/CENTER/
		   CLINIC/MOBILE CLINIC 31
		
		OTHER _____ 96
		              (SPECIFY)
			→ 326

323A	What is the main reason for not using a method of family planning?	**FERTILITY-RELATED REASONS**
		   INFREQUENT SEX 21
		   MENOPAUSAL/HYSTERECTOMY 22
		   SUBFECUND/INFECUND 23
		   WANTS (MORE) CHILDREN 24
		
		OPPOSITION TO USE
		   RESPONDENT OPPOSED 31
		   HUSBAND OPPOSED 32
		   OTHERS OPPOSED 33
		   RELIGIOUS PROHIBITION 34
		LACK OF KNOWLEDGE
		   KNOWS NO METHOD 41
		   KNOWS NO SOURCE 42
		
		METHOD-RELATED REASONS
		   HEALTH CONCERNS 51
		   COSTS TOO MUCH 52
		   LACK OF ACCESS/TOO FAR 53
		OTHER _____ 96
		              (SPECIFY)	

324	Do you know of a place where you can obtain a method of family planning?	YES . . . . 1 NO 2	→ 326

325	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		   GOVT. HOSPITAL . . . . A
		   GOVT. HEALTH CENTER . . . . B
		   PRIMARY HEALTH CENTER C
		   FAMILY PLANNING CLINIC . . . . D
		   MOBILE CLINIC . . . . E
		
		PRIVATE MEDICAL SECTOR
		   PR. HOSPITAL/CLINIC/DOCTOR. . . F
		   PHARMACY . . . . G
		
		NON GOVERNMENT ORGANIZATIONS
		   PR. HOSPITAL/CLINIC/DOCTOR. . . H
		
		OTHER _____ X
		              (SPECIFY)	

326	In the last 12 months, were you visited by a fieldworker who talked to you about family planning?	YES . . . . 1 NO 2	
327	In the last 12 months, have you visited a health facility for care for yourself (or your children)?	YES . . . . 1 NO 2	→ 401
328	Did any staff member at this health facility speak to you about family planning methods?	YES . . . . 1 NO 2	

401	CHECK 224:			
	ONE OR MORE BIRTHS IN 2008 OR LATER ☐↓		NO BIRTHS IN 2008 OR LATER ☐ ──────→ 556	

402	CHECK 215: ENTER IN THE TABLE THE BIRTH HISTORY NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2008 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES). Now I would like to ask some questions about your children born in the last five years. We will talk about each separately.

403	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY	LAST BIRTH BIRTH HISTORY NUMBER ☐☐	NEXT-TO-LAST BIRTH BIRTH HISTORY NUMBER ☐☐	SECOND-FROM-LAST BIRTH BIRTH HISTORY NUMBER ☐☐
404	FROM 212 AND 216	NAME _____ LIVING ☐↓ DEAD ☐↓	NAME _____ LIVING ☐↓ DEAD ☐↓	NAME _____ LIVING ☐↓ DEAD ☐↓
405	When you got pregnant with (NAME), did you want to get pregnant at that time?	YES . . . . 1 (SKIP TO 407A)◄─┘ NO 2	YES . . . . 1 (SKIP TO 430)◄─┘ NO 2	YES . . . . 1 (SKIP TO 430)◄─┘ NO 2
406	Did you want to have a baby later on, or did you not want any (more) children?	LATER . . . . 1 NO MORE . . . . 2 (SKIP TO 407A)◄─┘	LATER . . . . 1 NO MORE . . . . 2 (SKIP TO 430)◄─┘	LATER . . . . 1 NO MORE . . . . 2 (SKIP TO 430)◄─┘
407	How much longer did you want to wait?	MONTHS . .1 ☐☐ YEARS . . 2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . . 2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . . 2 ☐☐ DON'T KNOW . . . 998

407A	During your pregnancy with (NAME), did you get any of the following symptoms:
	
	             YES NO DK
	1 Vaginal bleeding? 1 2 8
	2 High blood pressure? 1 2 8
	3 Swelling of the face and body? 1 2 8
	4 Severe headache? 1 2 8
	5 Convulsion? 1 2 8
	6 Other _____ 1 2 8
	      (SPECIFY)			

408	Did you see anyone for antenatal care for this pregnancy?	YES . . . . 1 NO . . . . 2 (SKIP TO 415)◄─┘		

409	Whom did you see?
	
	Anyone else?
	
	PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED.
		HEALTH PERSONNEL
		  DOCTOR . . . . A
		  NURSE/MIDWIFE B
		  AUXILIARY
		    MIDWIFE C
		OTHER PERSON
		  TRADITIONAL BIRTH
		    ATTENDANT/
		    GRANDMOTHER D
		  OTHER _____ X
		    (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
410	Where did you receive antenatal care for this pregnancy? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF (PUBLIC OR PRIVATE) SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	YOUR HOME . . . A OTHER HOME . . . B GOVT. HOSPITAL C GOVT. H. CENTER D PRIM. H. CENTER E FP. CLINIC . . . . . F MOBILE CLINIC G PRIVATE SECTOR (HOSP./CLINIC/ DISPENSARY/ . DOCT. OFFICE) H NG ORGANIZATIONS (HOSPITAL/CLINIC/ DISPENSARY DOCT. OFFICE) I OTHER _____ X (SPECIFY)	.	
411	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS . . . [ ] 0 DON'T KNOW 98		
412	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES [ ][ ] DON'T KNOW 98		
413	As part of your antenatal care during this pregnancy, were any of the following done at least once: 1 Was your blood pressure measured? 2 Did you give a urine sample? 3 Did you give a blood sample?	YES NO BP . . . . 1 2 URINE . . . . . 1 2 BLOOD . . . 1 2		
414	During (any of) your antenatal care visit(s), were you told about things to look out for that might suggest problems with the pregnancy?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8		
415	During this pregnancy, 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 418) ← DON'T KNOW 8		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
416	During this pregnancy, how many times did you get a tetanus injection?	TIMES . . . . [ ] DON'T KNOW 8		
417	CHECK 416:	2 OR MORE TIMES [ ] OTHER [ ] (SKIP TO 421) ↓ ↓		
418	At any time before this pregnancy, did you receive any tetanus injections?	YES . . . . 1 NO . . . . 2 (SKIP TO 421) ←┤ DON'T KNOW . . . 8		
419	Before this pregnancy, how many times did you receive a tetanus injection? IF 7 OR MORE TIMES, RECORD '7'.	TIMES . . . . [ ] DON'T KNOW 8		
420	How many years ago did you receive the last tetanus injection before this pregnancy?	YEARS AGO . . . . . [ ][ ] DON'T KNOW 98		
421	During this pregnancy, were you given or did you buy any iron tablets or iron syrup?	YES . . . . 1 NO . . . . 2 (SKIP TO 423) ←┤ DON'T KNOW 8		
422	During the whole pregnancy, for how many days did you take the tablets or syrup? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS.	DAYS [ ][ ][ ] DON'T KNOW . . . 998		
423	During this pregnancy, did you take any drugs for intestinal worms?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8		
424	During this pregnancy, did you take any drugs for (SP/Fansidar)?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

430	When (NAME) was born, was he/she very large, larger than average, average, or smaller than average?	VERY LARGE 1
		LARGER THAN
		   AVERAGE 2
		AVERAGE 3
		SMALLER THAN
		   AVERAGE 4
		DON'T KNOW 8
			VERY LARGE 1
			LARGER THAN
			   AVERAGE 2
			AVERAGE 3
			SMALLER THAN
			   AVERAGE 4
			DON'T KNOW 8
				VERY LARGE 1
				LARGER THAN
				   AVERAGE 2
				AVERAGE 3
				SMALLER THAN
				   AVERAGE 4
				DON'T KNOW 8

431	Was (NAME) weighed at birth?	YES 1
		
		NO 2
		   (SKIP TO 433) ◄─┐
		DON'T KNOW 8
			YES 1
			
			NO 2
			   (SKIP TO 433) ◄─┐
			DON'T KNOW 8
				YES 1
				
				NO 2
				   (SKIP TO 433) ◄─┐
				DON'T KNOW 8

432	How much did (NAME) weigh? RECORD WEIGHT IN KILOGRAMS FROM HEALTH CARD, IF AVAILABLE.	KG FROM CARD 1 ☐.☐☐☐ KG FROM RECALL 2 ☐.☐☐☐ DON'T KNOW 99998	KG FROM CARD 1 ☐.☐☐☐ KG FROM RECALL 2 ☐.☐☐☐ DON'T KNOW 99998	KG FROM CARD 1 ☐.☐☐☐ KG FROM RECALL 2 ☐.☐☐☐ DON'T KNOW 99998

433	Who assisted with the delivery of (NAME)?
	
	Anyone else?
	
	PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED.
	
	IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.
		HEALTH PERSONNEL
		  DOCTOR . . . . . A
		  NURSE/MIDWIFE B
		  AUXILIARY
		    MIDWIFE . . . C
		GRANDMOTHER/
		  TRADITIONAL
		  BIRTH
		  ATTENDANT . D
		RELATIVE/FRIEND . E
		OTHER
		           X
		  (SPECIFY)
		NO ONE ASSISTED Y
			HEALTH PERSONNEL
			  DOCTOR . . . . . A
			  NURSE/MIDWIFE B
			  AUXILIARY
			    MIDWIFE . . . C
			GRANDMOTHER/
			  TRADITIONAL
			  BIRTH
			  ATTENDANT . D
			RELATIVE/FRIEND . E
			OTHER
			           X
			  (SPECIFY)
			NO ONE ASSISTED Y
				HEALTH PERSONNEL
				  DOCTOR . . . . . A
				  NURSE/MIDWIFE B
				  AUXILIARY
				    MIDWIFE . . . C
				GRANDMOTHER/
				  TRADITIONAL
				  BIRTH
				  ATTENDANT . D
				RELATIVE/FRIEND . E
				OTHER
				           X
				  (SPECIFY)
				NO ONE ASSISTED Y

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____			NEXT-TO-LAST BIRTH NAME _____			SECOND-FROM-LAST BIRTH NAME _____		
433A	During the birth of (NAME), did you get any of the following symptoms:	YES	NO	DK	YES	NO	DK	YES	NO	DK
	1 Continuous tabor for more than 18 hours?	1	2	8	1	2	8	1	2	8
	2 Fever?	1	2	8	1	2	8	1	2	8
	3 Convulsion?	1	2	8	1	2	8	1	2	8
	4 Vaginal bleeding?	1	2	8	1	2	8	1	2	8
	5 Other_____ (SPECIFY)	1	2	8	1	2	8	1	2	8
434	Where did you give birth to (NAME)? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE THE SECTOR WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	YOUR HOME . . . 11 (SKIP TO 437A) ◄─┐ OTHER HOME . . . 12 GOVT. HOSPITAL 21 GOVT. H. CENTER 22 PRIM. H. CENTER 23 FP. CLINIC . . . . . 24 MOBILE CLINIC 25 PRIVATE SECTOR (HOSP./CLINIC/ DISPENSARY/ . DOCT. OFFICE) 31 NG ORGANIZATIONS (HOSPITAL/CLINIC/ DISPENSARY DOCT. OFFICE) 41 OTHER_____96 (SPECIFY)┐ (SKIP TO 437A) ◄──			YOUR HOME . . . 11 (SKIP TO 448) ◄─┐ OTHER HOME . . . 12 GOVT. HOSPITAL 21 GOVT. H. CENTER 22 PRIM. H. CENTER 23 FP. CLINIC . . . . . 24 MOBILE CLINIC 25 PRIVATE SECTOR (HOSP./CLINIC/ DISPENSARY/ . DOCT. OFFICE) 31 NG ORGANIZATIONS (HOSPITAL/CLINIC/ DISPENSARY DOCT. OFFICE) 41 OTHER_____96 (SPECIFY)┐ (SKIP TO 448) ◄──			YOUR HOME . . . 11 (SKIP TO 448) ◄─┐ OTHER HOME . . . 12 GOVT. HOSPITAL 21 GOVT. H. CENTER 22 PRIM. H. CENTER 23 FP. CLINIC . . . . . 24 MOBILE CLINIC 25 PRIVATE SECTOR (HOSP./CLINIC/ DISPENSARY/ . DOCT. OFFICE) 31 NG ORGANIZATIONS (HOSPITAL/CLINIC/ DISPENSARY DOCT. OFFICE) 41 OTHER_____96 (SPECIFY)┐ (SKIP TO 448) ◄──		
435	Was (NAME) delivered by caesarean, that is, did they cut your belly open to take the baby out?	YES . . . . 1 NO 2			YES . . . . 1 NO 2			YES . . . . 1 NO 2		
435A	Before you left the health facility, did any health staff speak to you or advise you about family planning methods?	YES . . . . 1 NO 2			YES . . . . 1 NO 2			YES . . . . 1 NO 2		
436	After delivery of (NAME), did anyone check on your health while you were still in the facility?	YES . . . . 1 (SKIP TO 439)◄──┘ NO 2								
437	Did anyone check on your health after you left the facility?	YES . . . . 1 (SKIP TO 439)◄──┘ NO . . . . 2 (SKIP TO 442)◄──┘								

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

437A	Why didn't you deliver in a health facility?	AT HOME
		   BETTER .... A
		THE SERVICE NOT
		   AVAILABLE .... B
		THE SERVICE IS
		   FAR C
		COSTS TOO
		   MUCH .... D
		HUSBAND DID
		   NOT ALLOW .... E
		EMERGENCY
		   LABOUR .... F
		THE HEALTH
		   PROVIDERS
		   TREAT BADLY ... G
		NO FEMALE
		   PROVIDER AT
		   FACILITY .... H
		OTHER_____ X
		     (SPECIFY)		

438	After delivery of (NAME), did anyone check on your health?	YES .... 1 NO .... 2 (SKIP TO 442)◄——┘		

439	Who checked on your health at that time?
	
	PROBE FOR MOST QUALIFIED PERSON.
		HEALTH PERSONNEL
		   DOCTOR 11
		   NURSE/MIDWIFE 12
		   AUXILIARY
		     MIDWIFE 13
		
		OTHER_____ 96
		    (SPECIFY)		

440	How long after delivery did the first check take place? IF LESS THAN ONE HOUR, RECORD '00' IN 'HOURS'. IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW ... 998		
442	In the two months after (NAME) was born, did any health care provider or a traditional birth attendant check on his/her health?	YES .... 1 NO .... 2 (SKIP TO 446)◄——┤ DON'T KNOW 8		
443	How many hours, days, or weeks after the birth of (NAME) did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS .. 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW ... 998		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

444	Who checked on (NAME)'s health at that time?
	
	PROBE FOR MOST QUALIFIED PERSON.
		HEALTH PERSONNEL
		  DOCTOR 11
		  NURSE/MIDWIFE 12
		  AUXILIARY
		    MIDWIFE 13
		OTHER PERSON
		  TRADITIONAL BIRTH
		    ATTENDANT 21
		
		OTHER_____96
		     (SPECIFY)		

445	Where did this first check of (NAME) take place?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE
	
	IF UNABLE TO DETERMINE THE SECTOR WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		YOUR HOME . . . A
		OTHER HOME . . . B
		
		GOVT. HOSPITAL C
		GOVT. H. CENTER D
		PRIM. H. CENTER E
		FP. CLINIC . . . . . F
		MOBILE CLINIC G
		
		PRIVATE SECTOR
		  (HOSP./CLINIC/
		    DISPENSARY/ .
		    DOCT. OFFICE) H
		
		NG ORGANIZATIONS
		  (HOSPITAL/CLINIC/
		    DISPENSARY
		    DOCT. OFFICE) I
		
		OTHER_____X
		    (SPECIFY)		

446	In the first two months after delivery, did you receive a vitamin A dose like (this/any of these)? SHOW COMMON TYPES OF AMPOULES/CAPSULES/SYRUPS.	YES . . . . 1 NO . . . . 2 DON'T KNOW 8		

447	Has your menstrual period returned since the birth of (NAME)?	YES 1
		  (SKIP TO 449)◄———┘
		NO 2
		  (SKIP TO 453)◄———┘		

448	Did your period return between the birth of (NAME) and your next pregnancy?		YES 1
			NO 2
			  (SKIP TO 453)◄———┘
				YES 1
				NO 2
				  (SKIP TO 453)◄———┘

449	For how many months after the birth of (NAME) did you not have a period?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
453	Did you ever breastfeed (NAME)?	YES . . . . 1 (SKIP TO 455)◄———┘ NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
454	CHECK 404: IS CHILD LIVING?	LIVING DEAD ☐ ☐ (GO BACK TO 405 IN NEXT COLUMN; OR IF NO MORE BIRTHS, GO TO 501) 460		
455	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '000'. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . 000 HOURS 1 ☐☐ DAYS 2		
456	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES . . . . 1 NO . . . . 2 (SKIP TO 458)◄─────		
457	What was (NAME) given to drink? Anything else? RECORD ALL LIQUIDS MENTIONED.	MILK (OTHER THAN BREAST MILK) A PLAIN WATER . . . B SUGAR OR GLU-COSE WATER . . . C GRIPE WATER . . . D SUGAR-SALT-WATER SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA G TEA/INFUSIONS . . . H COFFEE . . . . I HONEY . . . . J OTHER _____ X (SPECIFY)		
458	CHECK 404: IS CHILD LIVING?	LIVING DEAD ☐ ☐ (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501)	LIVING DEAD ☐ ☐ (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501)	LIVING DEAD ☐ ☐ (GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501)
459	Are you still breastfeeding (NAME)?	YES . . . . 1 NO 2		
460	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
461		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501.

501	ENTER IN THE TABLE THE BIRTH HISTORY NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2008 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES). NOW, I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT YOUR CHILDREN WHO BORN SINCE 2008 OR LATER, WE WILL TALK ABOUT EACH SEPARATELY		

502	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY	LAST BIRTH BIRTH HISTORY NUMBER	NEXT-TO-LAST BIRTH BIRTH HISTORY NUMBER	SECOND-FROM-LAST BIRTH BIRTH HISTORY NUMBER ......

503	FROM 212 AND 216 NAME AND SURVIVAL STATUS	NAME _____ LIVING DEAD ☐ (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 553)	NAME _____ LIVING DEAD ☐ (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 553)	NAME _____ LIVING DEAD ☐ (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE, OR IF NO MORE BIRTHS, GO TO 553)

504	Do you have a vaccination card for (NAME)? IF YES: May I see it please?	YES, SEEN .... 1 (SKIP TO 506) ← YES, NOT SEEN .... 2 (SKIP TO 509) ← NO CARD 3	YES, SEEN .... 1 (SKIP TO 506) ← YES, NOT SEEN .... 2 (SKIP TO 509) ← NO CARD 3	YES, SEEN .... 1 (SKIP TO 506) ← YES, NOT SEEN ...... 2 (SKIP TO 509) ← NO CARD 3

505	Did you ever have a vaccination card for (NAME)?	YES .... 1 (SKIP TO 509) ← NO 2	YES .... 1 (SKIP TO 509) ← NO 2	YES .... 1 (SKIP TO 509) ← NO 2

506	(1) COPY DATES FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A DOSE WAS GIVEN, BUT NO DATE IS RECORDED.		

	LAST BIRTH DAY MONTH YEAR	NEXT-TO-LAST BIRTH DAY MONTH YEAR	SECOND-FROM-LAST BIRTH DAY MONTH YEAR
BCG	BCG	BCG	BCG
POLIO 0 (POLIO GIVEN AT BIRTH)		P0	P0
POLIO 1		P1	P1
POLIO 2		P2	P2
POLIO 3		P3	P3
PENTA 1		D1	D1
PENTA 2		D2	D2
PENTA 3		D3	D3
PNEUMOCOCCAL1		B1	B1
PNEUMOCOCCAL2		B2	B2
PNEUMOCOCCAL3		B3	B3
MEASLES		MEA	MEA
VITAMIN A (MOST RECENT)		VIT A	VIT A

507	CHECK 506:	BCG TO MEASLES OTHER ALL RECORDED ☐ ☐ (GO TO 511)	BCG TO MEASLES OTHER ALL RECORDED ☐ ☐ (GO TO 511)	BCG TO MEASLES OTHER ALL RECORDED ☐ ☐ (GO TO 511)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
508	Has (NAME) had any vaccinations that are not recorded on this card, including vaccinations given in a national immunization day campaign? RECORD 'YES' ONLY IF THE RESPONDENT MENTIONS AT LEAST ONE OF THE VACCINATIONS IN 506 THAT ARE NOT RECORDED AS HAVING BEEN GIVEN.	YES . . . . 1 (PROBE FOR ⟵ VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 511) NO . . . . 2 (SKIP TO 511) ⟵ DON'T KNOW 8	YES . . . . 1 (PROBE FOR ⟵ VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 511) NO . . . . 2 (SKIP TO 511) ⟵ DON'T KNOW 8	YES . . . . 1 (PROBE FOR ⟵ VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 511) NO . . . . 2 (SKIP TO 511) ⟵ DON'T KNOW 8
509	Did (NAME) ever have any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign?	YES . . . . 1 NO . . . . 2 (SKIP TO 511) ⟵ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) ⟵ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) ⟵ DON'T KNOW 8
510	Please tell me if (NAME) had any of the following vaccinations:			
510A	A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
510B	Was (NAME) given a polio vaccine immediately after birth or during the first month?	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) ⟵ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) ⟵ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) ⟵ DON'T KNOW 8
510C	Was the first polio vaccine given in the first two weeks after birth or later?	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2
510D	How many times was the polio vaccine given?	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐
510E	A PENTA vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops?	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) ⟵ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) ⟵ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) ⟵ DON'T KNOW 8
510F	How many times was the PENTA vaccination given?	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐
510G	A measles injection that is, a shot in the arm at the age of 9 months or older - to prevent him/her from getting measles?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
511	Within the last six months, was (NAME) given a vitamin A dose like (this/any of these)? SHOW COMMON TYPES OF AMPOULES/CAPSULES/SYRUPS.	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
512	In the last seven days, was (NAME) given iron pills, sprinkles with iron, or iron syrup like (this/any of these)?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
513	Was (NAME) given any drug for intestinal worms in the last six months?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
514	Has (NAME) had diarrhea in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ←┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ←┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ←┤ DON'T KNOW 8
515	Was there any blood in the stools?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
516	Now I would like to know how much (NAME) was given to drink during the diarrhea (including breast milk). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8
517	When (NAME) had diarrhea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NEVER GAVE FOOD 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NEVER GAVE FOOD 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NEVER GAVE FOOD 5 DON'T KNOW 8
518	Did you seek advice or treatment for the diarrhea from any source?	YES . . . . 1 NO . . . . 2 (SKIP TO 522)←┘	YES . . . . 1 NO . . . . 2 (SKIP TO 522)←┘	YES . . . . 1 NO . . . . 2 (SKIP TO 522)←┘

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

519	Where did you seek advice or treatment?
	
	Anywhere else?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		GOVT. HOSPITAL A
		GOVT. H. CENTER B
		PRIM. H. CENTER C
		FP. CLINIC . . . . . D
		MOBILE CLINIC E
		
		PRIVATE SECTOR
		(HOSP./CLINIC/
		   DISPENSARY/ .
		   DOCT. OFFICE) F
		PHARMACY . . . . . G
		
		NG ORGANIZATIONS
		(HOSPITAL/CLINIC/
		   DISPENSARY
		   DOCT. OFFICE) H
		
		OTHER SOURCE
		   SHOP I
		   TRADITIONAL
		     PRACTITIONER J
		
		OTHER _____ X
		     (SPECIFY)
			GOVT. HOSPITAL A
			GOVT. H. CENTER B
			PRIM. H. CENTER C
			FP. CLINIC . . . . . D
			MOBILE CLINIC E
			
			PRIVATE SECTOR
			(HOSP./CLINIC/
			   DISPENSARY/ .
			   DOCT. OFFICE) F
			PHARMACY . . . . . G
			
			NG ORGANIZATIONS
			(HOSPITAL/CLINIC/
			   DISPENSARY
			   DOCT. OFFICE) H
			
			OTHER SOURCE
			   SHOP I
			   TRADITIONAL
			     PRACTITIONER J
			
			OTHER _____ X
			     (SPECIFY)
				GOVT. HOSPITAL A
				GOVT. H. CENTER B
				PRIM. H. CENTER C
				FP. CLINIC . . . . . D
				MOBILE CLINIC E
				
				PRIVATE SECTOR
				(HOSP./CLINIC/
				   DISPENSARY/ .
				   DOCT. OFFICE) F
				PHARMACY . . . . . G
				
				NG ORGANIZATIONS
				(HOSPITAL/CLINIC/
				   DISPENSARY
				   DOCT. OFFICE) H
				
				OTHER SOURCE
				   SHOP I
				   TRADITIONAL
				     PRACTITIONER J
				
				OTHER _____ X
				     (SPECIFY)

520	CHECK 519:	TWO OR ONLY
		  MORE ONE
		  CODES CODE
		  CIRCLED CIRCLED
		
		       (SKIP TO 522) ←
			TWO OR ONLY
			  MORE ONE
			  CODES CODE
			  CIRCLED CIRCLED
			
			       (SKIP TO 522) ←
				TWO OR ONLY
				  MORE ONE
				  CODES CODE
				  CIRCLED CIRCLED
				
				       (SKIP TO 522) ←

521	Where did you first seek advice or treatment? USE LETTER CODE FROM 519.	FIRST PLACE . . . [ ]	FIRST PLACE . . . [ ]	FIRST PLACE . . . [ ]
522	Was he/she given any of the following to drink at any time since he/she started having the diarrhea: a) A fluid made from a special packet called [LOCAL NAME FOR ORS PACKET]? b) A pre-packaged ORS liquid? c) A government-recommended homemade fluid?	YES NO DK FLUID FROM ORS PKT 1 2 8 ORS LQD 1 2 8 HOMEMADE FLUID . . . 1 2 8	YES NO DK FLUID FROM ORS PKT 1 2 8 ORS LQD 1 2 8 HOMEMADE FLUID . . . 1 2 8	YES NO DK FLUID FROM ORS PKT 1 2 8 ORS LQD 1 2 8 HOMEMADE FLUID . . . 1 2 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
523	Was anything (else) given to treat the diarrhea?	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ←⏋ DON'T KNOW 8

524	What (else) was given to treat the diarrhea?
	
	Anything else?
	
	RECORD ALL TREATMENTS GIVEN.
		PILL OR SYRUP
		  ANTIBIOTIC . . . . . A
		  ANTIMOTILITY B
		  ZINC C
		  OTHER (NOT ANTI-
		  BIOTIC, ANTI-
		  MOTILITY, OR
		  ZINC) . . . . D
		  UNKNOWN PILL
		    OR SYRUP . . . E
		
		INJECTION
		  ANTIBIOTIC . . . . . F
		  NON-ANTIBIOTIC G
		  UNKNOWN
		    INJECTION . . . H
		
		(IV) INTRAVENOUS I
		
		HOME REMEDY/
		  HERBAL MED-
		  ICINE . . . . J
		
		OTHER _____ X
		      (SPECIFY)
			PILL OR SYRUP
			  ANTIBIOTIC . . . . . A
			  ANTIMOTILITY B
			  ZINC C
			  OTHER (NOT ANTI-
			  BIOTIC, ANTI-
			  MOTILITY, OR
			  ZINC) . . . . D
			  UNKNOWN PILL
			    OR SYRUP . . . E
			
			INJECTION
			  ANTIBIOTIC . . . . . F
			  NON-ANTIBIOTIC G
			  UNKNOWN
			    INJECTION . . . H
			
			(IV) INTRAVENOUS I
			
			HOME REMEDY/
			  HERBAL MED-
			  ICINE . . . . J
			
			OTHER _____ X
			      (SPECIFY)
				PILL OR SYRUP
				  ANTIBIOTIC . . . . . A
				  ANTIMOTILITY B
				  ZINC C
				  OTHER (NOT ANTI-
				  BIOTIC, ANTI-
				  MOTILITY, OR
				  ZINC) . . . . D
				  UNKNOWN PILL
				    OR SYRUP . . . E
				
				INJECTION
				  ANTIBIOTIC . . . . . F
				  NON-ANTIBIOTIC G
				  UNKNOWN
				    INJECTION . . . H
				
				(IV) INTRAVENOUS I
				
				HOME REMEDY/
				  HERBAL MED-
				  ICINE . . . . J
				
				OTHER _____ X
				      (SPECIFY)

525	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 527) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 527) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 527) ←⏋ DON'T KNOW 8
526	At any time during the illness, did (NAME) have blood taken from his/her finger or heel for testing?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
527	Has (NAME) had an illness with a cough at any time in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 530) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 530) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 530) ←⏋ DON'T KNOW 8
528	When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?	YES . . . . 1 NO . . . . 2 (SKIP TO 531) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 531) ←⏋ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 531) ←⏋ DON'T KNOW 8

529	Was the fast or difficult breathing due to a problem in the chest or to a blocked or runny nose?	CHEST ONLY . . . 1 ⏋
		NOSE ONLY . . . . . 2 ⏋
		BOTH . . . . 3 ⏋
		OTHER _____ 6 ⏋
		    (SPECIFY)
		DON'T KNOW . . . . . 8 ⏋
		(SKIP TO 531) ←
			CHEST ONLY . . . 1 ⏋
			NOSE ONLY . . . . . 2 ⏋
			BOTH . . . . 3 ⏋
			OTHER _____ 6 ⏋
			    (SPECIFY)
			DON'T KNOW . . . . . 8 ⏋
			(SKIP TO 531) ←
				CHEST ONLY . . . 1 ⏋
				NOSE ONLY . . . . . 2 ⏋
				BOTH . . . . 3 ⏋
				OTHER _____ 6 ⏋
				    (SPECIFY)
				DON'T KNOW . . . . . 8 ⏋
				(SKIP TO 531) ←

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____		NEXT-TO-LAST BIRTH NAME _____		SECOND-FROM-LAST BIRTH NAME _____	
530	CHECK 525: HAD FEVER?	YES ☐	NO OR DK ☐ (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553)	YES ☐	NO OR DK ☐ (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553)	YES ☐	NO OR DK ☐ (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 553)
531	Now I would like to know how much (NAME) was given to drink (including breast milk) during the illness with a (fever/cough). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS ..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 NOTHING TO DRINK 5 DON'T KNOW 8		MUCH LESS ..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 NOTHING TO DRINK 5 DON'T KNOW 8		MUCH LESS ..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 NOTHING TO DRINK 5 DON'T KNOW 8	
532	When (NAME) had a (fever/cough), was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS ..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8		MUCH LESS ..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8		MUCH LESS ..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8	
533	Did you seek advice or treatment for the illness from any source?	YES .... 1 NO .... 2 (SKIP TO 537)◄────		YES .... 1 NO .... 2 (SKIP TO 537)◄────		YES .... 1 NO .... 2 (SKIP TO 537)◄────	

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

534	Where did you seek advice or treatment?
	
	Anywhere else?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE THE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		GOVT. HOSPITAL A
		GOVT. H. CENTER B
		PRIM. H. CENTER C
		FP. CLINIC . . . . . D
		MOBILE CLINIC E
		
		PRIVATE SECTOR
		(HOSP./CLINIC/
		   DISPENSARY/ .
		   DOCT. OFFICE) F
		PHARMACY . . . . . G
		
		NG ORGANIZATIONS
		(HOSPITAL/CLINIC/
		   DISPENSARY
		   DOCT. OFFICE) H
		
		OTHER SOURCE
		   SHOP I
		   TRADITIONAL
		      PRACTITIONER J
		OTHER _____ X
		      (SPECIFY)
			GOVT. HOSPITAL A
			GOVT. H. CENTER B
			PRIM. H. CENTER C
			FP. CLINIC . . . . . D
			MOBILE CLINIC E
			
			PRIVATE SECTOR
			(HOSP./CLINIC/
			   DISPENSARY/ .
			   DOCT. OFFICE) F
			PHARMACY . . . . . G
			
			NG ORGANIZATIONS
			(HOSPITAL/CLINIC/
			   DISPENSARY
			   DOCT. OFFICE) H
			
			OTHER SOURCE
			   SHOP I
			   TRADITIONAL
			      PRACTITIONER J
			OTHER _____ X
			      (SPECIFY)
				GOVT. HOSPITAL A
				GOVT. H. CENTER B
				PRIM. H. CENTER C
				FP. CLINIC . . . . . D
				MOBILE CLINIC E
				
				PRIVATE SECTOR
				(HOSP./CLINIC/
				   DISPENSARY/ .
				   DOCT. OFFICE) F
				PHARMACY . . . . . G
				
				NG ORGANIZATIONS
				(HOSPITAL/CLINIC/
				   DISPENSARY
				   DOCT. OFFICE) H
				
				OTHER SOURCE
				   SHOP I
				   TRADITIONAL
				      PRACTITIONER J
				OTHER _____ X
				      (SPECIFY)

535	CHECK 534:	TWO OR ONLY
		  MORE ONE
		  CODES CODE
		  CIRCLED CIRCLED
		
		         (SKIP TO 537)
			TWO OR ONLY
			  MORE ONE
			  CODES CODE
			  CIRCLED CIRCLED
			
			         (SKIP TO 537)
				TWO OR ONLY
				  MORE ONE
				  CODES CODE
				  CIRCLED CIRCLED
				
				         (SKIP TO 537)

536	Where did you first seek advice or treatment? USE LETTER CODE FROM 534.	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐

537	At any time during the illness, did (NAME) take any drugs for the illness?	YES 1
		NO 2
		     (GO TO 552)
		DON'T KNOW 8
			YES 1
			NO 2
			     (GO TO 552)
			DON'T KNOW 8
				YES 1
				NO 2
				     (GO TO 552)
				DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

538	What drugs did (NAME) take?
	
	Any other drugs?
	
	RECORD ALL MENTIONED.
		ANTIMALARIAL
		   DRUGS .... A
		
		ANTIBIOTIC DRUGS
		   PILL/SYRUP ... B
		   INJECTION ... C
		
		OTHER DRUGS
		   ASPIRIN .... D
		   ACETA-
		      MINOPHEN ... E
		   IBUPROFEN ... F
		
		OTHER _____ X
		       (SPECIFY)
		DON'T KNOW ..... Z
			ANTIMALARIAL
			   DRUGS .... A
			
			ANTIBIOTIC DRUGS
			   PILL/SYRUP ... B
			   INJECTION ... C
			
			OTHER DRUGS
			   ASPIRIN .... D
			   ACETA-
			      MINOPHEN ... E
			   IBUPROFEN ... F
			
			OTHER _____ X
			       (SPECIFY)
			DON'T KNOW ..... Z
				ANTIMALARIAL
				   DRUGS .... A
				
				ANTIBIOTIC DRUGS
				   PILL/SYRUP ... B
				   INJECTION ... C
				
				OTHER DRUGS
				   ASPIRIN .... D
				   ACETA-
				      MINOPHEN ... E
				   IBUPROFEN ... F
				
				OTHER _____ X
				       (SPECIFY)
				DON'T KNOW ..... Z

552		GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553.	GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553.	GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 553.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
553	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2008 OR LATER LIVING WITH THE RESPONDENT ONE OR MORE ⬜ NONE ⬜———————————————— RECORD NAME OF YOUNGEST CHILD LIVING WITH HER (AND CONTINUE WITH 554) ———————————————— (NAME)		→ 556

554	The last time (NAME FROM 553) passed stools, what was done to dispose of the stools?	CHILD USED TOILET OR LATRINE . . . 01
		PUT/RINSED
		    INTO TOILET OR LATRINE 02
		PUT/RINSED
		    INTO DRAIN OR DITCH 03
		THROWN INTO GARBAGE 04
		BURIED 05
		LEFT IN THE OPEN 06
		OTHER ————————— 96
		            (SPECIFY)	

555	CHECK 522(a) AND 522(b), ALL COLUMNS: NO CHILD ANY CHILD RECEIVED FLUID ⬜ RECEIVED FLUID ⬜———— FROM ORS PACKET OR FROM ORS PACKET OR PRE-PACKAGED ORS LIQUID PRE-PACKAGED ORS LIQUID		→ 557
556	Have you ever heard of a special product called oral rehydration package or oral rehydration solution, you can get for the treatment of diarrhea?	YES . . . . 1 NO 2	
557	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2010 OR LATER LIVING WITH THE RESPONDENT ONE OR MORE ⬜ NONE ⬜———————————————— RECORD NAME OF YOUNGEST CHILD LIVING WITH HER AND CONTINUE WITH 558 ———————————————— (NAME)		→ 561A

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
558	Now I would like to ask you about liquids or foods that (NAME FROM 557) had yesterday during the day or at night. I am interested in whether your child had the item I mention even if it was combined with other foods. Did (NAME FROM 557) (drink/eat):	YES NO DK	

			YES	NO	DK	
	a)	Plain water?	**a)** 1	2	8	
	b)	Juice or juice drinks?	**b)** 1	2	8	
	c)	Clear broth?	**c)** 1	2	8	
	d)	Milk such as tinned, powdered, or fresh animal milk?	**d)** 1	2	8	
		IF YES: How many times did (NAME) drink milk? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES DRANK MILK ☐			
	e)	Infant formula?	**e)** 1	2	8	
		IF YES: How many times did (NAME) drink infant formula? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES DRANK FORMULA ☐			
	e')	Coffee/tea?	**e')** 1	2	8	
		IF YES: How many times did (NAME) drink coffee or tea? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES DRANK COFFEE/TEA ☐			
	f)	Any other liquids?	**f)** 1	2	8	
	g)	Yogurt?	**g)** 1	2	8	
		IF YES: How many times did (NAME) eat yogurt? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES ATE YOGURT ☐			
	h)	Any [BRAND NAME OF COMMERCIALLY FORTIFIED BABY FOOD, E.G., Cerelac]?	**h)** 1	2	8	
	i)	Bread, rice, noodles, porridge, or other foods made from grains?	**i)** 1	2	8	
	j)	Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside? **(19)**	**j)** 1	2	8	
	k)	Potatoes, or any other foods made from roots?	**k)** 1	2	8	
	l)	Any dark green, leafy vegetables?	**l)** 1	2	8	
	m)	Ripe mangoes, papayas, melons or any fruits that are yellow inside?	**m)** 1	2	8	
	n)	Any other fruits or vegetables?	**n)** 1	2	8	
	o)	Liver, kidney, heart or other organ meats?	**o)** 1	2	8	
	p)	Any meat, such as beef, lamb, goat or chicken?	**p)** 1	2	8	
	q)	Eggs?	**q)** 1	2	8	
	r)	Fresh or dried fish or shellfish?	**r)** 1	2	8	
	s)	Any foods made from beans, peas, lentils, or nuts?	**s)** 1	2	8	
	t)	Cheese or other food made from milk?	**t)** 1	2	8	
	u)	Any sugary foods, such as chocolate, sweets, honey, pastry or cookies?	**u)** 1	2	8	
	v)	Any oil, fats or butter?	**v)** 1	2	8	
	w)	Any other solid, semi-solid, or soft food?	**w)** 1	2	8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
559	CHECK 558 (CATEGORIES "g" THROUGH "w"): NOT A SINGLE ☐ "YES" ↓ AT LEAST ONE ☐ "YES" OR "DON'T KNOW" →		→ 561
560	Did (NAME) eat any solid, semi-solid, or soft foods yesterday during the day or at night? IF 'YES' PROBE: What kind of solid, semi-solid or soft foods did (NAME) eat?	YES . . . . 1 (GO BACK TO 558 TO RECORD ↵ FOOD EATEN YESTERDAY) NO . . . . 2 →	561A
561	How many times did (NAME FROM 557) eat solid, semi-solid, or soft foods yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . ☐ DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES

561 A Now I would like to ask you about liquids or foods that you had yesterday during the day or at night. I am interested in whether your had the item I mention even if it was combined with other foods. Please don't mention spices such as hot pepper and herbs that are used in small amounts to improve food flavor, I will ask you specifically on this topic.

Yesterday during the day or at night, did you drink/eat:

			YES	NO
a)	Milk such as tinned, powdered, or fresh animal milk?	**a)**	1	2
b)	Bread, rice, noodles, porridge, or other foods made from grains?	**b)**	1	2
c)	Pumpkin, carrots, squash or sweet potatoes?	**c)**	1	2
d)	Potatoes, or any other foods made from roots?	**d)**	1	2
e)	Any dark green, leafy vegetables?	**e)**	1	2
f	Ripe mangoes, papayas, melons or any fruits that are yellow inside?	**f)**	1	2
g)	Any other fruits or vegetables?	**g)**	1	2
h)	Liver, kidney, heart or other organ meats?	**h)**	1	2
i)	Any meat, such as beef, lamb, goat or chicken?	**i)**	1	2
j)	Eggs?	**j)**	1	2
k)	Fresh, canned or dried fish or shellfish?	**k)**	1	2
l)	Beans, peas, lentils, or nuts?	**l)**	1	2
m)	Cheese, yogurt, milk or any food made from milk?	**m)**	1	2
n)	Oils, fats or butter or any food made from milk?	**n)**	1	2
o)	Any sugary foods, such as chocolate, sweets, honey, pastry, cookies?	**o)**	1	2
p)	Spices for flavor, such as pepper and spices and herbs or fish meal?	**p)**	1	2
q)	Coffee or tea?	**q)**	1	2

IF YES: How many times did you drink coffee or tea?   NUMBER OF TIMES
         IF 7 OR MORE TIMES, RECORD '7'.   DRINK COFFEE OR TEA   ☐

IF YES: when do you drink coffee or tea?
         BEFORE MEALS .... A   DURING MEALS .... B   AFTER MEALS   C

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 304: NEITHER STERILIZED ☐ HE OR SHE STERILIZED ☐		→ 712
702	CHECK 226: PREGNANT ☐ NOT PREGNANT OR UNSURE ☐		→ 704
703	Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE ANOTHER CHILD . . . . 1 NO MORE . . . . 2 DON'T KNOW/UNDECIDED 8	→ 705 → 711
704	Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	HAVE (A/ANOTHER) CHILD . . . . 1 NO MORE/NONE . . . . 2 SAYS SHE CAN'T GET PREGNANT 3 DON'T KNOW/UNDECIDED 8	 → 707 → 712 → 710
705	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐ How long would you like to wait from now before the birth of (a/another) child? After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . 1 ☐☐ YEARS . . . . 2 ☐☐ SOON/NOW . . . . 993 SAYS SHE CAN'T GET PREGNANT 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	 → 710 → 712 → 710
706	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→ 711
707	CHECK 303: USING A CONTRACEPTIVE METHOD NOT CURRENTLY USING ☐ CURRENTLY USING ☐		→ 712
708	CHECK 705: NOT ASKED ☐ 24 OR MORE MONTHS OR 02 OR MORE YEARS ☐ 00-23 MONTHS OR 00-01 YEAR ☐		→ 711

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

709	CHECK 703 AND 704:
	
	WANTS TO HAVE ⊐ A/ANOTHER CHILD WANTS NO MORE/ ⊐ NONE
	
	You have said that you do not want (a/another) child soon. But you don't use any method to avoid pregnancy. You have said that you do not want any (more) children.
	
	Can you tell me why you are not using a method to prevent pregnancy? Can you tell me why you are not using a method to prevent pregnancy?
	
	Any other reason? Any other reason?
	
	RECORD ALL REASONS MENTIONED.
		NOT MARRIED . . . . A
		
		FERTILITY-RELATED REASONS
		  NOT HAVING SEX WITH HUSBAND.. B
		  INFREQUENT SEX WITH HUSBAND.. C
		  MENOPAUSAL/HYSTERECTOMY D
		  CAN'T GET PREGNANT . . . . E
		  NOT MENSTRUATED SINCE
		    LAST BIRTH . . . . F
		  BREASTFEEDING . . . . G
		  UP TO GOD/FATALISTIC . . . . H
		
		OPPOSITION TO USE
		  RESPONDENT OPPOSED I
		  HUSBAND OPPOSED . . . J
		  OTHERS OPPOSED . . . . K
		  RELIGIOUS PROHIBITION L
		
		LACK OF KNOWLEDGE
		  KNOWS NO METHOD . . . . M
		  KNOWS NO SOURCE . . . . N
		
		METHOD-RELATED REASONS
		  SIDE EFFECTS/HEALTH
		    CONCERNS . . . . O
		  LACK OF ACCESS/TOO FAR . . . . . P
		  COSTS TOO MUCH . . . . Q
		  PREFERRED METHOD
		    NOT AVAILABLE . . . . R
		  NO METHOD AVAILABLE . . . . S
		  INCONVENIENT TO USE . . . . T
		  INTERFERES WITH BODY'S
		    NORMAL PROCESSES . . . . U
		
		OTHER _____ X
		          (SPECIFY)
		DON'T KNOW . . . . Z	

710	CHECK 303: USING A CONTRACEPTIVE METHOD NOT ASKED ⊐ NOT CURRENTLY USING ⊐ CURRENTLY USING ⊐		→ 712
711	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
712	CHECK 216: HAS LIVING CHILDREN ⊐ NO LIVING CHILDREN ⊐ If you could go back to the time you did not have any children and could choose (exactly) the number of children to have in your whole life, how many would that be? If you could choose exactly the number of children to have in your whole life, how many would that be? FOR NON-NUMERIC RESPONSE PROBE FOR A NUMERIC RESPONSE.	NONE . . . . 00 NUMBER . . . . [ ][ ] OTHER _____ 96 (SPECIFY)	→ 714 → 714

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
713	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	
714	In the last few months have you: 1 Heard about family planning on the radio? 2 Seen anything about family planning on television? 3 Read about family planning in a newspaper or magazine? 4 Heard about family planning from a health facility? 5 Heard about family planning at women's meetings?	YES NO RADIO . . . . 1 2 TELEVISION . . . . 1 2 NEWSPAPER OR MAGAZINE . . . 1 2 HEALTH FACILITY . . . . 1 2 WOMEN'S MEETINGS 1 2	
716	CHECK 112A: CURRENTLY ☐ WIDOWED/ ☐ MARRIED ↓ DIVORCED		→ 801
717	CHECK 303: USING A CONTRACEPTIVE METHOD NOT CURRENTLY ☐ CURRENTLY ☐ USING ↓ USING		→ 720
718	Would you say that using contraception is mainly your decision, mainly your husband's decision, or did you both decide together?	MAINLY RESPONDENT . . . . 1 MAINLY HUSBAND . . . . . 2 JOINT DECISION . . . . 3 OTHER _____ 6 (SPECIFY)	
719	CHECK 304: NEITHER ☐ HE OR SHE ☐ STERILIZED ↓ STERILIZED		→ 801
720	Does your husband want the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER . . . . 1 MORE CHILDREN . . . . 2 FEWER CHILDREN . . . . 3 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	CHECK 112A: CURRENTLY MARRIED ☐ NOT CURRENTLY MARRIED (WIDOWED/DIVORCED) ☐		→ 803
801A	Is your husband living with you now or is he staying elsewhere?	LIVING WITH HER . . . . 1 STAYING ELSEWHERE 2	
801B	RECORD THE HUSBAND'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO. . . . . ☐☐	
801C	Does your husband have other wives?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	┐ → 802
801D	Including yourself, in total, how many wives does he have?	TOTAL NUMBER OF WIVES . . . . . ☐ DON'T KNOW 8	
801E	Are you the first, second, … wife?	RANK . . . . ☐	
802	How old was your husband on his last birthday?	AGE IN COMPLETED YEARS ☐☐	
803	Did your (last) husband ever attend school?	YES . . . . 1 NO 2	→ 806
804	What was the highest level of school he attended: primary, fundamental (preparatory, unified), diploma before secondary, secondary, diploma after secondary, or university/higher?	PRIMARY .... 1 FUNDAMENTAL (PREPARATORY, UNIFIED) .... 2 DIPLOMA BEFORE SECONDARY .... 3 SECONDARY . . . . 4 DIPLOMA AFTER SECONDARY.... 5 UNIVERSITY/HIGHER .... 6 DON'T KNOW 8	→ 806
805	What was the highest (grade/form/year) he completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE/YEAR .... ☐☐ DON'T KNOW 98	
806	CHECK 801: CURRENTLY MARRIED ☐ FORMERLY MARRIED ☐ What is your husband's occupation? What was your last husband's occupation? That is, what kind of work does he mainly do? That is, what kind of work did he mainly do?	☐☐ _____ _____ _____	
807	Aside from your own housework, have you done any work in the last seven days?	YES . . . . 1 NO 2	→ 811

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
808	As you know, some women take up jobs for which they are paid in cash or kind. Others have a small business or work on the family farm or in the family business. In the last seven days, have you done any of these things or any other work?	YES . . . . 1 NO 2	→ 811
809	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, maternity leave, or any other such reason?	YES . . . . 1 NO 2	→ 811
810	Have you done any work in the last 12 months?	YES . . . . 1 NO 2	→ 815
811	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
812	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER . . . . 1 FOR SOMEONE ELSE . . . . 2 SELF-EMPLOYED . . . . 3 OTHER _____ 6 (SPECIFY)	
813	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . 1 SEASONALLY . . . . 2 ONCE IN A WHILE 3	
814	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . 1 CASH AND KIND . . . . 2 IN KIND ONLY . . . . 3 NOT PAID 4	
815	CHECK 112A: CURRENTLY MARRIED ☐ NOT CURRENTLY MARRIED ☐ ↓ (WIDOWED/DIVORCED)		→ 901
816	CHECK 814: CODE 1 OR 2 CIRCLED ☐ OTHER ☐		→ 819
817	Who usually decides how the money you earn will be used: you, your husband, or you and your husband jointly?	RESPONDENT . . . . 1 HUSBAND . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . 3 OTHER _____ 6 (SPECIFY)	
818	Would you say that the money that you earn is more than what your husband earns, less than what he earns, or about the same?	MORE THAN HIM. . . . . 1 LESS THAN HIM . . . . 2 ABOUT THE SAME . . . . 3 HUSBAND HAS NO EARNINGS . . . . 4 DON'T KNOW/NOT APPLICABLE 8	→ 820

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

819	Who usually decides how your husband's earnings will be used: you, your husband, or you and your husband jointly?	RESPONDENT 1
		HUSBAND 2
		RESPONDENT AND
		   HUSBAND JOINTLY . . . 3
		HUSBAND HAS
		   NO EARNINGS 4
		OTHER _____ 6
		(SPECIFY)	

820	Who usually makes decisions about health care for yourself: you, your husband, you and your husband jointly, or someone else?	RESPONDENT . . . . 1 HUSBAND . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . 3 SOMEONE ELSE . . . . 4 OTHER _____ 6 (SPECIFY)	
821	Who usually makes decisions about making major household purchases?	RESPONDENT . . . . 1 HUSBAND . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . 3 SOMEONE ELSE . . . . 4 OTHER _____ 6 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . 1 NO 2	→ 937
902	From your point of view, how AIDS is transmitted: 1 Blood transfusion? 2 Mosquito bites? 3 Sexual intercourse with an infected husband? 4 Contaminated sharp instruments? 5 Swimming with an infected person? 6 Sharing food with a person who has AIDS?	YES NO DK TRANSFUSION . . . . . 1 2 8 MOSQUITO BITES . . . 1 2 8 LIVING WITH INFECTED. 1 2 8 CONTAMINATED INSTRI 1 2 8 SWIMMING WITH INFEC 1 2 8 SHARING FOOD 1 2 8	
903	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
906	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
907	Can the virus that causes AIDS be transmitted from a mother to her baby: 1 During pregnancy? 2 During delivery? 3 By breastfeeding?	YES NO DK DURING PREG. . . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	

909	CHECK 907:
	    AT LEAST ☐ OTHER ☐
	    ONE 'YES' ↓
			→ 930

910	Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
930	Do you know of a place where people can go to get tested for the AIDS virus?	YES . . . . 1 NO 2	→ 932

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
931	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF THE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	GOVT. HOSPITAL . . . . A GOVT. HEALTH CENTER . . . . B PRIMARY HEALTH CENTER . . . . C FAMILY PLANNING CLINIC . . . . D MOBILE CLINIC . . . . E PRIVATE SECTOR (PRIVATE HOSPITAL/CLINIC/ . . . . . DISPENSARY/DOCTOR'S OFFICE)... F NON GOVERNMENT ORGANIZATIONS (HOSPITAL/CLINIC/DISPENSARY/ PRIVATE DOCTOR'S OFFICE, MOBILE CLINIC) . . . . G OTHER _____ X (SPECIFY)	
932	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
933	If a member of your family got infected with the AIDS virus, would you want it to remain a secret or not?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
934	If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
935	In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in the school?	SHOULD BE ALLOWED . . . . 1 SHOULD NOT BE ALLOWED . . . . 2 DON'T KNOW/NOT SURE 8	
937	CHECK 901: HEARD ABOUT ☐ NOT HEARD ☐ AIDS ABOUT AIDS Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact? Have you heard about infections that can be transmitted through sexual contact?	YES . . . . 1 NO 2	
940	Now I would like to ask you some questions about your health. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
941	Sometimes women experience a bad-smelling abnormal genital discharge. During the last 12 months, have you had a bad-smelling abnormal genital discharge?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
942	Sometimes women have a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
943	CHECK 940, 941, AND 942: HAS HAD AN HAS NOT HAD AN INFECTION INFECTION OR (ANY 'YES') DOES NOT KNOW	☐ ☐	→ 946
944	The last time you had (PROBLEM FROM 940/941/942), did you seek any kind of advice or treatment?	YES . . . . 1 NO 2	→ 946

945	Where did you go?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF THE SECTOR,
	WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		GOVT. HOSPITAL . . . . A
		GOVT. HEALTH CENTER . . . . B
		PRIMARY HEALTH CENTER C
		FAMILY PLANNING CLINIC . . . . D
		MOBILE CLINIC . . . . E
		
		PRIVATE SECTOR
		  (PRIVATE HOSPITAL/CLINIC/ . . . . .
		  DISPENSARY/DOCTOR'S OFFICE)... F
		
		NON GOVERNMENT ORGANIZATIONS
		  (HOSPITAL/CLINIC/DISPENSARY/
		  PRIVATE DOCTOR'S OFFICE,
		  MOBILE CLINIC) . . . . G
		
		OTHER _____ X
		              (SPECIFY)	

946	If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001	Now I would like to ask you some other questions relating to health matters. Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1008
1002	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1008
1003	The last time you got an injection from a health worker, did he/she take the syringe and needle from a new, unopened package?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

1008	Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not?
	
	1 Getting permission to go to the doctor?
	
	2 Getting money needed for advice or treatment?
	
	3 The distance to the health facility?
	
	4 No female provider at facility?
	
	5 Not wanting to go alone?
		BIG NOT A BIG
		                       PROB- PROB-
		                       LEM LEM
		
		PERMISSION TO GO . . . 1 2
		
		GETTING MONEY 1 2
		
		DISTANCE 1 2
		
		NO FEMALE 1 2
		
		GO ALONE 1 2	

1009	Are you covered by any health insurance?	YES . . . . 1 NO 2	→ 1011

1010	What type of health insurance are you covered by?
	
	PROBE:
	     Any other health insurance?
	
	RECORD ALL MENTIONED.
		MUTUAL HEALTH ORGANIZATION/
		  COMMUNITY-BASED HEALTH
		  INSURANCE . . . . A
		HEALTH INSURANCE THROUGH
		  EMPLOYER . . . . B
		SOCIAL SECURITY C
		OTHER PRIVATELY PURCHASED
		  COMMERCIAL HEALTH INSURANCE D
		OTHER _____ X
		          (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1011	FISTULA This series of questions is designed to obtain information on another health problem that affects women. Difficult vaginal delivery can lead to urine and fecal incontinence. This problem usually occurs after a difficult childbirth, but may also be the result of rape or pelvic surgery. Women with this problem are often subject to social discrimination. The following questions relate to women's knowledge of the problem and the reasons for the treatment. Have you ever heard of this problem of which the woman experiences a constant leakage of urine or stool from the vagina during the day and night?	YES . . . . 1 NO 2	→ 1012A
1012 1012A	Do you suffer or did you suffer from this problem? Sometimes some ladies suffer from the constant leakage of urine or stool from your vagina during the day and night as a result of a difficult birth or surgery and this is called fistula. Do you suffer or did you suffer from this problem?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 1018 → 1018
1013	Did this problem start after a normal delivery, a caesarean delivery, or after an operation or after anything else?	AFTER NATURAL BIRTH . . . . 1 AFTER CAESAREAN BIRTH . . . . 2 AFTER AN OPERATION .... 3 OTHER _____ 6 (SPECIFY)	
1014	Have you sought treatment for this condition?	YES . . . . 1 NO 2	→ 1016
1015	Why have you not sought treatment?	DO NOT KNOW WHERE TO GO . . . . . 1 TOO EXPENSIVE . . . . 2 TOO FAR . . . . 3 EMBARRASSMENT . . . . 4 POOR QUALITY OF CARE . . . . 5 OTHER _____ 6 (SPECIFY)	→ 1018
1016	From whom did you last seek treatment?	DOCTOR . . . . 1 NURSE/MIDWIFE . . . . 2 OTHER _____ 6 (SPECIFY)	
1017	Did your health improve after treatment?	FULLY RECUPERATED . . . . 1 PARTIALLY RECUPERATED . . . . . 2 NO. DIDN'T IMPROVE 3	
1018	Did you get any type of tumors?	YES . . . . 1 NO 2	→ 1101
1019	When did you find out that you had a tumor? RECORD THE YEAR AND THE MONTH IF DON'T KNOW MONTH CIRCLE 98	MONTH . . . . ▢▢ DON'T KNOW MONTH . . . . 98 YEAR . . . . ▢▢▢▢	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1020	Who discovered your tumor?	DOCTOR . . . . 1 NURSE/MIDWIFE . . . . 2 OTHER _____ 6 (SPECIFY)	
1021	In what part of your body did the tumor develop? RECORD IN WHICH PART OF THE BODY THE TUMOR EXIST.	_____ [ ][ ] _____	
1022	Have you sought treatment for this condition?	YES . . . . 1 NO 2	→ 1024
1023	Why have you not sought treatment?	DO NOT KNOW WHERE TO GO . . . . . A TOO EXPENSIVE . . . . B TOO FAR . . . . C OTHER _____ X (SPECIFY)	
1024	Did you have a biopsy or an ultrasound done to determine the type of tumor?	YES . . . . 1 NO 2	→ 1026
1025	What was the result of the biopsy or the ultrasound?	BENIGN TUMOR . . . . 1 MALIGNANT TUMOR . . . . 2 OTHER _____ 6 (SPECIFY)	
1026	Do you currently receive or did you receive in the past treatment for the malignant tumor (CANCER)?	YES CURRENTLY . . . . 1 YES IN THE PAST . . . . 2 NO . . . . 3 OTHER _____ 6 (SPECIFY)	

SECTION 11: FEMALE CIRCUMCISION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1101	Have you ever heard of female circumcision?	YES . . . . 1 NO 2	→ 1103
1102	In some countries, there is a practice in which a girl may have part of her genitals cut. Have you ever heard about this practice?	YES . . . . 1 NO 2	→ 1201
1103	Have you yourself ever been circumcised?	YES . . . . 1 NO 2	→ 1109
1104	Was any flesh removed from the genital area?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1107	How old were you when you were circumcised? IF THE RESPONDENT DOES NOT KNOW THE EXACT AGE, PROBE TO GET AN ESTIMATE	AGE IN COMPLETED YEARS... [ ][ ] DURING FIRST WEEK AFTER BIRTH 93 AFTER FIRST WEEK AND BEFORE FIRST YEAR AFTER BIRTH . . . . . 94 DON'T KNOW 98	

1108	Who performed the circumcision?	TRADITIONAL
		   TRAD. 'CIRCUMCISER' 11
		   TRAD. BIRTH ATTENDANT 12
		
		HEALTH PROFESSIONAL
		   DOCTOR 21
		   NURSE/TRAINED MIDWIFE . . . 22
		
		OTHER _____ 96
		            (SPECIFY)
		DON'T KNOW 98	

1109	CHECK 213 & 216 [ ] HAS AT LEAST ONE HAS NO LIVING DAUGHTER ↓ LIVING DAUGHTER [ ]		→ 1120
1110	Have any of your daughters been circumcised? IF YES: How many?	NUMBER CIRCUMCISED . . . . . [ ][ ] NO DAUGHTER CIRCUMCISED ....95 →	1118

1111	Which of your daughters was circumcised most recently?
	
	_____
	   (DAUGHTER'S NAME)
	
	INTERVIEWER: CHECK 212 AND RECORD THE LINE NUMBER
	 FOR THE DAUGHTER
		DAUGHTER'S LINE NUMBER
		  FROM Q.212 . . . . . [ ][ ]	

1112	Now I would like to ask you what was done to (NAME OF THE DAUGHTER FROM Q.1111).		
1113	Was any flesh removed from the genital area?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1115	How old was (NAME OF THE DAUGHTER FROM Q.1111) when the circumcision was done? IF THE RESPONDENT DOES NOT KNOW THE AGE, PROBE TO PROBE TO GET AN ESTIMATE	AGE IN COMPLETED YEARS... ☐☐ DURING FIRST WEEK AFTER BIRTH 93 AFTER FIRST WEEK AND BEFORE FIRST YEAR AFTER BIRTH . . . . 94 DON'T KNOW 98	

1116	Who performed the circumcision?	TRADITIONAL
		   TRAD. 'CIRCUMCISER' 11
		   TRAD. BIRTH ATTENDANT 12
		   OTHER
		     TRADITIONAL _____ 16
		                       SPECIFY
		
		HEALTH PROFESSIONAL
		   DOCTOR 21
		   NURSE/TRAINED MIDWIFE . . . 22
		   OTHER HEALTH
		     PROFESSIONAL _____ 26
		                   SPECIFY
		
		DON'T KNOW 98	

1117	Do you have any daughter who is not circumcised?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 1120
1118	Do you intend to have any of your daughters circumcised in the future?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 1120

1119	Why do you intend to have any of your daughters circumcised?
	
	PROBE: Any other reasons?
	
	RECORD ALL MENTIONED.
		CLEANLINESS/HYGIENE . . . . A
		SOCIAL ACCEPTANCE . . . . B
		BETTER MARRIAGE PROSPECTS C
		 PRESERVE VIRGINITY/PREVENT
		   PREMARITAL SEX . . . . D
		MORE SEXUAL PLEASURE FOR
		   THE MAN . . . . E
		RELIGIOUS APPROVAL . . . . F
		
		OTHER _____ X
		            (SPECIFY)
		NO REASON . . . . Y	

1120	Do you believe that this practice is required by your religion?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1121	Do you think that this practice should be continued, or should it be stopped?	CONTINUED . . . . 1 STOPPED . . . . 2 DEPENDS . . . . 3 DON'T KNOW 8	→ 1201 → 1201

1122	Why do you think this practice should be stopped?
	
	PROBE: Any other reasons?
	
	RECORD ALL MENTIONED.
		BAD TRADITIONAL PRACTICE . . . . . A
		AGAINST RELIGION . . . . B
		CAUSES SERIOUS MEDICAL
		   COMPLICATION C
		PAINFUL PERSONAL EXPERIENCE . D
		AGAINST WOMAN'S DIGNITY . . . . E
		OTHER _____ X
		            (SPECIFY)
		DON'T KNOW . . . . Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1201	What is your understanding of domestic violence, does that mean: 1 Physical abuse? 2 No participation in decision-making for household? 3 No participation in decision-making for children? 4 Better treatment of males than females? 5 Failing to meet basic living costs? 6 Denial of education? 7 Forced marriage? 8 Rape? 9 Sexual harassment? 10 other _____ SPECIFY	YES NO DK PHYSICAL ABUSE... 1 2 8 FOR HOUSEHOLD ... 1 2 8 FOR CHILDREN . 1 2 8 SEX PREFERENCES... 1 2 8 FAILING LIVING COSTS 1 2 8 DENIAL OF EDUCATION. 1 2 8 FORCED MARRIAGE... 1 2 8 RAPE...................... 1 2 8 SEXUAL HARASSMENT.. 1 2 8 OTHER 1 2	
1202	Who are the people who commit the most violent acts against women?	FATHER . . . . 01 MOTHER . . . . 02 HUSBANDS . . . . 03 SISTER/BROTHER . . . . 04 DAUGHTER/SON . . . . 05 EMPLOYER . . . . 06 SOMEONE AT WORK . . . . 07 OTHER _____ 96 (SPECIFY)	
1203	What is the place with most violent acts?	AT HOME . . . . 01 WORKPLACE . . . . 02 STREET . . . . 03 SCHOOL . . . . 04 OTHER _____ 96 (SPECIFY)	
1204	Does any form of violence cause damage?	YES . . . . 1 NO 2	→ 1206
1205	What is the most serious damage caused by violence?	HEALTH DAMAGE . . . . 1 PSYCHOLOGICAL DAMAGE . . . . 2 ECONOMIC DAMAGE . . . . 3 EDUCATIONAL DAMAGE . . . . 4 SOCIAL DAMAGE . . . . 5 OTHER _____ 6 (SPECIFY)	
1206	In your opinion, is a husband justified in hitting or beating his wife in the following situations: 1 If she goes out without telling him? 2 If she neglects the children? 3 If she argues with him? 4 If she refuses to have sex with him? 5 If she burns the food?	YES NO DK GOES OUT . . . . 1 2 8 NEGL. CHILDREN ... 1 2 8 ARGUES . . . . 1 2 8 REFUSES SEX ..... 1 2 8 BURNS FOOD 1 2 8	
1207	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

_____

_____

_____

_____

_____

_____

COMMENTS ON SPECIFIC QUESTIONS:

_____

_____

_____

_____

_____

ANY OTHER COMMENTS:

_____

_____

_____

_____

_____

SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

_____

_____

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

_____

_____

_____

_____

NAME OF EDITOR: _____ DATE: _____

CALENDAR

INSTRUCTIONS:
ONLY ONE CODE SHOULD APPEAR IN EACH BOX.
COLUMN 1 REQUIRES A CODE IN EVERY MONTH.

INFORMATION TO BE CODED FOR EACH COLUMN

COLUMN 1: BIRTHS, PREGNANCIES, CONTRACEPTIVE USE
- B BIRTHS
- P PREGNANCIES
- T TERMINATIONS

- 0 NO METHOD
- 1 FEMALE STERILIZATION
- 2 MALE STERILIZATION
- 3 IUD
- 4 INJECTABLES
- 5 IMPLANTS
- 6 PILL
- 7 CONDOM
- 8 FEMALE CONDOM
- 9 DIAPHRAGM
- J LACTATIONAL AMENORRHEA METHOD
- K RHYTHM METHOD
- L WITHDRAWAL
- X OTHER MODERN METHOD
- Y OTHER TRADITIONAL METHOD

COLUMN 2: DISCONTINUATION OF CONTRACEPTIVE USE
- 0 INFREQUENT SEX/HUSBAND AWAY
- 1 BECAME PREGNANT WHILE USING
- 2 WANTED TO BECOME PREGNANT
- 3 HUSBAND/PARTNER DISAPPROVED
- 4 WANTED MORE EFFECTIVE METHOD
- 5 SIDE EFFECTS/HEALTH CONCERNS
- 6 LACK OF ACCESS/TOO FAR
- 7 COSTS TOO MUCH
- 8 INCONVENIENT TO USE
- F UP TO GOD/FATALISTIC
- A DIFFICULT TO GET PREGNANT/MENOPAUSAL
- D MARITAL DISSOLUTION/SEPARATION/DIVORCE
- X OTHER _____
                    (SPECIFY)
- Z DON'T KNOW

				1	2	
	12	DEC	01			
	11	NOV	02			
	10	OCT	03			
	09	SEP	04			
2	08	AUG	05			2
0	07	JUL	06			0
1	06	JUN	07			1
3	05	MAY	08			3
	04	APR	09			
	03	MAR	10			
	02	FEB	11			
	01	JAN	12			
	12	DEC	13			
	11	NOV	14			
	10	OCT	15			
	09	SEP	16			
2	08	AUG	17			2
0	07	JUL	18			0
1	06	JUN	19			1
2	05	MAY	20			2
	04	APR	21			
	03	MAR	22			
	02	FEB	23			
	01	JAN	24			
	12	DEC	25			
	11	NOV	26			
	10	OCT	27			
	09	SEP	28			
2	08	AUG	29			2
0	07	JUL	30			0
1	06	JUN	31			1
1	05	MAY	32			1
	04	APR	33			
	03	MAR	34			
	02	FEB	35			
	01	JAN	36			
	12	DEC	37			
	11	NOV	38			
	10	OCT	39			
	09	SEP	40			
2	08	AUG	41			2
0	07	JUL	42			0
1	06	JUN	43			1
0	05	MAY	44			0
	04	APR	45			
	03	MAR	46			
	02	FEB	47			
	01	JAN	48			
	12	DEC	49			
	11	NOV	50			
	10	OCT	51			
	09	SEP	52			
2	08	AUG	53			2
0	07	JUL	54			0
0	06	JUN	55			0
9	05	MAY	56			9
	04	APR	57			
	03	MAR	58			
	02	FEB	59			
	01	JAN	60			
	12	DEC	61			
	11	NOV	62			
	10	OCT	63			
	09	SEP	64			
2	08	AUG	65			2
0	07	JUL	66			0
0	06	JUN	67			0
8	05	MAY	68			8
	04	APR	69			
	03	MAR	70			
	02	FEB	71			
	01	JAN	72			

REPUBLIC OF YEMEN
MINISTRY OF PUBLIC HEALTH & POPULATION
CENTRAL STATISTICAL ORGANIZATION
NATIONAL HEALTH & DEMOGRAPHIC SURVEY
2013

6/19/2013

SINGLE WOMAN'S QUESTIONNAIRE

QUES. NO.

IDENTIFICATION

ADMINISTRATIVE INFORMATION

GOVERNORATE

DIRECTORATE NAME

SUB-DIRECTORATE NAME

URBAN = 1   RURAL = 2

NAME OF HOUSEHOLD HEAD

NAME AND LINE NUMBER OF WOMAN

LISTING INFORMATION

SECTOR NUMBER

SECTION NUMBER

CLUSTER NUMBER

HOUSEHOLD NUMBER

HOUSEHOLD CLUSTER NUMBER

INTERVIEWER VISITS

	1	2	3	FINAL VISIT	
DATE	/ / 2013	/ / 2013	/ / 2013	DAY	
				MONTH	
				YEAR	2 0 1 3
INTERVIEWER'S NAME				INT. NUMBER	
RESULT*				RESULT	
NEXT VISIT: DATE	./ ./ 2013	./ ./ 2013		TOTAL NUMBER OF VISITS	
TIME					

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

	FIELD EDITOR	SUPERVISOR	OFFICE EDITOR	KEYER
NAME				
SIGNATURE				
DATE	/ / 2013	/ / 2013	/ / 2013	/ / 2013
CODE				

INTRODUCTION AND CONSENT

```
INFORMED CONSENT
Hello.  My name is _____.  I am working on the National Health & Demographic Survey which is
implemented (by the Ministry of Public Health & Population and the Central Statistical Organization).  We are conducting a survey about
health all over Yemen.  The information we collect will help the government  to plan health services.  Your household was selected for the
survey. All of the answers you give will be confidential under Article (5) of the Statistics Law No. (28) for the year 1995 and will be used for
statistical and researches purposes only and will not be shared with anyone other than members of our survey team. but we hope you will
agree to answer the questions since your views are important.  If you don't want to answer any question, just let me know and I will go on to
the next question or you can stop the interview at any time.


Do you have any questions?  May I begin the interview now?

RESPONDENT AGREES TO BE INTERVIEWED     . . .    1      RESPONDENT DOES NOT AGREE TO BE INTERVIEWED  . . .   2 ➔ END
                                                 ↓

SIGNATURE OF INTERVIEWER: _____        DATE: _____
```

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . ▢▢ MINUTES . . . . ▢▢	
102	In what month and year were you born?	MONTH . . . . ▢▢ DON'T KNOW MONTH . . . . 98 YEAR . . . . ▢▢▢▢ DON'T KNOW YEAR 9998	
103	How old were you on your last birthday? COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.	AGE IN COMPLETED YEARS ▢▢	
104	Have you ever attended school?	YES . . . . 1 NO 2	➔ 108
105	What is the highest level of school you attended: primary, fundamental (preparatory, unified), diploma before secondary, secondary, diploma after secondary, or university/higher?	PRIMARY . . . . 1 FUNDAMENTAL (PREPARATORY, UNIFIED) . . . . 2 DIPLOMA BEFORE SECONDARY . . . . 3 SECONDARY . . . . 4 DIPLOMA AFTER SECONDARY. . . . 5 UNIVERSITY/HIGHER 6	
106	What is the highest (grade/year) you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE/YEAR . . . . ▢▢	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
107	CHECK 105 PRIMARY ☐ OTHER ☐ FUNDAMENTAL 1-6 LEVELS		→ 110
108	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT IF RESPONDENT CANNOT READ THE WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . 1 ABLE TO READ ONLY PARTS OF SENTENCE . . . . 2 ABLE TO READ WHOLE SENTENCE 3 BLIND/VISUALLY IMPAIRED 4	
109	CHECK 108: CODE '2' ☐ CODE '1' OR '4' ☐ OR '3' CIRCLED CIRCLED		→ 111
110	Do you read a newspaper or magazine every day, at least once a week, or not at all?	EVERY DAY . . . . 1 AT LEAST ONCE A WEEK . . . . 2 NOT AT ALL 3	
111	Do you listen to the radio every day, at least once a week, or not at all?	EVERY DAY . . . . 1 AT LEAST ONCE A WEEK . . . . 2 NOT AT ALL 3	
112	Do you watch television every day, at least once a week, or not at all?	EVERY DAY . . . . 1 AT LEAST ONCE A WEEK . . . . 2 NOT AT ALL 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . 1 NO 2	→ 1001
902	From your point of view, AIDS is transmitted by: 1 Blood transfusion 2 Mosquito bites 3 Sexual intercourse with an infected husband 4 Contaminated sharp instruments 5 Swimming with an infected person 6 Sharing food with a person who has AIDS	YES NO DK TRANSFUSION . . . . . 1 2 8 MOSQUITO BITES . . . 1 2 8 LIVING WITH INFECTED. 1 2 8 CONTAMINATED INSTR(1 2 8 SWIMMING WITH INFEC 1 2 8 SHARING FOOD 1 2 8	
903	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
906	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
907	Can the virus that causes AIDS be transmitted from a mother to her baby: 1 During pregnancy? 2 During delivery? 3 By breastfeeding?	YES NO DK DURING PREG. . . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	

909	CHECK 907:
	    AT LEAST OTHER ☐
	    ONE 'YES' ☐
			→ 930

910	Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
930	Do you know of a place where people can go to get tested for the AIDS virus?	YES . . . . 1 NO 2	→ 932

931	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF THE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		GOVT. HOSPITAL . . . . A
		GOVT. HEALTH CENTER . . . . B
		PRIMARY HEALTH CENTER C
		FAMILY PLANNING CLINIC . . . . D
		MOBILE CLINIC . . . . E
		
		PRIVATE SECTOR
		  (PRIVATE HOSPITAL/CLINIC/
		  DISPENSARY/DOCTOR'S OFFICE)... F
		
		NON GOVERNMENT ORGANIZATIONS
		  (HOSPITAL/CLINIC/DISPENSARY/
		  PRIVATE DOCTOR'S OFFICE,
		  MOBILE CLINIC) . . . . G
		
		OTHER _____ X
		          (SPECIFY)	

932	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
933	If a member of your family got infected with the AIDS virus, would you want it to remain a secret or not?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
934	If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
935	In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in the school?	SHOULD BE ALLOWED . . . . 1 SHOULD NOT BE ALLOWED . . . . 2 DON'T KNOW/NOT SURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001	Now I would like to ask you some other questions relating to health matters. Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1008
1002	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1008
1003	The last time you got an injection from a health worker, did he/she take the syringe and needle from a new, unopened package?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1008	Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not? 1 Getting permission to go to the doctor? 2 Getting money needed for advice or treatment? 3 The distance to the health facility? 4 No female provider at facility? 5 Not wanting to go alone?	BIG PROB-LEM / NOT A BIG PROB-LEM PERMISSION TO GO . . . 1 2 GETTING MONEY . . . . . 1 2 DISTANCE . . . . 1 2 NO FEMALE . . . . 1 2 GO ALONE 1 2	
1009	Are you covered by any health insurance?	YES . . . . 1 NO 2	→ 1018

1010	What type of health insurance are you covered by?
	
	PROBE:
	        Any other health insurance?
	
	RECORD ALL MENTIONED.
		MUTUAL HEALTH ORGANIZATION/
		   COMMUNITY-BASED HEALTH
		   INSURANCE . . . . A
		HEALTH INSURANCE THROUGH
		   EMPLOYER . . . . B
		SOCIAL SECURITY C
		OTHER PRIVATELY PURCHASED
		   COMMERCIAL HEALTH INSURANCE D
		OTHER _____ X
		               (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1018	Have you had any type of tumors?	YES . . . . 1 NO 2	→ 1101
1019	When did you find out that you had a tumor? RECORD THE YEAR AND THE MONTH IF DON'T KNOW MONTH CIRCLE 98	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐	
1020	Who discovered your tumor?	DOCTOR . . . . 1 NURSE/MIDWIFE . . . . 2 OTHER _____ 6 (SPECIFY)	
1021	In what part of your body did the tumor develop? RECORD IN WHICH PART OF THE BODY THE TUMOR EXIST.	_____ ☐☐ _____	
1022	Have you sought treatment for this condition?	YES . . . . 1 NO 2	→ 1024
1023	Why have you not sought treatment?	DO NOT KNOW WHERE TO GO . . . . . A TOO EXPENSIVE . . . . B TOO FAR . . . . C OTHER _____ X (SPECIFY)	
1024	Did you have a biopsy or an ultrasound to determine the type of tumor?	YES . . . . 1 NO 2	→ 1026
1025	What was the result of the biopsy or the ultrasound?	BENIGN TUMOR . . . . 1 MALIGNANT TUMOR . . . . 2 OTHER _____ 6 (SPECIFY)	
1026	Do you currently receive or have you received in the past treatment for the malignant tumor (CANCER)?	YES CURRENTLY . . . . 1 YES IN THE PAST . . . . 2 NO . . . . 3 OTHER _____ 6 (SPECIFY)	

SECTION 11: FEMALE CIRCUMCISION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1101	Have you ever heard of female circumcision?	YES . . . . 1 NO 2	→ 1103
1102	In some countries, there is a practice in which a girl may have part of her genitals cut. Have you ever heard about this practice?	YES . . . . 1 NO 2	→ 1201
1103	Have you yourself ever been circumcised?	YES . . . . 1 NO 2	→ 1118
1104	Was any flesh removed from the genital area?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1107	How old were you when you were circumcised? IF THE RESPONDENT DOES NOT KNOW THE EXACT AGE, PROBE TO GET AN ESTIMATE	AGE IN COMPLETED YEARS... ☐☐ DURING FIRST WEEK AFTER BIRTH 93 AFTER FIRST WEEK AND BEFORE FIRST YEAR AFTER BIRTH . . . . . 94 DON'T KNOW 98	

1108	Who performed the circumcision?	TRADITIONAL
		    TRAD. 'CIRCUMCISER' 11
		    TRAD. BIRTH ATTENDANT 12
		
		HEALTH PROFESSIONAL
		    DOCTOR 21
		    NURSE/TRAINED MIDWIFE . . . 22
		
		OTHER _____ 96
		            (SPECIFY)
		DON'T KNOW 98	

1118	Do you intend to have any of your daughters circumcised in the future?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	⌐→ 1120

1119	Why do you intend to have any of your daughter circumcised?
	
	PROBE: Any other reasons?
	
	RECORD ALL MENTIONED.
		CLEANLINESS/HYGIENE . . . . A
		SOCIAL ACCEPTANCE . . . . B
		BETTER MARRIAGE PROSPECTS C
		 PRESERVE VIRGINITY/PREVENT
		    PREMARITAL SEX . . . . D
		MORE SEXUAL PLEASURE FOR
		    THE MAN . . . . E
		RELIGIOUS APPROVAL . . . . F
		
		OTHER _____ X
		            (SPECIFY)
		NO REASON . . . . Y	

1120	Do you believe that this practice is required by your religion?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1121	Do you think that this practice should be continued, or should it be stopped?	CONTINUED . . . . 1 STOPPED . . . . 2 DEPENDS . . . . 3 DON'T KNOW 8	→ 1201 ⌐→ 1201

1122	Why do you think this practice should be stopped?
	
	PROBE: Any other reasons?
	
	RECORD ALL MENTIONED.
		BAD TRADITIONAL PRACTICE . . . . A
		AGAINST RELIGION . . . . B
		CAUSES SERIOUS MEDICAL
		    COMPLICATION C
		PAINFUL PERSONAL EXPERIENCE . . . . D
		AGAINST WOMAN'S DIGNITY . . . . E
		
		OTHER _____ X
		            (SPECIFY)
		DON'T KNOW . . . . Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1201	What is your understanding of domestic violence, does it mean: 1 Physical abuse? 2 No participation in decision-making for household? 3 No participation in decision-making for children? 4 Better treatment of males than females? 5 Failing to meet basic living costs? 6 Denial of education? 7 Forced marriage? 8 Rape? 9 Sexual harassment? 10 other _____ SPECIFY	YES NO DK PHYSICAL ABUSE... 1 2 8 FOR HOUSEHOLD ... 1 2 8 FOR CHILDREN . 1 2 8 SEX PREFERENCES... 1 2 8 FAILING LIVING COSTS 1 2 8 DENIAL OF EDUCATION. 1 2 8 FORCED MARRIAGE... 1 2 8 RAPE..................... 1 2 8 SEXUAL HARASSMENT.. 1 2 8 OTHER .... 1 2 ▨	
1202	Who is the person who commits the most violent acts against women?	FATHER . . . . 01 MOTHER . . . . 02 HUSBANDS . . . . 03 SISTER/BROTHER . . . . 04 DAUGHTER/SON . . . . 05 EMPLOYER . . . . 06 SOMEONE AT WORK . . . . 07 OTHER _____ 96 (SPECIFY)	
1203	Where is the place with most violent acts?	AT HOME . . . . 01 WORKPLACE . . . . 02 STREET . . . . 03 SCHOOL . . . . 04 OTHER _____ 96 (SPECIFY)	
1204	Does any form of violence cause damage?	YES . . . . 1 NO 2	→ 1206
1205	What is the most serious damage caused by violence?	HEALTH DAMAGE . . . . 01 PSYCHOLOGICAL DAMAGE . . . . 02 ECONOMIC DAMAGE . . . . 03 EDUCATIONAL DAMAGE . . . . 04 SOCIAL DAMAGE . . . . 05 OTHER _____ 96 (SPECIFY)	
1206	In your opinion, is a husband justified in hitting or beating his wife in the following situations: 1 If she goes out without telling him? 2 If she neglects the children? 3 If she argues with him? 4 If she refuses to have sex with him? 5 If she burns the food?	YES NO DK GOES OUT . . . . 1 2 8 NEGL. CHILDREN . . . 1 2 8 ARGUES . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 BURNS FOOD 1 2 8	
1207	RECORD THE TIME.	HOUR . . . . [ ][ ] MINUTES . . . . [ ][ ]	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

_____

_____

_____

_____

_____

COMMENTS ON SPECIFIC QUESTIONS:

_____

_____

_____

_____

_____

ANY OTHER COMMENTS:

_____

_____

_____

_____

_____

SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

_____

_____

NAME OF SUPERVISOR: _____   DATE: _____

EDITOR'S OBSERVATIONS

_____

_____

_____

_____

NAME OF EDITOR: _____   DATE: _____

REPUBLIC OF YEMEN
MINISTRY OF PUBLIC HEALTH & POPULATION
CENTRAL STATISTICAL ORGANISATION
NATIONAL HEALTH & DEMOGRAPHIC SURVEY
2013

MATERNAL MORTALITY QUESTIONNAIRE ☐☐☐☐☐☐☐☐☐☐

IDENTIFICATION	
ADMINISTRATIVE INFORMATION	**LISTING NFORMATION**

ADMINISTRATIVE INFORMATION

GOVERNORATE NUMBER _____ ☐☐

DIRECTORATE NAME _____

SUB-DIRECTORATE NAME _____

URBAN = 1   RURAL = 2 ☐

DECEASED WOMAN SERIAL # IN CLUSTER

LISTING NFORMATION

SECTOR NUMBER _____ ☐☐

SECTION NUMBER _____ ☐☐

CLUSTER NUMBER ☐☐☐

HOUSEHOLD CLUSTER NUMBER ☐☐

HOUSEHOLD NUMBER ☐☐

☐☐

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	__/__/2013	__/__/2013	__/__/2013	DAY ☐☐
				MONTH ☐☐
				YEAR |2|0|1|3|
INTERVIEWER'S NAME	_____	_____	_____	INT. NUMBER ☐☐
RESULT*	_____	_____	_____	RESULT ☐
NEXT VISIT: DATE	__/__/2013	__/__/2013		TOTAL NUMBER OF VISITS ☐
TIME	_____	_____		

*RESULT CODES:

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

	FIELD EDITOR	SUPERVISOR	OFFICE EDITOR	KEYER
NAME				
SIGNATURE	_____	_____	_____	_____ __
DATE				
CODE	__/__/2013 ☐☐	__/__/2013 ☐☐	__/__/2013 ☐☐	__/__/2013 ☐☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	
102	RECORD THE NAME AND THE LINE NUMBER OF THE PERSON ANSWERING THE QUESTIONS REGARDING THE DEAD WOMAN RECORD '00' IF THE RESPONDENT IS NOT PART OF THE HOUSEHOLD	NAME OF HUSBAND _____ LINE NUMBER OF HUSBAND ☐☐	
103	What is the name of the deceased woman?	NAME OF DECEASED WOMAN _____	
104	I would like to ask you some questions about (NAME OF THE DECEASED), God rest her soul .. What is your relationship to her?	HUSBAND . . . . 01 FATHER/MOTHER . . . . 02 BROTHER/SISTER . . . . 03 SON/DAUGHTER . . . . 04 UNCLE/AUNT . . . . 05 GRANDFATHER/GRANDMOTHER..... 06 HUSBAND'FATHER/H. MOTHER......... 07 HUSBAND'S BOTHER/SISTER......... 08 HUSBAND'S UNCLE/AUNT......... 09 HUSBAND'S GR. FATHER/GR. MOTHER 10 OTHER RELATIVE _____ 96 (SPECIFY) NOT A RELATIVE _____ 98 (SPECIFY)	
105	Who was with her when she died? RECORD THE CODE OF THE RELATIONSHIP FROM Q.104	RELAIONSHIP . . . . ☐☐	
106	In what month and year was (NAME OF THE DECEASED) born?	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
107	In what month and year had (NAME OF THE DECEASED) died?	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
108	How old was the deceased woman when she died?	AGE IN COMPLETED YEARS ☐☐ DON'T KNOW 98	

109	CHECK 108
	   AGE BETWEEN ☐ OTHER ☐
	   12 AND 49 AGE
	
	Was (NAME OF THE DECEASED) married or had ever been married?
		YES 1
		NO 2
			END OF THE INTERVIEW
			
			→ END OF INTERVIEW

110	Did the deceased woman die when she was pregnant or during delivery or during the forty days after giving birth?	YES . . . . 1 NO 2	→ END OF INTERVIEW

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
111	What was her level of education?	ILLITERATE . . . . 01 READS AND WRITE . . . . 02 PRIMARY . . . . 03 PREPARATORY, FUNDAMENTAL, UNIFIED . . . . . . 04 DIPLOMA BEFORE SECONDARY . . . . 05 SECONDARY . . . . 06 DIPLOMA AFTER SECONDARY . . . . 07 UNIVERSITY OR HIGHER . . . . 08 DON'T KNOW 98	
112	Aside from her own housework, had the deceased done any work before she died?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 114
113	What kind of work (main occupation) did (NAME OF THE DECEASED) do before she died? WRITE EXACTLY THE ANSWER OF THE RESPONDENT REGARDING THE JOB THAT THE DECESEASED HAD	MAIN OCCUPATION DON'T KNOW 98	
114	Was it her habit to chew khat leaves?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
115	Was she a smoker (of cigarettes, mada'a, chicha)?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
116	Now, I would like to ask you about her marriage. How old was she when she started living with her (first) husband?	AGE AT MARRIAGE DON'T KNOW 98	
117	Was (NAME OF THE DECEASED) married, divorced, or widowed when she died?	MARRIED . . . . 1 DIVORCED . . . . 2 WIDOWED . . . . 3 DON'T KNOW 8	201
118	What is the name of her husband? CHECK THE HOUSEHOLD SCHEDULE AND RECORD THE NAME AND THE LINE NUMBER OF THE HUSBAND. IF THE HUSBAND DOESN'T LIVE IN THE HH, RECORD '00	NAME OF HUSBAND LINE NUMBER OF HUSBAND	
119	What was her level of education?	ILLITERATE . . . . 01 READS AND WRITE . . . . 02 PRIMARY . . . . 03 PREPARATORY, FUNDAMENTAL, UNIFIED . . . . . . 04 DIPLOMA BEFORE SECONDARY . . . . 05 SECONDARY . . . . 06 DIPLOMA AFTER SECONDARY . . . . 07 UNIVERSITY OR HIGHER . . . . 08 DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
120	Did she have a job when she died?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	122
121	What kind of work (main occupation) did she do when she died? RECORD IN DETAIL THE OCCUPATION OF THE DECEASED'S HUSBAND AS REPORTED BY THE RESPONDENT	_____ ▢▢ _____ DON'T KNOW 98	
122	How old was she when they married?	AGE OF HUSBAND AT MARRIAGE . . . . ▢▢ DON'T KNOW 98	
123	Did her husband have another wife when she died?	YES: NUMBER OF WIVES.... ▢ NO OTHER WIVES . . . . 7 DON'T KNOW 8	

SECTION 2. REPRODUCTION AND CONTRACEPTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the live births of (NAME OF THE DECEASED). Did she ever give birth other than the pregnancy related maternal death?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	212
202	How many boys and girls did she have in all her reproductive life including those who died? IF NONE, RECORD '00'.	TOTAL BOYS . . . . TOTAL GIRLS . . . . . DON'T KNOW 98	205
203	How many boys and girls who were still alive when she died? IF NONE, RECORD '00'.	BOYS ALIVE . . . . GIRLS ALIVE . . . . DON'T KNOW 98	205
204	How many boys and girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . GIRLS DEAD . . . . DON'T KNOW 98	
205	How many births did she have in the last two years 2011 and 2012?	NUMBER OF BIRTHS.... NONE . . . . 7 DON'T KNOW 8	212

BITH RECORDS DURING THE LAST TWO YEARS 2011-2012

	206	207	208	209	210	211
	Now I would like to record the names of all births that (NAME OF THE DECEASED) had in the last 2 years preceding the survey, starting with the last birth she had. What was the name of her last birth, the birth before last…..?	Was the birth twins or not?	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? IF RESPONDENT DOES NOT THE MONTH AND YEAR OF BIRTH, RECORD 98/9998	Is (NAME) still alive?	How old was (NAME) when he/she died in months? RECORD '00' IF AGE AT DEATH IS LESS THAN A MONTH
1	NAME: _____	SING.. 1 TWINS 2	BOY… 1 GIRL… 2	MONTH YEAR	YES .... 1 NEXT BIRTH OR 212 NO 2	MONTHS DO NOT KNOW.. 98
2	NAME: _____	SING.. 1 TWINS 2	BOY… 1 GIRL… 2	MONTH YEAR	YES .... 1 NEXT BIRTH OR 212 NO 2	MONTHS DO NOT KNOW.. 98
3	NAME: _____	SING.. 1 TWINS 2	BOY… 1 GIRL… 2	MONTH YEAR	YES .... 1 NEXT BIRTH OR 212 NO 2	MONTHS DO NOT KNOW.. 98

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
212	Did (NAME OF THE DECEASED) ever have a pregnancy that miscarried or was aborted?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	214
213	How many times did she have a pregnancy that miscarried or was aborted?	NUMBER OF MISCARRIAGES OF ABORTIONS....... DON'T KNOW 98	
214	Did (NAME OF THE DECEASED) ever have a pregnancy that ended in a stillbirth?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	216
215	How many times did she have a pregnancy that ended in a stillbirth?	NUMBER OF STILLBIRTHS.... DON'T KNOW 98	
216	Did (NAME OF THE DECEASED) use any method of family planning with her last husband?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	301

217	CHECK 201
	      HAD BIRTHS OTHER THAN THE HAD NO BIRTHS/
	      PREGNANCY-RELATED M. MORTALITY DO NOT KNOW
			301

218	Did (NAME OF THE DECEASED) use any method of family planning in the period between the pregnancy-related maternal mortality and the previous pregnancy?	YES, USED . . . . 1 NOT USED . . . . 2 DON'T KNOW 8	

SECTION 3: THE HEALTH OF THE DECEASED BEFORE DEATH AND THE RESULT OF LAST PREGNANCY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	Now I would like to talk about the health of the (NAME OF THE DECEASED) God rest her soul .. before her death. Did she suffer from any of the following health problems at any time of her life? 1. Heart disease 2. Blood pressure 3. Malaria 4. Shortness of breath 5. Liver disease / jaundice 6. Tuberculosis 7. Other (specify): .... READ THE SYMPTOMS ONE BY ONE.	YES NO DK HEART DISEASE 1 2 8 BLOOD PRESSURE 1 2 8 MALARIA 1 2 8 SHORTNES OF BREATH 1 2 8 LIVER DISEASE 1 2 8 TUBERCULOSIS 1 2 8 OTHER _____ 1 2 ▨ (SPECIFY)	

302	CHECK 201
	
	  GAVE BIRTHS OTHER THAN □
	    THE PREGNANCY THAT
	    CAUSED HER DEATH HAD NO CHILDREN/ □
	                           DON'T KNOW
			→ 305

303	Did she suffer from any health problems during or after any of her past births or pregnancies?	YES .... 1 NO .... 2 DON'T KNOW 8	→ 305
304	Did she suffer from the following health problems? 1. Severe vomiting 2. Vaginal bleeding 3. Limbs swelling 4. Convulsion 5. Severe fever after delivery 6. Caesarean section 7. Other (specify): .... READ THE SYMPTOMS ONE BY ONE	YES NO DK SEVERE VOMITING 1 2 8 VAGINAL BLEEDING 1 2 8 LIMBS SWELLING 1 2 8 CONVULSION 1 2 8 SEVERE FEVER 1 2 8 CAESAREAN SECTION 1 2 8 OTHER _____ 1 2 ▨ (SPECIFY)	
305	Now, I would like to ask about her last pregnancy that ended with her death, did anyone check on that pregnancy?	YES .... 1 NO .... 2 DON'T KNOW 8	→ 311
306	Whom did she go for a check up? PROBE: Anyone else?	PRIVATE PHYSICIAN .... A PHYSICIAN IN GOVNT FACILITY ...... B REGISTRED MIDWIFE .... C DAYA/TRADITIONAL MIDWIFE.... D TRADITIONAL CLINIC/HEALER .... E OTHER _____ X (SPECIFY)	→ 311
307	What are the health facilities that she used for a check up and treatment during her last pregnancy?	GOVERNMENT HAELTH UNIT .... A GOVERNMENT HAELTH FACILITY B GOVERNMENT HOSPITAL .... C PRIVATE CLINIC .... D PRIVATE HOSPITAL/DISPENSARY.... E OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
308	What stage of her last pregnancy did she go to a health facility for her first check up?	DURING THE FIRST 3 MONTHS . . . 1 DURING THE SECOND 3 MONTHS . . . 2 DURING THE LAST 3 MONTHS . . . 3 DON'T KNOW 8	
309	What was the reason for her visit to the health facility for the first time?	PREGNANCY EXAM . . . . 1 FOR TREATMENT . . . . 2 DON'T KNOW 8	
310	How many visits did she make during her last pregnancy?	NUMBER OF VISITS [ ][ ] DON'T KNOW 98	→ 312
311	What was the main reason for not going to someone or to a health facility for a check up during her last pregnancy?	SERVICE TOO FAR . . . . 01 SERVICE NOT AVAILABLE . . . . 02 NO FEMALE HEALTH PROVIDER . . . . 03 VERY HIGH COST . . . . 04 HUSBAND REFUSED . . . . 05 DIDN'T TRUST THE SERVICES . . . . 06 NO PROBLEM WITH PREGNANCY . . . 07 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
312	Did she get an injection in the arm to protect her and her fetus from tetanus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
313	Did she suffer from any heath problems during her last pregnancy?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 315
314	Did she suffer from the following health problems during her last pregnancy? 1. Severe vomiting 2. Vaginal bleeding 3. Limbs swelling 4. Convulsion 5. Severe fever after delivery 6. Caesarean section 7. Other (specify):	YES NO DK SEVERE VOMITING 1 2 8 VAGINAL BLEEDING 1 2 8 LIMBS SWELLING 1 2 8 CONVULSION 1 2 8 SEVERE FEVER 1 2 8 CAESAREAN SECTION 1 2 8 OTHER _____ 1 2 (SPECIFY)	
315	Did she die when she was pregnant or during delivery or during the forty days after giving birth?	DIED DURING PREGNANCY . . . . 1 DIED DURING DELIVERY . . . . 2 DIED DURING POSTPARTUM 3	→ 401

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

316	Where did she give her last birth?	FAMILY'S HOME 01
		 A RLATIVE'S HOME 02
		 ON SIDE OF THE ROAD 03
		 GOVERNMENT HEALTH CENTER..... 04
		 GOVERNMENT HOSPITAL..... 05
		 PRIVATE DOCTOR CLINIC/
		   DISPENSARY 06
		 OTHER _____ 96
		     (SPECIFY)
		 DON'T KNOW 98	

317	How many months did this pregnancy last?	LESS THAN 6 MONTHS . . . . 00 FOR 6 MONTHS OR MORE, NUMBER OF MONTHS ☐☐ DON'T KNOW 98	→ 401 → 401
318	Was the birth a boy or a girl?	BOY . . . . 1 GIRL. . . . . 2 DON'T KNOW 8	
319	Was the baby born alive or dead?	ALIVE . . . . 1 DEAD . . . . 2 DON'T KNOW 8	401
320	Is the child still alive?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	 → 322 → 401
321	Where is the chid living now after his/her mother's death?	FATHER'S HOME . . . . 1 MOTHER'S FAMILY . . . . 2 ANOTHER PLACE _____ 6 (SPECIFY) DON'T KNOW 8	401
322	How old was the child when he/she died?	<THAN ONE DAY (IN HRS) 1 ☐☐ <THAN ONE MONTH (IN DAYS 2 ☐☐ <THAN ONE YEAR (IN MONTH 3 ☐☐ ONE YEAR OR + (IN YEARS) 4 ☐☐ DON'T KNOW 998	

SECTION 4: CAUSES OF DEATH

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	What time of the day did (NAME OF THE DECEASED) die?	IN THE MORNING . . . . 1 IN THE AFTERNOON . . . . 2 IN THE EVENING . . . . 3 AFTER MIDNIGHT . . . . 4 DON'T KNOW 8	
402	CHECK 117 WAS MARRIED ☐ OTHER ☐ WHEN SHE DIED		→ 404
403	Was the (husband) present when she died?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
404	What happened to her just before her death? PROBE: anything else?	VAGINAL BLEEDING . . . . A CONVULSION . . . . B HIGH FEVER . . . . C DELIVERY PAIN STOPPED . . . . . . D COMA . . . . E OTHER _____ X (SPECIFY) NOTHING . . . . Y DON'T KNOW . . . . Z	
405	How much time passed from the onset of the health problem before her death to the time of her death?	< THAN ONE HOUR IN MI 1 ☐☐ < THAN ONE DAY IN HR.. 2 ☐☐ 1 DAY OR MORE IN DAYS 3 ☐☐ DID NOT SHOW ANY HEALTH PROBLEM . . . . 995 DON'T KNOW 998	

406	CHECK 315
	DIED DURING ☐ DIED DURING ☐
	  PREGNANCY DELIVERY
	            DIED DURING ☐
	            POSTPORTUM
			→ 408
			
			→ 410

407	How many months pregnant was the deceased when she died?	MONTHS . . . . ☐☐ DON'T KNOW 98	→ 413
408	Was the child born before the mother's death?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 411
409	Did the placenta separate before her death?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 412
410	How much time passed from the baby delivery by (NAME OF THE DECEASED) to her death?	< THAN ONE HOUR IN MI 1 ☐☐ < THAN ONE DAY IN HR.. 2 ☐☐ 1 DAY OR MORE IN DAYS 3 ☐☐ DON'T KNOW 998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

411	Who was the main person who supervised the deceased child delivery?	HUSBAND'S MOTHER 01
		DECEASED'S MOTHER 02
		REALTIVE 03
		NEIGHBOR 04
		REGISTRED NURSE/MIDWIFE… 05
		DAYA/TRADITIONAL MIDWIFE…. 06
		HEALTH PROFESSIONAL IN
		   PUBLIC HEALTH FACILITY 07
		HEALTH PROFESSIONAL IN
		   PRIVATE HEALTH FACILITY 08
		PHYSICIAN AT HOME 09
		NO ONE 10
		OTHER _____ 96
		           (SPECIFY)
		DON'T KNOW 98	

412	Was she given any injection to accelerate labor?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

413	In your opinion, what was the cause of her death?	CAUSE OF
		  DEATH_____ [ ][ ]
		       (SPECIFY)
		DON'T KNOW 98	

414	Did anyone tell you about the main cause of her death?	YES . . . . 1 NO 2	→ 417
415	Who told you about the main cause of death?	HEALTH STAFF MEMBER . . . . 1 OTHER _____ 6 (SPECIFY)	

416	What was the main cause of death as you were told?
	
	WRITE EXACTLY THE RESPONDENT'S ANSWER
		CAUSE OF
		  DEATH_____ [ ][ ]
		       (SPECIFY)	

417	Do you think that it was possible to do something to save the life of the deceased? WRITE EXACTLY THE RESPONDENT'S ANSWER	YES _____ 1 [ ][ ] (SPECIFY) NO . . . . 2 DON'T KNOW 8	

SECTION 5. CIRCUMSTANCES LEADING TO HER DEATH

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	Where did (NAME OF THE DECEASED) die?	IN HER HOME . . . . 1 IN RELATIVE'S HOME . . . . 2 EN ROUTE TO HEALTH FACILITY.... 3 IN A GOVERNMENT HEALTH FACLITY.. 4 IN A GOVERNMENT HOSPITAL..... 5 IN A PRIVATE HOSPITAL/CLINIC..... 6 IN ANOTHER PLACE _____ 7 　　　　　　　　　(SPECIFY) DON'T KNOW 8	→503
502	Why wasn't she transferred to a hospital directly when the problem happened?	NO NEARBY FACILITY . . . . 01 TOO EXPENSIVE . . . . 02 NO TRANSPORTATION . . . . 03 NO FEMALE HEALTH PROVIDER.... 04 THE DECEASED REFUSED..... 05 HER HUSBAND WAS NOT AVAILABLE... 06 SHE WAS RELEASED FROM HOSPITAL 07 OTHER _____ 96 　　　　　　　(SPECIFY) DON'T KNOW 98	
503	Did you call anybody to treat (NAME OF THE DECEASED) at home when the health problem she was suffering from before her death emerged?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 506
504	Who was this person?	PRIVATE DOCTOR . . . . 1 REGISTRED NURSE/MIDWIFE . . . . 2 DAYA/TRADITIONAL MIDWIFE . . . . 3 HEALTH WORKER IN PRIMARY 　　HEALTH CENTER . . . . 4 A REALTIVE . . . . 5 OTHER _____ 6 　　　　　　　(SPECIFY)	
505	What did he/she do for her? PROBE: anything else?	GAVE HER AN INJECTION . . . . A RECOMMENDED TAKING HER TO A 　　HOSPITAL . . . . B GAVE HER MEDICINE . . . . C OTHER _____ X 　　　　　　　(SPECIFY) DON'T KNOW . . . . Y	
506	Was she taken from home to the hospital before she died?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 523
507	Did (NAME OF THE DECEASED) go to any health facility before she entered the hospital?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 509

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
508	What was the type of health facility she was treated in before she entered the hospital?	GOVERNMENT HEALTH UNIT….. 01 GOVERNMENT HEALTH CENTER….. 02 GOVERNMENT HOSPITAL….. 03 PRIVATE CLINIC . . . . 04 PRIVATE HOSPITAL/FACILITY….. 05 TRADITIONAL MEDICAL CLINIC….. 06 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
509	Who was the person who stayed with her or took care of her before she entered the hospital?	HUSBAND . . . . 01 MOTHER OF THE DECEASED….. 02 MOTHER OF THE HUSBAND….. 03 A REALTIVE . . . . 04 A NEIGHBOR . . . . 05 PHYSICIAN . . . . 06 REGISTRED NURSE/MIDWIFE… 07 DAYA/TRADITIONAL MIDWIFE…. 08 NO ONE . . . . 09 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
510	Who was the main person who decided the necessity of taking her to the hospital (health facility) where she died?	HUSBAND . . . . 01 WOMAN HERSELF . . . . 02 MOTHER OF THE DECEASED….. 03 PHYSICIAN . . . . 04 REGISTRED NURSE/MIDWIFE… 05 DAYA/TRADITIONAL MIDWIFE…. 06 OTHER PERSON _____ 96 (SPECIFY) DON'T KNOW 98	
511	On what day of the week was the decision made to take her from home to the hospital?	DAY OF THE WEEK……. ☐ (SPECIFY) DON'T KNOW 8	
512	How much time had passed between the first sign of the health problem and the final decision to take her to the hospital?	< THAN ONE HOUR IN MN.. 1 ☐☐ < THAN ONE DAY IN HR.. 2 ☐☐ 1 DAY OR MORE IN DAYS.. 3 ☐☐ DON'T KNOW 998	
513	Who was the person who accompanied the woman on the way to the hospital where she died?	HUSBAND . . . . A MOTHER OF THE DECEASED….. B MOTHER OF THE HUSBAND….. C A REALTIVE . . . . D A NEIGHBOR . . . . E PHYSICIAN . . . . F REGISTRED NURSE/MIDWIFE… G DAYA/TRADITIONAL MIDWIFE…. H OTHER _____ X (SPECIFY) NO ONE . . . . Y DON'T KNOW . . . . Z	
514	Why was she taken to that hospital where she died?	BEING THE NEAREST . . . . 1 BEING THE BEST . . . . 2 WAS TRANSFERRED TO IT . . . . 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
515	By what means of transportation did she reach the hospital?	PRIVATE CAR .... 1 TAXI .... 2 NEIGHBOR'S CAR .... 3 AMBULANCE .... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
516	How was her condition when she reached the hospital where she died?	FULL AWARENESSS .... 1 IN COMA .... 2 DEAD .... 3 DON'T KNOW 8	
517	How long did (NAME OF THE DECEASED) have to wait in the hospital before she was examined?	MINUTES .... HOURS .... DON'T KNOW 98	
518	Did the health staff ask for any of the following items to be available to the hospital for treatment? Blood? Medicine? Money? Other (specify)?	YES NO DK BLOOD .... 1 2 8 MEDECINE .... 1 2 8 MONEY .... 1 2 8 OTHER _____ 1 2 (SPECIFY)	
519	Did she have an operation?	YES .... 1 NO .... 2 DON'T KNOW 8	→ 521
520	What kind of operation did she have?	CAESAREAN .... 1 HYSTERECTOMY .... 2 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
521	What was the total amount spent on her treatment, including transportation costs?	AMOUNT IN RYALS DON'T KNOW 999998	
522	How much time had passed between the arrival of (NAME OF THE DECEASED) to the hospital and her death?	MINUTES .... 1 HOURS .... 2 DAYS .... 3 DON'T KNOW 998	
523	RECORD THE TIME. END OF THE INTERVIEW	HOUR .... MINUTES	

| | INTERVIEWER'S OBSERVATIONS | |

A	DEGREE OF COOPERATION.	POOR .... 1 FAIR .... 2 GOOD .... 3 VERY GOOD 4		

B	INTERVIEW PRIVACY	INTERVIEW THE REPONDENT ALONE 1
		PRESENCE OF OTHERS DURING A PART
		  OF THE INTERVIEW 2
		PRESENCE OF OTHERS DURING THE
		  WHOLE INTERVIEW 3		

C	IN CASE OF PRESENCE OF OTHERS TICK FOR WHO EXIST	YES NO CHILDREN .... 1 2 HUSBAND .... 1 2 OTHER WOMEN ... 1 2 OTHER MEN 1 2		

INTERVIEWER'S OBSERVATIONS

DATE: /   / 2013   NAME OF INTERVIEWER:

EDITOR'S OBSERVATIONS

DATE: /   / 2013   NAME OF EDITOR:

SUPERVISIOR'S OBSERVATIONS

DATE: /   / 2013   NAME OF SUPERVISOR: