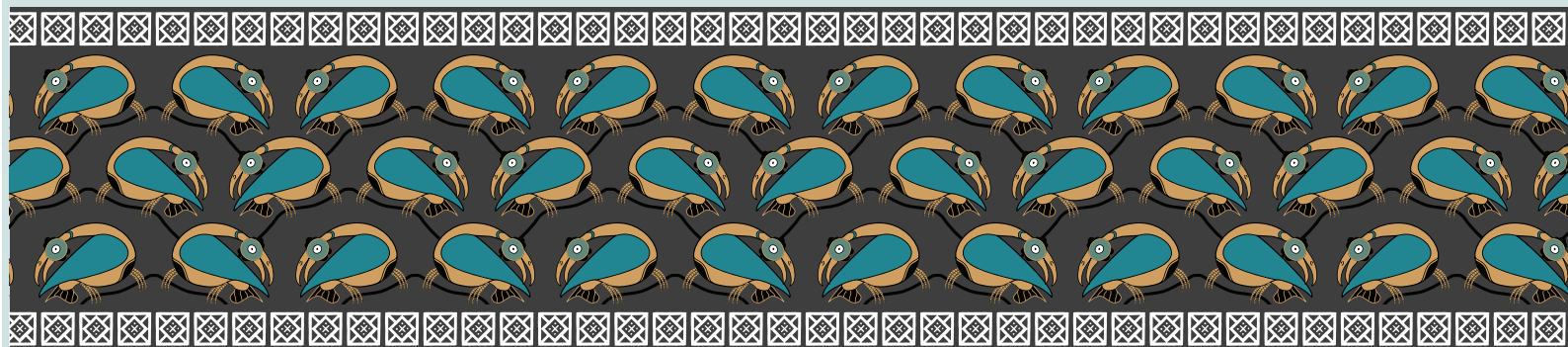# Tanzania

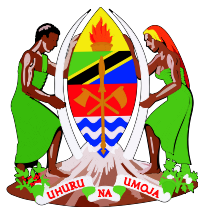## Demographic and Health Survey and Malaria Indicator Survey

2015-16

Key Indicators

United Republic of Tanzania

Tanzania
Demographic and Health Survey and
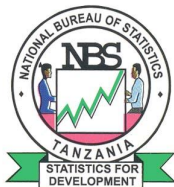# Malaria Indicator Survey
2015-2016

Key Indicators

Ministry of Health, Community Development, Gender, Elderly and Children
Dar es Salaam

Ministry of Health
Zanzibar

National Bureau of Statistics
Dar es Salaam

Office of Chief Government Statistician
Zanzibar

ICF International
Rockville, Maryland USA

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FOREWORD

The 2015-16 Tanzania Demographic and Health Survey and Malaria Indicator Survey (TDHS-MIS) is the sixth in a series of DHS surveys conducted in Tanzania. The survey was implemented by the National Bureau of Statistics (NBS), Mainland, and Office of the Chief Government Statistician (OCGS), Zanzibar, in collaboration with the Ministry of Health, Community Development, Gender, Elderly and Children, Mainland and the Ministry of Health, Zanzibar.

The main objective of the 2015-16 TDHS-MIS was to obtain current information on demographic and health indicators in regard to family planning, fertility levels and preferences, maternal mortality, infant and child mortality, nutrition status of mothers and children, antenatal care, delivery care, and childhood immunisations and diseases. In addition, the survey was designed to provide up-to-date information on the prevalence of anaemia among women age 15-49 and the prevalence of malaria infection and anaemia among children under age 5. This report presents information only on key indicators from the 2015-16 TDHS-MIS; a more comprehensive report will be published in the fourth quarter of 2016.

The 2015-16 TDHS-MIS had many facilitators, including the Government of Tanzania; Global Affairs Canada; the United States Agency for International Development (USAID); Irish Aid; the United Nations Population Fund (UNFPA); and the United Nations Children's Fund (UNICEF). Technical assistance was provided by ICF International through The Demographic and Health Surveys Program (The DHS Program) and also by the Technical Committee of the 2015-16 TDHS-MIS.

It is hoped that this Key Indicators report will provide policy makers, programme managers,and other stakeholders with the key information they need for their endeavours until a detailed final report becomes available.

Mpoki

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ACKNOWLEDGEMENTS

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1   INTRODUCTION

The 2015-16 Tanzania Demographic and Health Survey and Malaria Indicator Survey (TDHS-MIS) was implemented by the National Bureau of Statistics (NBS) and the Office of the Chief Government Statistician (OCGS), Zanzibar, in collaboration with the Ministry of Health, Community Development, Gender, Elderly, and Children, and the Ministry of Health, Zanzibar. ICF International provided technical assistance through The DHS Program, which is funded by the United States Agency for International Development (USAID), and offers support and technical assistance for the implementation of population and health surveys in countries worldwide.

A Technical Committee was formed to oversee all technical issues related to the survey. Members were from the ministries responsible for health on the Mainland and Zanzibar, and their departments and agencies, and also from development partners. Other agencies and organisations that facilitated the successful implementation of the survey through technical or financial support were the United States Agency for International Development (USAID); Canadian Department of Foreign Affairs, Trade and Development (DFATD); United Nations Population Fund (UNFPA); Irish Aid; and United Nations Children's Fund (UNICEF). Microscopic reading of malaria infection was conducted by the Ifakara Health Institute (IHI), while the Tanzania Food and Nutrition Centre (TFNC) tested women's urine and table salt for the presence of iodine.

This Key Indicators report presents findings for selected indicators from the 2015-16 TDHS-MIS. A comprehensive analysis of the data will be presented in a final report to be published in the fourth quarter of 2016.

1.1   Survey Objectives

The primary objective of the 2015-16 TDHS-MIS is to provide up-to-date estimates of basic demographic and health indicators. The survey collected information on fertility levels, marriage, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutrition, childhood and maternal mortality, maternal and child health, malaria, and other health-related issues. In addition, the 2015-16 TDHS-MIS provides estimates of anaemia prevalence among children age 6-59 months and women age 15-49 years and estimates of malaria prevalence among children 6-59 months. This TDHS-MIS is a follow-up survey to earlier TDHS surveys conducted in 1991-92, 1996, 1999, 2004-05, and 2010.

The information collected through the 2015-16 TDHS-MIS is intended to assist policymakers and programme managers in evaluating and designing programmes and strategies to improve the health of the country's population.

2   SURVEY IMPLEMENTATION

2.1   Sample Design

The sample design for the 2015-16 TDHS-MIS was done in two stages and was intended to provide estimates for the entire country, for urban and rural areas in the Mainland, and for Zanzibar. For specific indicators such as contraceptive use, the sample design allowed the estimation of indicators for each of the 30 regions (25 regions from Tanzania Mainland and 5 regions from Zanzibar). The first stage involved selecting sample points (clusters), consisting of EAs delineated for the 2012 Tanzania Population and Housing Census (PHC). A total of 608 clusters were selected.

In the second stage, a systematic selection of household was involved. A complete households listing was carried out for all 608 selected clusters prior to the fieldwork. From the list, 22 households were then systematically selected from each cluster, yielding a representative probability sample of 13,376 households for the 2015-16 TDHS-MIS. To estimate geographic differentials for certain demographic indicators, Tanzania was divided into nine geographic zones. Although these zones are not official administrative areas, this classification system is also used by the Reproductive and Child Health Section of the Ministry of Health, Community Development, Gender, Elderly and Children. Using zones in each geographic area allowed a relatively large number of people in the denominator and a reduced sampling error. Note that the zones, defined below, differ slightly from the zones used in previous DHS surveys. Therefore, comparisons across the zones and from survey to survey should be made with caution. The zones are as follows:

Western zone: Tabora, Kigoma
Northern zone: Kilimanjaro, Tanga, Arusha
Central zone: Dodoma, Singida, Manyara
Southern Highlands zone: Iringa, Njombe, Ruvuma
Southern zone: Lindi, Mtwara
South West Highlands zone: Mbeya, Rukwa, Katavi
Lake zone: Kagera, Mwanza, Geita, Mara, Simiyu, Shinyanga
Eastern zone: Dar es Salaam, Pwani, Morogoro
Zanzibar: Kaskazini Unguja, Kusini Unguja, Mjini Magharibi, Kaskazini Pemba, Kusini Pemba

All women age 15-49 who were either usual residents or visitors in the household on the night before the survey were included in the 2015-16 TDHS-MIS and were eligible to be interviewed. In a subsample of one-third of all the households selected for the survey, all men age 15-49 years were eligible to be interviewed if they were either usual residents or visitors in the household on the night before the survey. In all households, with the parent's or guardian's consent, children age 6-59 months were tested for anaemia and malaria. All interviewed women were tested for anaemia. In the households selected for interviews with men, interviewed women were asked to provide a urine sample and a sample of household salt for laboratory testing to detect the presence of iodine.

2.2   Questionnaires

Four questionnaires were used for the 2015-16 TDHS-MIS: the Household Questionnaire, the Woman's Questionnaire, the Man's Questionnaire, and the Biomarker Questionnaire. These questionnaires were based on The DHS Program's standard Demographic and Health Survey (DHS) questionnaires. They were adapted to reflect the population and health issues relevant to Tanzania. Inputs were solicited from various stakeholders representing government ministries, departments, and agencies; nongovernmental organisations; and development partners. After the preparation of the definitive questionnaires in English, the questionnaires were translated into Kiswahili.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Basic demographic information was collected on the characteristics of each person listed, including his or her age, sex, marital status, education, and relationship to the head of the household. For children under age 18, their parents' survival status was determined. The data on age and sex of household members obtained in the Household Questionnaire were used to identify women and men who were eligible for individual interviews. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as source of water, type of toilet facilities, materials used for the floor of the dwelling unit, ownership of various durable goods, and ownership and use of mosquito nets.

The Woman's Questionnaire was used to collect information from all eligible women age 15-49. These women were asked questions on the following topics:

- Background characteristics (age, education, media exposure, and so on)
- Birth history and childhood mortality
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Women's work and husbands' background characteristics
- Other health issues
- Adult mortality, including maternal mortality
- Malaria
- Domestic violence

The Man's Questionnaire was administered to all men age 15-49 in the subsample of households selected for the men's survey. The Man's Questionnaire collected much of the same information found in the Woman's Questionnaire but was shorter because it did not contain a detailed reproductive history or questions on maternal and child health.

The Biomarker questionnaire was used to record anthropometric measurements (height and weight) for children under 5 and women age 15-49; record anaemia test results for children 6-59 months and women age 15-49; record malaria rapid test results for children 6-59 months; document responses to a request for blood samples among children 6-59 months, to be tested later for malaria using microscopy at the Ifakara Health Institute (IHI) lab; and document responses to a request for a household salt sample and a urine sample among women age 15-49, to be tested later for iodine at the Tanzania Food and Nutrition Centre (TFNC) laboratory.

2.3 Anthropometric Measurements, Testing for Malaria and Anaemia, Testing for Iodine

Anthropometry: Height and weight measurements were recorded for children under age 5 and women age 15-49.

Testing for Anaemia: Blood specimens for haemoglobin measurement were collected from women age 15-49 and from all children age 6-59 months for whom consent was obtained from their parents or guardians. Blood samples were drawn from a drop of blood taken from a finger prick (or a heel prick in the case of children age 6-11 months) and collected in a microcuvette. Haemoglobin analysis was carried out on-site using a battery-operated portable HemoCue analyser. Results were provided verbally and in writing. Parents of children with a haemoglobin level under 7 g/dl were instructed to take the child to a health facility for follow-up care. Likewise, nonpregnant women and pregnant women were referred for follow-up care if their haemoglobin levels were below 7 g/dl and 9 g/dl, respectively.

Testing for Malaria: The 2015-16 TDHS-MIS collected finger- (or heel-) prick blood samples from children age 6-59 months to perform on-the-spot testing for malaria. Thick blood smears were collected and taken to a laboratory to detect the presence of *Plasmodium* parasites.

Malaria testing using a rapid diagnostic test (RDT). Another major objective of the 2015-16 TDHS-MIS was to provide information about the extent of malaria infection among children age 6-59 months. Using the same finger- (or heel-) prick used for anaemia testing, a drop of blood was tested immediately using the SD Bioline Pf/Pan RDT, which is a rapid qualitative test for malaria. It tests for two antigens – one is found in many species of Plasmodium (Pan) and the other is specific to *Plasmodium falciparum* (Pf), the major cause of malaria in Tanzania. The test includes a disposable sample applicator that comes in a standard package. A tiny volume of blood is captured on an applicator and placed in the well of the testing device. All field nurses were trained to perform the RDT in the field, in accord with manufacturers' instructions. As with the anaemia testing, malaria RDT results were provided to the child's parent or guardian in oral and written form and were recorded on the Biomarker Questionnaire. Children who tested positive for malaria using the RDT were offered a full course of treatment according to Tanzania national malaria treatment guidelines, provided they were not currently on treatment with ACT and had not completed a full course of ACT during the preceding 2 weeks. To ascertain the correct dose, nurses were provided with treatment guidance charts and were instructed to ask about signs of severe malaria and about any medications the child might already be taking. The nurses then provided the age-appropriate dose of ACT along with instructions on how to administer the medicine to the child.[1] Children who tested positive and showed symptoms of severe malaria (haemoglobin levels below 7 g/dl, extreme weakness, loss of consciousness, rapid breathing, seizures, bleeding, jaundice, and dark urine) were not offered the treatment. Because the first-line treatment for severe malaria is parenteral quinine, the parents or guardians were advised to take the child to a health facility immediately. The parents or guardians of all other children treated were told to take the child to a health facility immediately if they became sicker, developed a fever or difficulty breathing, or were not able to drink or breastfeed. They also received counselling on how to prevent malaria. Children who tested positive to malaria in Zanzibar were not treated due to the current procedure for malaria elimination on the island. Their parents or guardians were advised to take their children to the nearest health facility immediately.

Malaria testing using blood smears. In addition to the RDT, thick smears were prepared in the field. Each blood smear slide was given a bar code label, with a duplicate affixed to the Biomarker Questionnaire. An additional copy of the bar code label was affixed to a blood sample transmittal form to track the blood samples from the field to the laboratory. The slides were dried in a dust-free environment and stored in slide boxes. The thick smear slides were collected regularly from the field, along with the completed questionnaires, and transported to Ifakara Health Institute laboratory in Bagamoyo for microscopic reading to determine presence of *Plasmodium* infection. Results of the microscopy was not completed by the time this report was released, but they will be included in the final report.

Testing for Iodine Deficiency: Interviewing teams requested that women in the selected households provide a urine sample for iodine testing in the laboratory. In the same households, interviewers requested a sample of table salt. Samples of urine and salt from the field were packed into small tubes with tightly-fitted caps for transport to the Tanzania Food and Nutrition Centre (TFNC) laboratory.

2.4   Pretest

A pretest was conducted in Tanga region from May 20, 2015, through June 18, 2015. Sixteen participants (12 women and 4 men) participated in the 4-week pretest training and fieldwork practice for the

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[1] Dosage of ACT was based on recipient's age. The proper dosage for a child age 6 months to 3 years is one tablet of artemether-lumefantrine (co-formulated tablets containing 20 mg of artemether and 120 mg of lumefantrine) to be taken twice daily for 3 days, while the dosage for a child age 4-7 is two tablets of artemether-lumefantrine to be taken twice daily for 3 days.

2015-16 TDHS-MIS. The majority of participants had worked in various TDHS activities previously. Training was conducted by trainers from NBS, OCGS, and MOH, with technical assistance from ICF International. Classroom instructions were provided during the first 3 weeks, and pretest field practice took place for 5 days in two rural enumeration areas (EAs) and two urban. Following field practice, a debriefing session was held with the pretest field staff, and modifications to the questionnaires were made based on lessons drawn from the pretest exercise.

2.5   Training of Field Staff

The main training of the 2015-16 TDHS-MIS took place in Kilimanjaro region from July 20, 2015, to August 21, 2015. A total of 74 female nurses, 20 male nurses, 20 supervisors, and 20 editors from all over the country were invited to participate in the training. The training sessions were conducted by NBS, OCGS, and trainers from ministries responsible for health on both Mainland and Zanzibar with support from ICF International. Training on biomarkers was provided by trainers from IHI and TFNC, with support from ICF International.

Participants were evaluated through in-class exercises, quizzes, and observations made during field practice. By the end of the main training, 16 teams were formed, consisting of 16 individuals to serve as team leaders, 16 to serve as field editors, 16 as male interviewers, and 64 as female interviewers. All interviewers were nurses. The team leaders received additional training on how to identify the selected households, different subsamples, data quality control procedures, and fieldwork coordination. The field editors received additional training on how to edit the questionnaires, data quality control procedures, and how to enter data in tablets.

2.6   Fieldwork

Data collection was carried out by 16 field teams; 3 teams in Zanzibar and 13 teams on the Mainland. Each team was provided a four-wheel drive vehicle with a driver. The teams consisted of a team supervisor, four female interviewers, one male interviewer, and one field editor, who also entered data. The field editor and supervisor were responsible for reviewing all questionnaires for completeness, quality, and consistency before entering data into the tablet. All questionnaires, dried blood smears, and table salt and urine specimens were transferred to the NBS head office almost every 2 weeks by a quality control team from NBS, OCGS, TFNC, and ministries responsible for health for both Mainland and Zanzibar. The NBS also coordinated and supervised all fieldwork activities. ICF International provided technical assistance during the entire 5-month data collection period, from August 22, 2015, through February 14, 2016.

2.7   Data Processing

In the 2015-16 TDHS-MIS the first data entry was done concurrently with data collection in the field. After the paper questionnaires were completed, edited, and checked by both field editor and supervisor, the editor entered the data using a tablet equipped with the data entry programme. Completed questionnaires were then returned to NBS headquarters, where they were entered for the second time and edited by data processing personnel who were given special training for this task. ICF International provided technical assistance during the entire data processing period. Processing the data concurrently with data collection allowed for regular monitoring of team performance and data quality. Field check tables were generated regularly during data processing to check various data quality parameters. As a result, feedback was given on a regular basis, encouraging teams to continue in areas of good performance and to correct areas that needed improvement. Feedback was individually tailored to each team. Data entry, which included 100 percent double entry to minimise keying in errors, and data editing, were completed on March 21, 2016. Data cleaning and finalization were completed on April 22, 2016.

3 KEY FINDINGS

3.1 Response Rates

Table 1 shows response rates for the Tanzania 2015-16 DHS-MIS. A total of 13,360 households were selected for the survey, of which 12,767 were occupied. Of the occupied households, 12,563 were successfully interviewed, yielding a response rate of 98 percent.

In the interviewed households, 13,634 eligible women were identified for individual interviews; interviews were completed with 13,266 women, yielding a response rate of 97 percent. In the subsample of households selected for the male survey, 3,822 eligible men were identified and 3,514 were successfully interviewed, yielding a response rate of 92 percent. There is little variation of household response rates by urban or rural residence, with rates of 98 and 99, respectively.

Table 1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Tanzania 2015-16

Result	Mainland			Zanzibar	Total
	Urban	Rural	Total		
Household interviews					
Households selected	3,568	8,010	11,578	1,782	13,360
Households occupied	3,390	7,613	11,003	1,764	12,767
Households interviewed	3,309	7,499	10,808	1,755	12,563
Household response rate[1]	97.6	98.5	98.2	99.5	98.4
Interviews with women age 15-49					
Number of eligible women	3,780	7,684	11,464	2,170	13,634
Number of eligible women interviewed	3,632	7,495	11,127	2,139	13,266
Eligible women's response rate[2]	96.1	97.5	97.1	98.6	97.3
Interviews with men age 15-49					
Number of eligible men	1,067	2,226	3,293	529	3,822
Number of eligible men interviewed	963	2,061	3,024	490	3,514
Eligible men's response rate[2]	90.3	92.6	91.8	92.6	91.9

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

3.2 Characteristics of Respondents

Table 2 shows, by background characteristics, the weighted and unweighted numbers and the weighted percent distributions of women and men age 15-49 interviewed in the Tanzania 2015-16 TDHS-MIS.

The table shows that more than half (57 percent) of women and men are under age 30, reflecting the expected young age structure of the Tanzanian population. Twenty-five percent of women and 43 percent of men have never been married. About 62 percent of women and 52 percent of men are married or living together with a partner. However, women are more likely to report that they are divorced or separated (10 percent) than men (5 percent). Three percent of women report that they are widowed, compared with less than one percent of men.

A majority of respondents live in rural areas (64 percent of women and men). Ninety-seven percent of the nationally representative sample is from the Mainland. Twelve percent of women and 13 percent of men reside in the Dar es Salaam region. A sizable proportion of respondents also live in Mbeya (6 percent of women and men), Mwanza, and Tabora (6 percent of women and men in each region)

With respect to educational background status, 15 percent of women and 8 percent of men reported that they never attended school. Sixty-two percent of women and 64 percent of men received some primary education. Twenty-three percent of women and 28 percent of men attended secondary school or attained a higher level of education.

Table 2 Background characteristics of respondents

Percent distribution of women and men age 15-49 by selected background characteristics, Tanzania 2015-16

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	21.9	2,904	2,932	26.5	932	930
20-24	18.7	2,483	2,467	16.4	576	626
25-29	16.0	2,125	2,110	13.7	482	492
30-34	13.2	1,752	1,746	11.7	410	408
35-39	12.4	1,641	1,629	13.3	466	437
40-44	10.3	1,364	1,347	9.5	334	325
45-49	7.5	997	1,035	8.9	314	296
Marital status						
Never married	25.3	3,353	3,478	43.0	1,510	1,580
Married	44.9	5,952	6,137	36.1	1,268	1,214
Living together	17.0	2,258	2,052	15.8	557	554
Divorced/separated	10.0	1,323	1,254	4.7	164	149
Widowed	2.9	379	345	0.4	16	17
Residence						
Urban	36.5	4,840	4,171	36.1	1,267	1,075
Rural	63.5	8,426	9,095	63.9	2,247	2,439
Mainland/Zanzibar						
Mainland	97.0	12,862	11,127	97.5	3,425	3,024
Urban	35.5	4,704	3,632	35.3	1,240	963
Rural	61.5	8,158	7,495	62.2	2,185	2,061
Zanzibar	3.0	404	2,139	2.5	89	490
Unguja	2.2	293	1,435	1.8	62	319
Pemba	0.8	111	704	0.8	28	171
Zone						
Western	9.6	1,278	1,051	9.2	322	270
Northern	11.9	1,575	1,255	11.8	415	339
Central	10.1	1,336	1,190	10.6	372	316
Southern Highlands	6.1	807	1,082	6.7	234	319
Southern	5.3	700	728	5.1	180	194
South West Highlands	9.4	1,246	1,265	8.8	308	331
Lake	26.1	3,463	3,081	26.6	933	863
Eastern	18.5	2,457	1,475	18.8	659	392
Zanzibar	3.0	404	2,139	2.5	89	490
Region						
Dodoma	4.3	572	343	5.0	175	101
Arusha	3.8	508	420	3.7	129	106
Kilimanjaro	2.7	361	370	3.1	110	108
Tanga	5.3	706	465	5.0	176	125
Morogoro	4.8	636	345	4.1	143	80
Pwani	2.1	285	333	1.9	68	85
Dar es Salaam	11.6	1,536	797	12.8	448	227
Lindi	2.2	288	380	1.9	66	95
Mtwara	3.1	412	348	3.3	115	99
Ruvuma	2.7	360	383	3.2	112	121
Iringa	1.8	245	340	2.0	71	107
Mbeya	6.2	828	374	5.8	202	99
Singida	2.8	370	413	3.0	106	118
Tabora	5.6	737	560	5.7	199	153
Rukwa	2.2	288	425	2.0	71	107
Kigoma	4.1	542	491	3.5	124	117
Shinyanga	3.8	504	516	4.1	142	154
Kagera	4.6	612	416	5.6	198	143
Mwanza	6.5	859	496	6.4	225	136
Mara	3.9	523	531	3.2	114	123
Manyara	3.0	394	434	2.6	91	97
Njombe	1.5	203	359	1.4	50	91
Katavi	1.0	130	466	1.0	35	125
Simiyu	3.6	479	587	3.9	136	172
Geita	3.7	485	535	3.4	118	135
Kaskazini Unguja	0.4	56	366	0.4	13	88
Kusini Unguja	0.3	35	361	0.2	9	89
Mjini Magharibi	1.5	201	708	1.1	40	142
Kaskazini Pemba	0.4	56	338	0.4	14	81
Kusini Pemba	0.4	55	366	0.4	13	90
Education						
No education	14.7	1,946	1,998	8.1	283	279
Primary	61.9	8,211	7,640	63.8	2,241	2,175
Secondary+	23.4	3,109	3,628	28.2	990	1,060
Wealth quintile						
Lowest	16.9	2,239	2,136	17.3	609	604
Second	17.2	2,281	2,168	16.4	577	573
Middle	17.4	2,314	2,413	18.5	649	669
Fourth	21.3	2,826	3,143	21.7	762	807
Highest	27.2	3,606	3,406	26.1	917	861
Total 15-49	100.0	13,266	13,266	100.0	3,514	3,514

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.

3.3   Fertility

To generate data on fertility, all women age 15-49 who were interviewed were asked to report the total number of sons and daughters to whom they had ever given birth. To ensure that all information was reported, women were asked separately about children still living at home, those living elsewhere, and those who had died. A complete birth history was then obtained, including information on the sex, date of birth, and survival status of each child; age at death for children who had died was also recorded.

Table 3 shows age-specific fertility rates for women by 5-year age groups for the three-year period prior to the survey. Age-specific and total fertility rates were calculated directly from the birth history data. The sum of age-specific fertility rates (known as the total fertility rate - TFR) is a summary measure of the level of fertility. It can be interpreted as the average number of children a woman would bear in her lifetime if she experiences the currently observed age-specific fertility rates throughout her reproductive years. According to the 2015-16 TDHS-MIS results, the TFR in Tanzania is 5.2 live births per woman. This means that, at current age-specific fertility rates, a Tanzanian woman will give birth to an average of 5.2 children by the end of her lifetime. There is no substantial variation in fertility rates in Tanzania. The TFR in Mainland is 5.2, compared with 5.1 in Zanzibar. On the Mainland, urban-rural differentials are large. On average, rural women will give birth to 2.2 more children during their reproductive years than urban women (6.0 and 3.8, respectively).

Table 3 Current fertility

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the 3 years preceding the survey, by residence, Tanzania 2015-16

Age group	Mainland			Zanzibar	Total
	Urban	Rural	Total		
15-19	85	166	135	47	132
20-24	178	277	238	184	236
25-29	200	254	233	255	234
30-34	163	221	199	223	200
35-39	94	175	147	183	147
40-44	39	91	75	86	75
45-49	6	17	14	38	15
TFR (15-49)	3.8	6.0	5.2	5.1	5.2
GFR	134	204	178	155	178
CBR	35.1	38.1	37.2	36.3	37.2

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

As shown in Figure 1, the 2015-16 TDHS-MIS TFR of 5.2 is statistically at the same level as the estimated rate of 5.4 births (CI: 5.2-5.7) in the 2010 TDHS. Furthermore the 2010 TDHS estimate was not statistically different from the 2004-05 TDHS result (5.7 births, CI: 5.4-5.9). However, a comparison of the 2004-05 TDHS and the 2015-16 TDHS-MIS indicates a decline in fertility, a result that will be explored further in the final report.

Figure 1 Trends in total fertility rate, 1999, 2004-05, 2010, and 2015-16

Births per woman
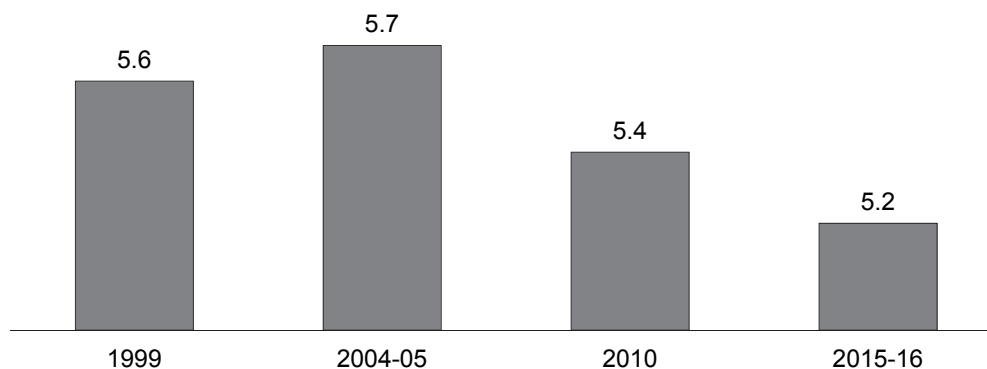
3.4   Teenage Pregnancy and Motherhood

The issue of adolescent fertility is important on both health and social grounds. 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 more constrained in their ability to pursue educational opportunities than young women who delay childbearing.

Table 4 shows the percent distribution of women age 15-19 who have given birth or were pregnant with their first child at the time of the survey, according to background characteristics. Overall, more than one in four women age 15-19 have begun childbearing (27 percent); this figure is slightly higher than that reported in the 2010 TDHS (23 percent): 21 percent have had a live birth, and 6 percent were pregnant with the first child at the time of the interview. The proportion of teenagers who have begun childbearing rises rapidly with age, from 4 percent at age 15 to 57 percent at age 19. Teenagers with no education and those in the lowest wealth quintile tend to start childbearing earlier than other teenagers. The percentage of teenagers who have begun childbearing is higher among rural women (32 percent) than urban women (19 percent). In the Mainland regions, adolescent childbearing is most common in Katavi (45 percent) and least common in Kilimanjaro (6 percent). Eight percent of teenagers in Zanzibar have started childbearing (11 percent in Pemba and 7 percent in Unguja).

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Table 4 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, Tanzania 2015-16

Background characteristic	Have had a live birth	Are pregnant with first child	Have begun childbearing	Number of women
Age				
15	1.8	2.6	4.4	668
16	7.6	3.8	11.4	515
17	17.6	5.4	23.0	519
18	28.2	10.0	38.2	618
19	50.1	6.6	56.7	584
Residence				
Urban	14.1	4.5	18.6	1,088
Rural	25.1	6.4	31.5	1,816
Mainland/Zanzibar				
Mainland	21.5	5.8	27.3	2,808
Urban	14.4	4.6	19.0	1,058
Rural	25.8	6.6	32.3	1,750
Zanzibar	6.4	1.8	8.2	97
Unguja	5.5	1.5	7.0	68
Pemba	8.8	2.5	11.2	28
Zone				
Western	29.6	8.6	38.2	324
Northern	12.0	3.5	15.5	335
Central	25.7	6.4	32.1	261
Southern Highlands	19.6	6.4	26.0	147
Southern	20.0	6.8	26.7	118
South West Highlands	27.0	6.7	33.6	268
Lake	23.8	5.4	29.2	849
Eastern	14.4	5.3	19.7	505
Zanzibar	6.4	1.8	8.2	97
Region				
Dodoma	33.5	5.0	38.6	108
Arusha	14.9	0.0	14.9	87
Kilimanjaro	5.5	0.0	5.5	83
Tanga	13.8	7.1	20.9	165
Morogoro	28.6	9.9	38.5	114
Pwani	25.5	4.5	30.0	50
Dar es Salaam	8.0	3.8	11.9	341
Lindi	21.7	5.9	27.6	55
Mtwara	18.5	7.6	26.1	64
Ruvuma	26.2	5.8	32.0	74
Iringa	13.9	6.1	20.0	49
Mbeya	26.3	6.7	33.0	188
Singida	20.1	9.6	29.7	75
Tabora	33.2	9.4	42.6	190
Rukwa	25.7	3.5	29.2	50
Kigoma	24.6	7.4	32.0	134
Shinyanga	27.9	5.6	33.5	114
Kagera	11.0	3.6	14.5	113
Mwanza	22.1	6.3	28.4	230
Mara	33.0	4.4	37.4	139
Manyara	20.2	5.3	25.5	77
Njombe	(11.2)	(8.5)	(19.7)	24
Katavi	33.3	11.8	45.1	30
Simiyu	29.9	0.4	30.3	128
Geita	18.4	11.3	29.7	126
Kaskazini Unguja	7.5	3.9	11.4	13
Kusini Unguja	10.3	2.5	12.7	9
Mjini Magharibi	4.0	0.6	4.6	46
Kaskazini Pemba	9.9	0.9	10.8	15
Kusini Pemba	7.4	4.3	11.7	13
Education				
No education	42.0	10.3	52.3	174
Primary	26.8	6.9	33.8	1,711
Secondary+	7.5	2.8	10.4	1,019
Wealth quintile				
Lowest	34.8	7.1	41.9	518
Second	29.2	10.0	39.1	451
Middle	22.9	5.0	27.9	462
Fourth	19.4	4.3	23.7	613
Highest	8.4	4.0	12.4	860
Total	21.0	5.7	26.7	2,904

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

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3.5   Fertility Preferences

Information on fertility preferences is used to assess the potential demand for family planning services for the purposes of spacing or limiting future childbearing. To elicit information on fertility preferences, several questions were asked of currently married women (pregnant or not) regarding whether they want to have another child and, if so, how soon.

Table 5 shows that slightly more than one in five women (22 percent) wants to have another child soon (within the next 2 years), and 42 percent want to have another child later (after 2 or more years). Twenty-six percent of women want no more children, however.

Fertility preferences are closely related to number of living children. More than 9 out of 10 women with no living children (92 percent) want a child soon, as compared with only 6 percent of women with six or more children. In general, the more children a woman has, the higher is the likelihood that she does not want another child.

Table 5 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, Tanzania 2015-16

Desire for children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Have another soon[2]	92.4	28.4	24.6	17.3	16.1	11.5	6.3	22.1
Have another later[3]	3.5	65.1	59.1	48.6	35.0	32.2	17.5	42.2
Have another, undecided when	0.7	1.5	1.2	0.9	0.7	0.6	0.6	0.9
Undecided	0.0	1.6	3.3	4.6	2.9	4.4	4.4	3.3
Want no more	0.6	1.6	9.8	23.5	38.6	42.4	58.5	25.7
Sterilised[4]	0.0	0.1	0.9	2.8	5.4	5.4	8.6	3.4
Declare infecund	2.8	1.8	1.1	2.2	1.3	3.4	4.0	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	447	1,486	1,567	1,376	1,083	779	1,472	8,210

[1] The number of living children includes current pregnancy
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both female and male sterilisation

3.6   Family Planning

Family planning refers to a conscious effort by a couple to limit or space the number of children they have through the use of contraceptive methods. Contraceptive methods are classified as modern or traditional methods. Modern methods include female sterilisation, male sterilisation, the pill, the intrauterine device (IUD), injectables, implants, male condoms, female condoms, lactational amenorrhoea method (LAM), and standard days method (SDM). Methods such as rhythm and withdrawal are defined as traditional.

Tables 6.1 and 6.2 show the levels and key differentials in the current use of a contraceptive method, as reported by currently married women and sexually active unmarried women, respectively. Overall, 38 percent of currently married women are using any method of family planning: 32 percent use a modern method and only 6 percent use a traditional method. Use of modern contraceptive methods among currently married women has increased slightly from 27 percent, as reported in the 2010 TDHS, to 32 percent. Among currently married women, the most commonly used modern methods are injectables and implants (12 percent and 7 percent, respectively). In the Mainland, use of any contraceptive method among married women varies significantly by region, ranging from 57 percent in Ruvuma to 15 percent in Geita. In Zanzibar, the corresponding proportions are 41 percent in Kusini Unguja and 9 percent in Kusini Pemba. Contraceptive use increases with education and wealth.

Percent distribution of currently married women age 15-49, by contraceptive method currently used, according to background characteristics, Tanzania 2015-16

Background characteristic	Any method	Any modern method	Modern method									Any traditional method	Traditional method			Not currently using	Total	Number of women
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	LAM		Rhythm	Withdrawal	Other			
Age																		
15-19	14.7	13.3	0.0	0.0	2.3	0.0	6.8	2.7	1.5	0.0	1.4	0.3	0.9	0.2	85.3	100.0	668
20-24	35.4	29.9	0.0	0.0	4.3	0.3	14.7	8.1	2.2	0.3	5.5	2.8	2.4	0.3	64.6	100.0	1,479
25-29	41.7	35.8	0.1	0.0	6.2	0.6	15.9	9.2	2.8	0.9	5.9	3.0	2.7	0.2	58.3	100.0	1,616
30-34	44.6	36.3	1.0	0.1	7.4	0.8	15.7	8.3	2.4	0.4	8.3	5.6	2.3	0.4	55.4	100.0	1,378
35-39	43.3	37.2	5.0	0.1	7.4	1.7	13.0	6.6	2.5	1.0	6.1	4.2	1.4	0.5	56.7	100.0	1,308
40-44	40.4	32.0	9.3	0.0	5.1	1.2	7.8	5.4	2.9	0.2	8.4	5.3	1.6	1.6	59.6	100.0	1,033
45-49	35.1	27.6	13.6	0.2	2.9	1.5	6.6	1.4	1.4	0.0	7.5	3.5	2.2	1.9	64.9	100.0	728
Residence																		
Urban	46.0	35.0	3.6	0.0	7.1	0.9	12.8	6.3	3.9	0.3	11.0	7.3	3.2	0.5	54.0	100.0	2,570
Rural	34.9	30.6	3.2	0.1	4.8	0.9	12.5	6.9	1.7	0.5	4.3	2.1	1.5	0.7	65.1	100.0	5,641
Mainland/Zanzibar																		
Mainland	38.8	32.5	3.4	0.1	5.6	0.9	12.8	6.8	2.4	0.5	6.3	3.7	1.9	0.6	61.2	100.0	7,990
Urban	46.5	35.6	3.7	0.0	7.3	0.9	13.0	6.5	4.0	0.3	10.9	7.3	3.0	0.5	53.5	100.0	2,502
Rural	35.2	31.1	3.3	0.1	4.8	0.9	12.7	7.0	1.7	0.6	4.2	2.0	1.4	0.7	64.8	100.0	5,488
Zanzibar	23.4	14.0	1.3	0.0	2.8	0.2	6.1	3.1	0.4	0.0	9.4	3.3	5.8	0.3	76.6	100.0	220
Unguja	29.1	16.3	1.3	0.0	2.8	0.2	7.5	3.8	0.6	0.0	12.7	4.5	7.8	0.4	70.9	100.0	151
Pemba	11.2	9.1	1.5	0.0	2.7	0.0	3.1	1.6	0.2	0.0	2.1	0.6	1.5	0.0	88.8	100.0	69
Zone																		
Western	22.8	19.3	3.0	0.0	2.4	0.3	8.3	3.7	1.7	0.0	3.5	1.2	2.0	0.3	77.2	100.0	879
Northern	40.4	34.3	2.7	0.0	8.7	1.4	13.5	6.9	1.1	0.1	6.1	4.3	1.6	0.2	59.6	100.0	906
Central	42.0	36.4	3.0	0.0	6.8	0.4	14.6	8.7	1.1	1.9	5.6	3.4	1.9	0.4	58.0	100.0	886
Southern Highlands	53.3	43.9	4.7	0.0	7.3	2.0	14.7	10.9	4.3	0.0	9.4	4.3	3.5	1.5	46.7	100.0	503
Southern	53.1	50.5	3.0	0.0	15.9	0.2	21.7	8.5	0.9	0.2	2.6	0.9	1.1	0.6	46.9	100.0	452
South West Highlands	45.6	38.8	3.3	0.0	3.6	0.9	15.8	11.9	3.3	0.6	6.8	3.7	1.6	1.5	54.4	100.0	765
Lake	26.3	23.4	4.4	0.2	2.2	0.9	9.3	4.7	1.1	0.6	2.9	1.7	0.5	0.7	73.7	100.0	2,192
Eastern	51.6	38.0	2.7	0.0	7.3	1.1	14.3	6.3	5.9	0.6	13.5	8.9	4.2	0.4	48.4	100.0	1,407
Zanzibar	23.4	14.0	1.3	0.0	2.8	0.2	6.1	3.1	0.4	0.0	9.4	3.3	5.8	0.3	76.6	100.0	220
Region																		
Dodoma	49.2	41.2	1.4	0.0	10.5	0.0	17.4	8.7	1.5	1.7	8.0	4.0	3.1	0.9	50.8	100.0	383
Arusha	37.8	31.8	2.9	0.0	7.5	2.5	10.7	7.8	0.4	0.0	6.0	4.3	1.0	0.7	62.2	100.0	325
Kilimanjaro	56.4	47.8	5.3	0.0	8.0	1.3	21.0	9.5	2.4	0.4	8.6	7.2	1.4	0.0	43.6	100.0	195
Tanga	34.6	29.6	1.2	0.0	10.1	0.5	12.0	4.8	1.0	0.0	4.9	2.7	2.2	0.0	65.4	100.0	385
Morogoro	54.3	46.9	2.9	0.0	7.5	1.3	19.3	11.5	4.0	0.4	7.5	4.7	1.6	1.2	45.7	100.0	399
Pwani	44.4	39.1	1.4	0.0	8.9	1.4	19.0	5.3	2.3	0.6	5.3	2.2	2.4	0.7	55.6	100.0	184
Dar es Salaam	51.8	33.5	2.8	0.0	6.8	0.9	10.8	3.9	7.5	0.6	18.3	12.4	5.9	0.0	48.2	100.0	824
Lindi	55.3	51.6	1.1	0.0	10.9	0.6	24.8	13.1	1.1	0.0	3.7	1.1	1.9	0.7	44.7	100.0	191
Mtwara	51.5	49.7	4.4	0.0	19.6	0.0	19.3	5.1	0.8	0.4	1.8	0.8	0.5	0.6	48.5	100.0	261
Ruvuma	57.2	50.8	4.9	0.0	8.1	0.8	17.1	15.6	4.3	0.0	6.3	2.6	3.3	0.4	42.8	100.0	226
Iringa	46.6	32.1	4.0	0.0	5.7	3.0	7.8	7.1	4.6	0.0	14.5	8.4	4.6	1.6	53.4	100.0	143
Mbeya	53.6	45.0	3.8	0.0	4.0	1.3	16.6	14.6	4.7	0.0	8.5	4.3	2.5	1.6	46.4	100.0	490
Singida	41.8	38.4	5.6	0.0	6.3	0.6	12.2	10.0	0.4	3.3	3.4	2.8	0.7	0.0	58.2	100.0	243

(Continued…)

Table 6.1—*Continued*

Background characteristic	Any method	Any modern method	Modern method									Any traditional method	Traditional method			Not currently using	Total	Number of women
			Female sterili-sation	Male sterili-sation	Pill	IUD	Inject-ables	Implants	Male condom	LAM		Rhythm	With-drawal	Other			
Region																		
Tabora	21.9	20.5	3.4	0.0	2.7	0.4	7.1	4.8	2.1	0.0	1.4	0.8	0.0	0.6	78.1	100.0	514
Rukwa	36.4	32.4	3.2	0.0	3.3	0.3	17.9	6.7	1.0	0.0	4.1	3.4	0.0	0.7	63.6	100.0	183
Kigoma	24.1	17.5	2.3	0.0	1.9	0.2	10.0	2.0	1.1	0.0	6.5	1.6	4.9	0.0	75.9	100.0	365
Shinyanga	24.0	21.3	3.7	0.0	2.4	0.0	7.8	5.2	1.3	0.6	2.7	1.6	0.0	1.2	76.0	100.0	344
Kagera	43.4	38.7	8.5	1.2	5.6	2.9	13.5	5.3	1.0	0.5	4.8	3.0	1.1	0.7	56.6	100.0	418
Mwanza	20.2	18.4	3.6	0.0	0.8	0.3	8.4	4.9	0.4	0.0	1.8	0.7	0.7	0.4	79.8	100.0	465
Mara	33.1	29.1	3.1	0.0	1.5	0.8	14.9	5.0	2.7	1.2	4.0	3.2	0.3	0.5	66.9	100.0	340
Manyara	31.7	27.5	3.0	0.0	1.7	0.7	12.7	7.3	1.3	0.8	4.1	3.0	1.1	0.0	68.3	100.0	260
Njombe	54.0	45.0	5.3	0.0	7.5	3.0	18.0	7.2	4.1	0.0	9.0	2.8	2.8	3.4	46.0	100.0	134
Katavi	21.5	18.1	0.8	0.0	2.0	0.0	7.3	7.5	0.5	0.0	3.3	0.7	0.0	2.7	78.5	100.0	92
Simiyu	19.1	16.9	4.0	0.0	1.6	0.4	5.4	4.0	0.7	0.8	2.1	0.8	0.7	0.6	80.9	100.0	312
Geita	14.9	12.9	2.3	0.0	0.7	0.5	4.3	3.4	0.9	0.5	1.9	1.1	0.0	0.8	85.1	100.0	313
Kaskazini Unguja	19.6	14.2	0.9	0.0	0.9	0.0	8.6	3.8	0.0	0.0	5.4	0.3	4.6	0.4	80.4	100.0	35
Kusini Unguja	41.1	28.9	1.1	0.0	5.7	0.0	16.0	5.5	0.6	0.0	12.2	1.9	7.7	2.7	58.9	100.0	20
Mjini Magharibi	30.0	14.5	1.4	0.0	2.9	0.4	5.3	3.5	0.8	0.0	15.5	6.5	9.0	0.0	70.0	100.0	96
Kaskazini Pemba	13.0	11.0	0.5	0.0	5.0	0.0	4.2	1.3	0.0	0.0	2.0	0.6	1.4	0.0	87.0	100.0	37
Kusini Pemba	9.1	6.8	2.7	0.0	0.0	0.0	1.8	1.8	0.4	0.0	2.3	0.6	1.6	0.0	90.9	100.0	32
Education																		
No education	26.6	24.2	3.2	0.1	3.8	0.2	9.8	5.5	0.9	0.7	2.5	0.7	0.9	0.8	73.4	100.0	1,559
Primary	39.7	34.0	3.6	0.1	5.9	1.1	13.8	6.8	2.3	0.4	5.7	2.9	2.1	0.7	60.3	100.0	5,416
Secondary+	47.5	33.2	2.5	0.0	5.9	0.9	11.0	8.0	4.5	0.4	14.3	11.0	3.1	0.2	52.5	100.0	1,235
Wealth quintile																		
Lowest	22.1	19.2	1.8	0.1	2.7	0.7	8.5	4.2	0.6	0.5	3.0	0.8	1.1	1.0	77.9	100.0	1,668
Second	33.6	29.4	2.5	0.2	4.5	0.7	12.2	7.2	1.5	0.5	4.2	2.2	1.1	0.8	66.4	100.0	1,533
Middle	39.9	36.0	4.3	0.0	4.8	0.9	15.5	7.5	2.2	0.7	3.9	1.5	2.0	0.4	60.1	100.0	1,537
Fourth	46.1	40.2	4.0	0.0	7.8	1.0	15.9	8.7	2.5	0.3	5.8	3.1	2.3	0.5	53.9	100.0	1,632
Highest	49.0	35.2	4.1	0.0	7.4	1.0	11.3	6.3	4.7	0.3	13.8	9.9	3.5	0.4	51.0	100.0	1,841
Number of living children																		
0	4.5	2.6	0.0	0.0	0.9	0.0	0.9	0.5	0.3	0.0	1.9	1.7	0.3	0.0	95.5	100.0	668
1-2	39.6	32.3	0.5	0.0	6.3	0.3	13.7	7.6	3.6	0.3	7.3	4.5	2.4	0.4	60.4	100.0	2,990
3-4	45.7	38.6	3.9	0.1	6.8	1.3	15.9	7.7	2.3	0.6	7.1	4.4	2.4	0.3	54.3	100.0	2,384
5+	39.0	33.4	7.7	0.1	4.3	1.4	11.0	6.5	1.5	0.8	5.6	2.4	1.7	1.5	61.0	100.0	2,168
Total	38.4	32.0	3.4	0.1	5.5	0.9	12.6	6.7	2.4	0.5	6.4	3.7	2.0	0.6	61.6	100.0	8,210

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

Table 6.2 Current use of contraception by background characteristics: Sexually active unmarried women

Percent distribution of sexually active unmarried women age 15-49 by contraceptive method currently used, according to background characteristics, Tanzania 2015-16

Background characteristic	Any method	Modern method									Traditional method				Not currently using	Total	Number of women
		Any modern method	Female sterili-sation	Pill	IUD	Inject-ables	Implants	Male condom	Emmer-gency contra-ception	LAM	Any tradi-tional method	Rhythm	With-drawal	Other			
Residence																	
Urban	60.1	47.4	2.0	5.3	0.4	14.2	6.4	19.0	0.2	0.0	12.7	11.1	1.5	0.0	39.9	100.0	449
Rural	48.4	44.2	2.3	6.0	0.7	15.4	8.9	10.7	0.0	0.2	4.2	3.6	0.5	0.1	51.6	100.0	478
Mainland/Zanzibar																	
Mainland	54.2	45.9	2.2	5.7	0.6	14.8	7.7	14.8	0.1	0.1	8.3	7.3	1.0	0.1	45.8	100.0	921
Urban	60.0	47.4	2.0	5.3	0.4	14.2	6.3	19.1	0.2	0.0	12.6	11.1	1.5	0.0	40.0	100.0	447
Rural	48.6	44.4	2.3	6.0	0.7	15.4	8.9	10.8	0.0	0.2	4.2	3.7	0.5	0.1	51.4	100.0	474
Zanzibar	(41.3)	(30.5)	(0.0)	(0.0)	(0.0)	(13.1)	(11.5)	(5.9)	(0.0)	(0.0)	(10.8)	(7.1)	(3.7)	(0.0)	(58.7)	100.0	7
Unguja	(39.9)	(28.1)	(0.0)	(0.0)	*	(9.1)	(12.6)	(6.5)	(0.0)	(0.0)	(11.8)	(7.7)	(4.1)	(0.0)	(60.1)	100.0	6
Pemba	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	100.0	1
Zone																	
Western	52.1	42.9	6.0	4.6	0.0	19.5	7.0	5.8	0.0	0.0	9.3	9.3	0.0	0.0	47.9	100.0	61
Northern	59.5	54.1	0.0	6.3	1.2	21.2	6.5	19.0	0.0	0.0	5.4	5.4	0.0	0.0	40.5	100.0	89
Central	47.3	46.0	1.1	11.3	0.0	5.0	16.0	12.6	0.0	0.0	1.3	1.3	0.0	0.0	52.7	100.0	94
Southern Highlands	64.7	53.1	6.2	2.0	0.0	25.2	8.8	10.9	0.0	0.0	11.6	9.6	1.3	0.7	35.3	100.0	74
Southern	70.1	70.1	5.3	13.8	0.9	24.9	13.4	11.9	0.0	0.0	0.0	0.0	0.0	0.0	29.9	100.0	66
South West Highlands	55.4	49.1	0.0	7.0	0.0	12.7	11.4	16.9	1.0	0.0	6.3	3.7	2.6	0.0	44.6	100.0	83
Lake	33.1	28.7	3.3	1.4	0.4	11.8	3.8	7.8	0.0	0.3	4.4	4.4	0.0	0.0	66.9	100.0	221
Eastern	67.1	49.5	0.0	6.0	1.2	12.5	5.3	24.5	0.0	0.0	17.7	15.2	2.4	0.0	32.9	100.0	233
Zanzibar	(41.3)	(30.5)	(0.0)	(0.0)	(0.0)	(13.1)	(11.5)	(5.9)	(0.0)	(0.0)	(10.8)	(7.1)	(3.7)	(0.0)	(58.7)	100.0	7
Total	54.1	45.8	2.1	5.6	0.6	14.8	7.7	14.8	0.1	0.1	8.3	7.3	1.0	0.1	45.9	100.0	928

Notes: If more than one method is used, only the most effective method is considered in this tabulation. 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.
IUD = Intrauterine device
LAM = Lactational amenorrhoea method

Among sexually active unmarried women, 54 percent are currently using any contraceptive method; the majority of them (46 percent) use a modern method, and 8 percent use a traditional method. The most commonly used modern methods of contraception among sexually active unmarried women are injectables and male condoms (15 percent each).

3.7 Need and Demand for Family Planning

The proportion of women who want to stop childbearing or who want to space their next birth is a crude measure of the extent of the need for family planning, although not all of these women are exposed to the risk of pregnancy and some may already be using contraception. This section discusses the extent of need and the potential demand for family planning services. Women who want to postpone their next birth for 2 or more years or who want to stop childbearing altogether but are not using a contraceptive method are said to have an unmet need for family planning. Pregnant women are considered to have an unmet need for spacing or limiting if their pregnancy was mistimed or unwanted. Similarly, amenorrhoeic women are categorised as having an unmet need if their last birth was mistimed or unwanted. Women who are currently using a family planning method are said to have a met need for family planning. Total demand for family planning services comprises those who fall in the met need and unmet need categories.

Table 7.1 presents data on unmet need, met need, and total demand for family planning among currently married women. Overall, 22 percent of currently married women have an unmet need for family planning. Thirty-eight percent of married women are currently using a contraceptive method. Therefore, about 6 in 10 currently married women (61 percent) have a demand for family planning. At present, 63 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 (CPR) would increase from 38 percent to 61 percent. There are some variations among regions, with the percentage of currently married women who had unmet need for family planning ranging from about 37 percent in Kaskazini Pemba region to 10 percent in Lindi region.

Table 7.1 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, percentage with met need for family planning who are using modern methods, percentage with demand for family planning, percentage of the demand for family planning that is satisfied, and percentage of the demand for family planning that is satisfied with modern methods, by background characteristics, Tanzania 2015-16

Background characteristic	Unmet need	Met need for family planning (currently using)		Total demand for family planning[3]	Percentage of demand satisfied[1]		Number of women
		All methods	Modern methods[2]		All methods	Modern methods[2]	
Age							
15-19	23.0	14.7	13.3	37.7	39.0	35.3	668
20-24	22.7	35.4	29.9	58.1	60.9	51.4	1,479
25-29	23.4	41.7	35.8	65.1	64.0	55.0	1,616
30-34	21.0	44.6	36.3	65.5	68.0	55.3	1,378
35-39	22.9	43.3	37.2	66.2	65.5	56.2	1,308
40-44	24.3	40.4	32.0	64.8	62.4	49.4	1,033
45-49	14.8	35.1	27.6	49.9	70.4	55.2	728
Residence							
Urban	19.8	46.0	35.0	65.7	70.0	53.3	2,570
Rural	23.2	34.9	30.6	58.1	60.1	52.7	5,641
Mainland/Zanzibar							
Mainland	22.0	38.8	32.5	60.7	63.8	53.5	7,990
Urban	19.6	46.5	35.6	66.1	70.4	53.9	2,502
Rural	23.0	35.2	31.1	58.3	60.5	53.3	5,488
Zanzibar	28.0	23.4	14.0	51.4	45.6	27.3	220
Unguja	24.3	29.1	16.3	53.3	54.5	30.6	151
Pemba	36.0	11.2	9.1	47.2	23.7	19.2	69
Zone							
Western	24.2	22.8	19.3	47.0	48.5	41.0	879
Northern	20.8	40.4	34.3	61.2	66.1	56.1	906
Central	20.4	42.0	36.4	62.4	67.3	58.3	886
Southern Highlands	16.3	53.3	43.9	69.6	76.6	63.2	503
Southern	10.1	53.1	50.5	63.2	84.0	79.8	452
South West Highlands	19.8	45.6	38.8	65.4	69.7	59.3	765

(Continued…)

Table 7.1—*Continued*

Background characteristic	Unmet need	Met need for family planning (currently using)		Total demand for family planning[3]	Percentage of demand satisfied[1]		Number of women
		All methods	Modern methods[2]		All methods	Modern methods[2]	
Zone							
Lake	29.5	26.3	23.4	55.7	47.2	41.9	2,192
Eastern	17.6	51.6	38.0	69.2	74.5	55.0	1,407
Zanzibar	28.0	23.4	14.0	51.4	45.6	27.3	220
Region							
Dodoma	14.7	49.2	41.2	63.8	77.0	64.5	383
Arusha	21.6	37.8	31.8	59.4	63.7	53.6	325
Kilimanjaro	17.7	56.4	47.8	74.1	76.1	64.5	195
Tanga	21.7	34.6	29.6	56.2	61.5	52.7	385
Morogoro	16.1	54.3	46.9	70.4	77.2	66.6	399
Pwani	19.2	44.4	39.1	63.6	69.8	61.5	184
Dar es Salaam	18.0	51.8	33.5	69.8	74.2	48.0	824
Lindi	9.5	55.3	51.6	64.8	85.3	79.5	191
Mtwara	10.5	51.5	49.7	62.0	83.0	80.1	261
Ruvuma	13.5	57.2	50.8	70.6	80.9	71.9	226
Iringa	18.3	46.6	32.1	64.9	71.9	49.5	143
Mbeya	16.6	53.6	45.0	70.2	76.3	64.2	490
Singida	23.0	41.8	38.4	64.8	64.5	59.3	243
Tabora	21.7	21.9	20.5	43.6	50.3	47.0	514
Rukwa	24.8	36.4	32.4	61.2	59.5	52.9	183
Kigoma	27.7	24.1	17.5	51.8	46.5	33.8	365
Shinyanga	23.1	24.0	21.3	47.1	51.0	45.2	344
Kagera	22.3	43.4	38.7	65.7	66.1	58.8	418
Mwanza	34.1	20.2	18.4	54.3	37.1	33.8	465
Mara	34.4	33.1	29.1	67.5	49.0	43.1	340
Manyara	26.4	31.7	27.5	58.0	54.5	47.4	260
Njombe	18.7	54.0	45.0	72.7	74.2	61.9	134
Katavi	27.2	21.5	18.1	48.6	44.1	37.3	92
Simiyu	28.5	19.1	16.9	47.5	40.1	35.6	312
Geita	34.7	14.9	12.9	49.6	30.0	26.1	313
Kaskazini Unguja	30.8	19.6	14.2	50.4	38.9	28.2	35
Kusini Unguja	20.1	41.1	28.9	61.2	67.1	47.2	20
Mjini Magharibi	22.8	30.0	14.5	52.8	56.9	27.5	96
Kaskazini Pemba	37.1	13.0	11.0	50.1	26.0	22.0	37
Kusini Pemba	34.8	9.1	6.8	43.9	20.7	15.5	32
Education							
No education	26.5	26.6	24.2	53.1	50.1	45.5	1,559
Primary	21.9	39.7	34.0	61.6	64.4	55.2	5,416
Secondary+	17.4	47.5	33.2	64.9	73.1	51.1	1,235
Wealth quintile							
Lowest	29.0	22.1	19.2	51.1	43.2	37.5	1,668
Second	24.3	33.6	29.4	57.9	58.0	50.8	1,533
Middle	22.8	39.9	36.0	62.7	63.7	57.5	1,537
Fourth	18.3	46.1	40.2	64.4	71.5	62.4	1,632
Highest	16.8	49.0	35.2	65.8	74.4	53.4	1,841
Total	22.1	38.4	32.0	60.5	63.4	52.9	8,210

Note: Numbers in this table correspond to the revised definition of unmet need described in Bradley et al., 2012.

[1] Percentage of demand satisfied is met need divided by total demand.
[2] Modern methods include female sterilisation, male sterilisation, IUD, implant, injectable, pill, male condom, female condom, emergency contraception, standard days method (SDM), and lactational amenorrhoea method (LAM).
[3] Total demand is the sum of unmet need and met need (with all methods).

Table 7.2 presents data on unmet need, met need, and total demand for family planning among sexually active unmarried women. Overall, one in four (25 percent) sexually active unmarried women age 15-49 has an unmet need for family planning. Fifty-four percent of sexually active unmarried women are currently using any contraceptive method. Therefore, almost 4 in 5 sexually active unmarried women (79 percent) have a demand for family planning. At present, 69 percent of the potential demand for family planning is being met. Thus, if all sexually active unmarried women who said they want to space or limit their children were to use family planning methods, the CPR would increase from 54 percent to 79 percent.

Percentage of sexually active unmarried women age 15-49 with unmet need for family planning, percentage with met need for family planning, percentage with met need for family planning who are using modern methods, percentage with demand for family planning, percentage of the demand for family planning that is satisfied, and percentage of the demand for family planning that is satisfied with modern methods, by background characteristics, Tanzania 2015-16

Background characteristic	Unmet need	Met need for family planning (currently using)		Total demand for family planning[3]	Percentage of demand satisfied[1]		Number of women
		All methods	Modern methods[2]		All methods	Modern methods[2]	
Residence							
Urban	22.7	60.1	47.4	82.9	72.5	57.3	449
Rural	26.2	48.4	44.2	74.6	64.9	59.2	478
Mainland/Zanzibar							
Mainland	24.4	54.2	45.9	78.5	69.0	58.4	921
Urban	22.7	60.0	47.4	82.8	72.5	57.3	447
Rural	25.9	48.6	44.4	74.5	65.2	59.5	474
Zanzibar	(46.0)	(41.3)	(30.5)	(87.2)	(47.3)	(34.9)	7
Unguja	(50.4)	(39.9)	(28.1)	(90.4)	(44.2)	(31.1)	6
Pemba	*	*	*	*	*	*	1
Zone							
Western	18.2	52.1	42.9	70.3	74.1	60.9	61
Northern	23.6	59.5	54.1	83.2	71.6	65.1	89
Central	28.8	47.3	46.0	76.1	62.1	60.4	94
Southern Highlands	23.7	64.7	53.1	88.4	73.2	60.1	74
Southern	17.1	70.1	70.1	87.2	80.3	80.3	66
South West Highlands	19.5	55.4	49.1	74.9	73.9	65.5	83
Lake	33.7	33.1	28.7	66.8	49.5	42.9	221
Eastern	19.6	67.1	49.5	86.7	77.4	57.1	233
Zanzibar	(46.0)	(41.3)	(30.5)	(87.2)	(47.3)	(34.9)	7
Total	24.5	54.1	45.8	78.6	68.8	58.2	928

Notes: Numbers in this table correspond to the revised definition of unmet need described in Bradley et al. 2012. 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] Percentage of demand satisfied is met need divided by total demand.
[2] Modern methods include female sterilisation, male sterilisation, IUD, implant, injectables, pill, male condom, female condom, emergency contraception, standard days method (SDM), and lactational amenorrhoea method (LAM).
[3] Total demand is the sum of unmet need and met need (with all methods).

Figure 2 presents trends in unmet need, modern contraceptive use, and percentage of total demand satisfied with modern methods among currently married women. These indicators help to evaluate the extent to which family planning programmes in Tanzania meet the demand for services. The definition of unmet need for family planning has been revised so that data on levels of unmet need are comparable over time and across surveys. The unmet need estimates in Figure 2 for the 2004-05, 2010, and 2015-16 TDHS surveys have been recalculated using the revised definition of unmet need but differ only slightly from the numbers published in the previous final reports.

Figure 2 **Trends in unmet need, modern contraceptive use, and percentage of demand satisfied with modern methods, Tanzania 2004-05, 2010, and 2015-16**

Percent of currently married women

2004-05   2010   2015-16
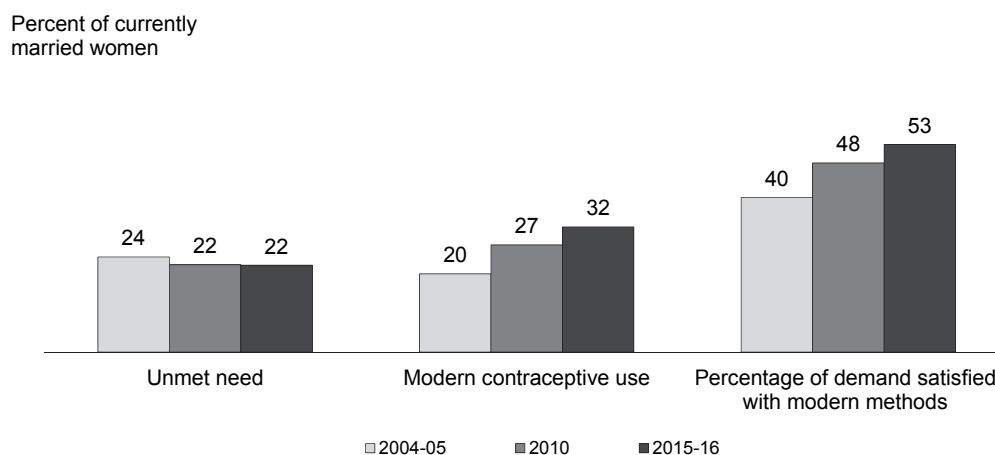
3.8   Early Childhood Mortality

Infant and child mortality rates are basic indicators of a country's socioeconomic situation and quality of life (UNDP 2007). Estimates of childhood mortality are based on information collected in the birth history section of the questionnaire administered to women, which includes questions about women's aggregate childbearing experience (i.e., the number of sons and daughters who live with their mother, the number who live elsewhere, and the number who have died). Table 8 presents estimates for three successive five-year periods prior to the 2015-16 TDHS-MIS. The rates are estimated directly from the information in the birth history on a child's birth date, survivorship status, and age at death for children who died; and are expressed per 1,000 live births. This information is used to directly estimate the following five mortality rates:

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

Postneonatal mortality: the difference between infant and neonatal mortality

Infant mortality: the probability of dying before the first birthday

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

Under-5 mortality: the probability of dying between birth and the fifth birthday

Neonatal, postneonatal, infant, child, and under-5 mortality rates for three successive five-year periods before the survey are presented in Table 8. For the five years immediately preceding the survey (approximately calendar years 2010/11 – 2015/16), the infant mortality rate is 43 deaths per 1,000 live births, the under-5 mortality rate for the period is 67 deaths per 1,000 live births, and the child mortality rate is 25 deaths per 1,000 live births. During the same period, neonatal mortality is 25 deaths per 1,000 live births; while post-neonatal mortality is 18 deaths per 1,000 live births. Data in Table 8 show that over the past 15 years post-neonatal mortality, infant mortality, child mortality, and under-5 mortality rates have declined considerably.

Table 8 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-5 mortality rates for 5-year periods preceding the survey, Tanzania 2015-16

	Mortality rates				
	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Period preceding survey					
0-4	25	18	43	25	67
5-9	33	28	61	32	90
10-14	31	36	67	43	107

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

Another means of tracking trends and levels of early childhood mortality rates over time is to compare data across surveys. Figure 3 presents trends and levels of infant, child, and under-5 mortality rates from 1999 to 2015-16, according to TDHS surveys. There has been a consistent and dramatic decline in mortality rates since 1999.

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Figure 3 **Trends in childhood mortality, Tanzania 1999, 2014-05, 2010, and 2015-16**

Deaths per 1,000

Infant mortality — 99, 68, 51, 43
Child mortality — 53, 47, 32, 25
Under-5 mortality — 147, 112, 81, 67

☐ 1999 ☐ 2004-05 ■ 2010 ■ 2015-16
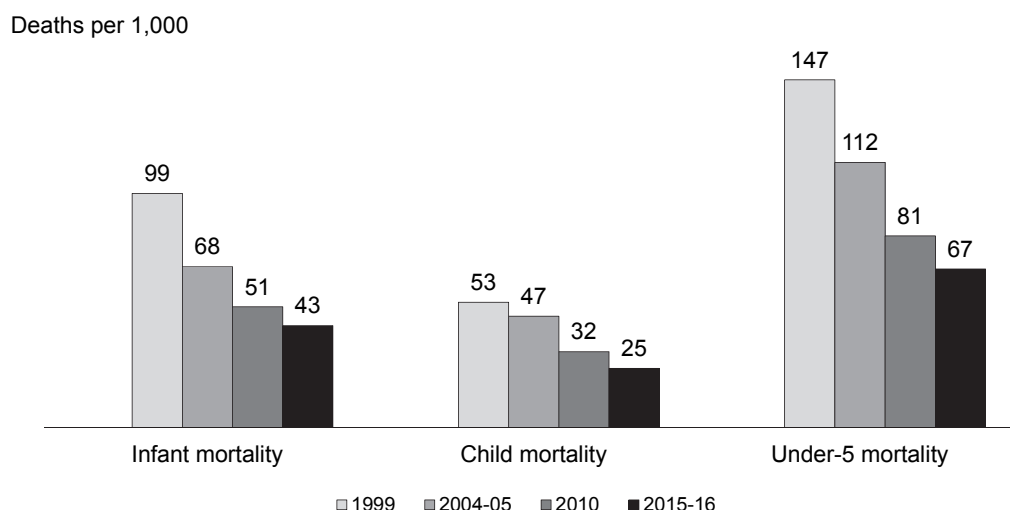
3.9 Maternal Care

Proper care during pregnancy and delivery is important for the health of both the mother and the baby and was the fifth Millennium Development Goal (MDG). In the 2015-16 TDHS-MIS, women who gave birth in the 5 years preceding the survey were asked a number of questions about maternal care. Mothers were asked whether they had obtained antenatal care during the pregnancy for their most recent live birth in the 5 years preceding the survey and whether they had received tetanus toxoid injections while pregnant. For each live birth during the same period, mothers were asked what type of assistance they received at the time of delivery. Finally, women who had a live birth in the 2 years before the survey were asked if they received a postnatal checkup within 2 days of delivery.

3.9.1 Antenatal Care

Antenatal care (ANC) from a skilled provider is important to monitor pregnancy and reduce morbidity and mortality risks for the mother and child during pregnancy, at delivery, and during the postnatal period (within 42 days after delivery). Table 9 summarises information on the maternal health care indicators. The 2015-16 TDHS-MIS results show that almost all women (98 percent) who gave birth in the 5 years preceding the survey received antenatal care from a skilled provider at least once for their last birth. Fifty-one percent of women had four or more ANC visits. In general, women living in Morogoro, Dar es Salaam, Pwani, and Kusini Unguja, and those completing secondary education or higher and being in the highest wealth quintile were more likely than other women to have had four or more ANC visits. There is a remarkable variation in the percentage of women with four or more visits between urban areas (64 percent) and rural areas (45 percent). The percentage of women receiving antenatal care from a skilled provider has not changed between the 2010 TDHS (96 percent) and 2015-16 TDHS-MIS (98 percent) (Figure 4). However the proportion of women receiving four or more ANC visits increased slightly from 43 percent in 2010 to 51 percent in 2015-16.

3.9.2 Tetanus Toxoid Vaccination

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, a major cause of early infant death in many developing countries, often due to failure to observe hygienic procedures during delivery. Table 9 shows that 88 percent of women received enough doses of tetanus toxoid to protect their last birth against neonatal tetanus. The proportion of women whose last live birth was protected against tetanus has not changed since 2010 TDHS (88 percent).

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Table 9 Maternal care indicators

Among women age 15-49 who had a live birth in the 5 years preceding the survey, percentage who received antenatal care from a skilled provider for the last live birth, percentage with four or more ANC visits for the last live birth, and percentage whose last live birth was protected against neonatal tetanus; among all live births in the 5 years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility; and among women age 15-49 who had a live birth in the 2 years preceding the survey, percentage who received a postnatal checkup in the first 2 days after the last live birth, by background characteristics, Tanzania 2015-16

Background characteristic	Women who had a live birth in the 5 years preceding the survey				Live births in the 5 years preceding the survey			Women who had a live birth in the 2 years preceding the survey	
	Percentage with antenatal care from a skilled provider[1]	Percentage with 4+ ANC visits	Percentage whose last live birth was protected against neonatal tetanus[2]	Number of women	Percentage delivered by a skilled provider[1]	Percentage delivered in a health facility	Number of births	Percentage of women who had a postnatal checkup in the first 2 days after birth	Number of women
Mother's age at birth									
<20	98.5	48.9	74.4	1,169	68.2	64.1	1,753	33.3	813
20-34	98.1	52.0	90.9	4,636	64.2	60.5	6,668	31.9	2,853
35-49	97.1	47.6	90.0	1,273	56.8	54.6	1,631	30.6	661
Residence									
Urban	98.4	63.5	91.0	2,137	86.7	81.6	2,750	42.9	1,220
Rural	97.8	45.2	86.7	4,941	55.0	52.1	7,302	27.7	3,107
Mainland/Zanzibar									
Mainland	97.9	50.6	87.8	6,908	63.5	60.1	9,788	31.8	4,216
Urban	98.4	63.7	90.9	2,089	86.7	81.6	2,681	43.0	1,192
Rural	97.7	45.0	86.5	4,818	54.8	52.0	7,107	27.4	3,024
Zanzibar	99.7	52.9	95.4	171	68.8	64.1	264	37.5	111
Unguja	100.0	63.5	95.8	114	77.5	71.9	165	42.2	71
Pemba	99.2	31.5	94.4	57	54.1	51.0	98	29.2	40
Zone									
Western	98.7	31.5	86.6	779	51.1	48.0	1,225	29.2	549
Northern	97.4	56.4	88.4	699	68.8	64.7	935	36.6	416
Central	98.9	55.5	88.0	795	60.4	59.3	1,111	37.9	502
Southern Highlands	99.3	48.7	85.5	426	88.0	87.6	542	56.2	227
Southern	99.6	51.6	84.2	341	81.3	80.9	392	49.3	152
South West Highlands	97.3	44.4	83.9	715	62.6	61.7	974	28.4	423
Lake	96.9	44.2	88.8	2,015	51.0	47.0	3,194	18.8	1,348
Eastern	98.4	72.6	90.8	1,137	87.9	80.3	1,415	43.9	598
Zanzibar	99.7	52.9	95.4	171	68.8	64.1	264	37.5	111
Region									
Dodoma	99.2	57.9	86.4	328	69.3	69.1	425	45.7	193
Arusha	94.5	49.9	88.2	261	56.5	54.8	349	31.1	147
Kilimanjaro	98.3	54.5	91.9	126	95.5	87.6	169	54.8	73
Tanga	99.4	62.5	87.3	312	68.4	63.6	417	33.9	196
Morogoro	99.2	71.5	90.9	347	77.9	73.2	440	35.0	170
Pwani	99.4	70.5	88.5	156	83.5	80.5	203	42.0	89
Dar es Salaam	97.7	73.8	91.4	634	94.7	84.4	772	48.9	339
Lindi	99.1	53.3	82.2	150	80.4	80.4	177	44.0	64
Mtwara	100.0	50.2	85.7	191	82.0	81.3	215	53.1	88
Ruvuma	99.7	43.4	82.4	204	85.9	85.1	249	50.5	106
Iringa	99.4	56.8	87.6	118	93.3	92.8	162	68.2	72
Mbeya	97.7	46.0	81.6	436	65.4	64.9	559	35.1	241
Singida	99.2	53.1	92.8	225	62.8	61.3	334	41.7	147

(Continued…)

Table 9—*Continued*

Background characteristic	Women who had a live birth in the 5 years preceding the survey				Live births in the 5 years preceding the survey			Women who had a live birth in the 2 years preceding the survey	
	Percentage with antenatal care from a skilled provider[1]	Percentage with 4+ ANC visits	Percentage whose last live birth was protected against neonatal tetanus[2]	Number of women	Percentage delivered by a skilled provider[1]	Percentage delivered in a health facility	Number of births	Percentage of women who had a postnatal checkup in the first 2 days after birth	Number of women
Region									
Tabora	98.0	39.1	82.8	449	54.4	49.7	712	29.1	325
Rukwa	96.4	46.4	90.6	189	65.3	63.4	277	18.3	125
Kigoma	99.6	21.2	91.7	330	46.7	45.6	513	29.3	223
Shinyanga	98.1	50.4	90.5	300	62.7	56.7	467	33.0	207
Kagera	99.5	46.7	94.6	344	47.0	44.6	534	22.4	206
Mwanza	93.3	42.1	84.4	471	54.2	52.8	737	20.0	314
Mara	97.1	48.9	87.0	322	50.6	47.2	496	17.0	208
Manyara	98.2	54.6	85.9	242	47.5	45.7	352	25.1	162
Njombe	98.5	49.9	89.1	104	85.5	85.7	131	51.1	50
Katavi	97.2	32.7	81.4	90	46.0	45.1	139	22.1	57
Simiyu	98.2	39.1	92.1	296	41.9	32.3	496	8.4	210
Geita	96.5	37.9	86.2	282	49.1	45.9	464	11.4	203
Kaskazini Unguja	100.0	54.9	95.6	27	57.4	50.8	45	28.7	19
Kusini Unguja	100.0	70.2	93.7	18	78.5	76.1	25	46.1	12
Mjini Magharibi	100.0	65.2	96.5	69	86.8	80.8	95	47.4	41
Kaskazini Pemba	99.6	27.2	93.7	30	51.5	50.0	53	27.1	21
Kusini Pemba	98.8	36.5	95.2	26	57.2	52.2	45	31.6	19
Mother's education									
No education	96.5	40.9	85.8	1,350	42.2	39.6	2,103	22.4	836
Primary	98.4	50.0	87.8	4,580	64.7	61.7	6,517	31.2	2,761
Secondary+	98.2	65.2	91.4	1,149	90.8	83.3	1,432	45.7	730
Wealth quintile									
Lowest	96.9	38.7	83.6	1,512	41.8	39.4	2,414	21.2	1,051
Second	98.4	43.4	86.8	1,436	51.3	48.7	2,153	27.2	911
Middle	98.1	47.4	88.6	1,331	62.9	59.7	1,899	31.8	793
Fourth	98.3	55.2	88.4	1,427	78.4	75.1	1,895	37.3	836
Highest	98.3	70.0	93.2	1,371	95.1	88.4	1,690	47.2	737
Total	98.0	50.7	88.0	7,079	63.7	60.2	10,052	32.0	4,327

[1] Skilled provider includes doctor/assistant medical officer, clinical officer, assistant clinical officer, nurse/midwife, or MCH aide.
[2] Includes mothers with two injections during the pregnancy of her last live 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 live 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 live birth

3.9.3 Delivery Care

Access to proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that may lead to death or serious illness for the mother and/or baby (Van Lerberghe and De Brouwere 2001; WHO 2006). Among all births in the 5 years preceding the survey, 64 percent were delivered by a skilled provider, and 60 percent were delivered in a health facility (Table 9 and Figure 4). Compared with the proportions observed in the 2010 TDHS, there is a sizeable increase in both the proportion delivered in a health facility and the proportion delivered by skilled personnel (50 percent and 51 percent, respectively).

Eighty-seven percent of births to urban mothers were assisted by a skilled provider and 82 percent of births were delivered in a health facility; whereas only 55 percent of births to rural women were assisted by a skilled provider, and 52 percent were delivered in a health facility.

The educational status of mothers is highly connected with whether the delivery is assisted by a skilled provider and whether the birth takes place in a health facility. For example, 42 percent of births to mothers with no education were assisted by a skilled provider, as compared with 65 percent of births to mothers with primary education and 91 percent of births to those with secondary education or higher. A similar association between delivery in a health facility and the level of mother's education is observed. Mothers' wealth status is also positively linked with a birth being delivered by a skilled provider and in a health facility.

3.9.4 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 programmes recommend that all women receive a checkup of their health within 2 days after delivery.

To assess the extent of postnatal care utilisation, respondents were asked, for their last birth in the 2 years preceding the survey, whether they had received a checkup after delivery and when it occurred. As shown in Table 9, 32 percent of women reported having received a PNC checkup in the first 2 days following birth.

The proportion of women receiving a postnatal checkup within 2 days of delivery is higher in urban areas than in rural areas and increases with education and wealth.

Figure 4 Trends in maternal health care, Tanzania 2004-05, 2010, and 2015-16

Percent

	2004-05	2010	2015-16
ANC by a skilled provider	93	96	98
Birth occurred in a health facility	47	50	60
Birth attended by a skilled provider	46	51	64
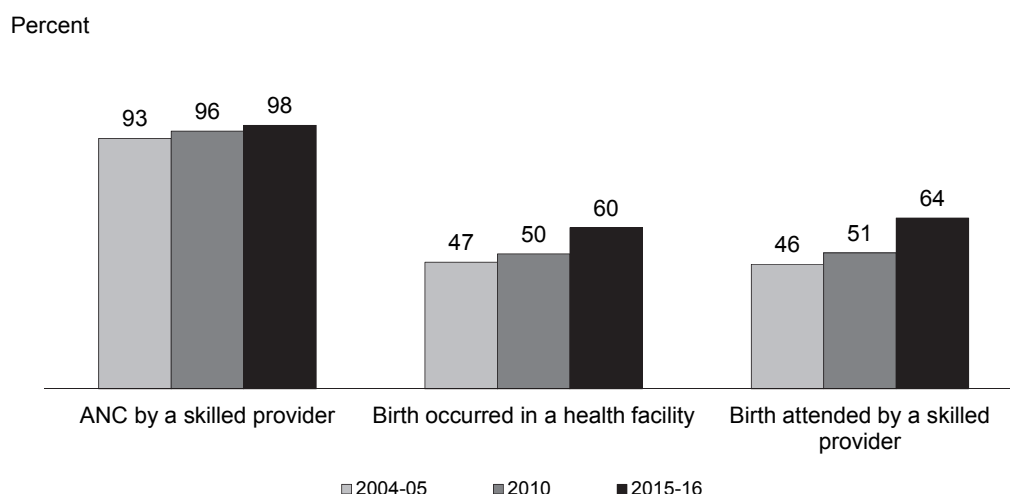
3.10 Child Health and Nutrition

The 2015-16 TDHS-MIS collected data on a number of key child health indicators, including vaccinations of young children, nutritional status as assessed by anthropometry, infant feeding practices, and treatment practices when a child is ill.

3.10.1 Vaccination of Children

Historically, in DHS surveys, a child was considered to have received all basic vaccinations if he or she had 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. These vaccinations were to be received during the first year of life.

In April 2009, the Hib vaccine was introduced in Tanzania in the DPT-HepB-Hib (pentavalent) vaccine formulation against *Haemophilus influenza* type B and hepatitis B. In January 2013, a new vaccination requirement was adopted in Tanzania: three doses of oral polio vaccine, three doses of pneumococcal conjugate vaccine (PCV-13), three doses of pentavalent vaccine (DTP-HepB-Hib), two doses of rotavirus vaccine, and measles vaccine. The 2015-16 TDHS-MIS collected information on the coverage of these vaccinations among all children born in the 5 years preceding the survey.

Tanzania has established a schedule for the administration of all basic childhood vaccines. BCG should be given shortly after birth. Polio vaccine should be given at birth and at approximately age 6, 10, and 14 weeks. Pentavalent vaccine should also be given at approximately age 6, 10, and 14 weeks. PCV-13 should be given at approximately age 6, 10, and 14 weeks. Rotavirus vaccine should also be given at approximately age 6 and 10 weeks. Measles vaccine should be given at or soon after the child reaches age 9 months, and at 18 months. Each child who is vaccinated receives an immunisation card on which all of the vaccines received are recorded. It is also recommended that the immunisation card be given to the parents or guardians.

The information on vaccinations was gathered from two sources: (1) where immunisation cards were available, the interviewer copied the information directly onto the questionnaire; and (2) where cards were not available because the mother never had one, or the card was unavailable at the time of the survey, or the mother had lost the card, mothers were asked to recall whether or not the child had received each of the vaccines covered by the survey. The results presented here are based on both immunisation information (booklet or card) and, for those children without a booklet or card, information provided by the mother.

Table 10 presents information for children age 12-23 months, the age by which children should have received all basic vaccinations. Eighty-four percent of these children have an immunisation card that was seen by the interviewer. Overall, 75 percent of children have received all basic vaccinations. Basic vaccination coverage has remained virtually the same since the 2010 TDHS. Ninety-six percent of children have received BCG, 97 percent have received the first dose of pentavalent vaccine, and 97 percent have received polio 1. Eighty-nine percent and 83 percent of children have received the third dose of the pentavalent and polio vaccines, respectively. Coverage of vaccination against measles is 86 percent. Two percent of children in Tanzania have not received any vaccinations, the same percentage as in the 2010 TDHS.

Table 10 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 seen, by background characteristics, Tanzania 2015-16

Background characteristic	BCG	Penta[1] 1	Penta 2	Penta 3	Polio[2] 0	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[3]	No vaccinations	Percentage with a vaccination card	Number of children
Sex													
Male	96.7	97.2	94.6	90.1	69.0	96.6	92.4	83.6	87.7	76.9	1.6	85.2	1,093
Female	95.3	96.6	93.2	87.8	65.4	96.3	91.3	81.4	84.0	73.5	2.9	83.2	1,041
Residence													
Urban	98.5	99.0	98.7	95.1	87.0	98.6	96.2	86.8	93.3	82.2	1.0	83.3	614
Rural	95.0	96.1	91.9	86.5	59.3	95.6	90.2	80.8	82.9	72.4	2.8	84.6	1,520
Mainland/Zanzibar													
Mainland	95.9	97.0	93.9	88.9	67.2	96.5	91.8	82.4	85.8	75.1	2.3	84.2	2,077
Urban	98.5	99.0	98.8	95.2	87.3	98.6	96.3	86.9	93.4	82.4	1.0	83.3	598
Rural	94.9	96.1	91.9	86.3	59.0	95.6	90.1	80.7	82.8	72.1	2.8	84.5	1,479
Zanzibar	98.6	97.0	95.5	93.4	71.0	96.9	93.8	85.6	89.4	80.8	1.0	84.9	57
Unguja	99.8	99.2	98.3	97.0	75.0	99.2	96.4	85.5	93.1	81.1	0.0	83.0	38
Pemba	96.5	92.5	90.1	86.4	63.2	92.4	88.8	85.9	82.4	80.4	2.8	88.5	19
Zone													
Western	93.2	93.4	84.3	77.5	58.9	93.9	83.1	73.5	77.8	66.1	4.9	83.6	293
Northern	97.2	98.4	97.3	95.0	62.7	97.7	93.8	86.2	88.9	81.7	1.6	84.3	193
Central	97.0	98.1	96.9	96.0	65.7	97.2	95.5	90.1	90.7	83.2	1.9	85.5	245
Southern Highlands	99.4	99.4	99.4	96.7	80.7	98.7	96.0	91.4	90.6	83.4	0.6	87.6	120
Southern	98.8	99.2	95.4	89.3	93.6	98.0	93.0	85.4	89.2	79.6	0.0	90.0	86
South West Highlands	94.8	96.6	92.3	88.1	67.7	97.6	91.5	75.9	83.1	66.7	2.4	84.2	193
Lake	94.2	96.6	93.5	85.5	53.6	95.7	91.4	80.2	82.9	70.2	2.7	82.7	615
Eastern	98.6	97.8	97.2	93.8	91.1	97.1	95.0	86.5	91.9	83.0	1.1	83.6	332
Zanzibar	98.6	97.0	95.5	93.4	71.0	96.9	93.8	85.6	89.4	80.8	1.0	84.9	57
Region													
Dodoma	100.0	100.0	100.0	98.6	81.1	97.2	97.4	88.5	98.4	87.0	0.0	86.8	82
Arusha	97.4	97.4	97.4	97.4	44.8	97.4	97.4	93.9	83.8	83.8	2.6	81.1	68
Kilimanjaro	(100.0)	(100.0)	(100.0)	(97.7)	(92.5)	(100.0)	(100.0)	(95.6)	(95.7)	(93.4)	(0.0)	(92.4)	36
Tanga	95.9	98.5	96.3	92.2	64.4	97.0	88.7	76.6	90.1	75.5	1.5	83.7	89
Morogoro	100.0	95.9	94.7	90.9	86.6	95.9	94.7	83.9	90.4	80.7	0.0	75.3	86
Pwani	98.1	100.0	98.1	92.1	91.7	100.0	96.3	80.4	84.3	74.2	0.0	85.7	44
Dar es Salaam	98.1	98.1	98.1	95.4	93.0	96.9	94.9	89.0	94.2	85.9	1.9	86.7	201
Lindi	(100.0)	(98.1)	(96.3)	(88.4)	(93.9)	(98.1)	(96.3)	(85.0)	(90.2)	(80.7)	(0.0)	(91.0)	36
Mtwara	(97.9)	(100.0)	(94.8)	(89.9)	(93.3)	(97.9)	(90.6)	(85.7)	(88.5)	(78.8)	(0.0)	(89.2)	50
Ruvuma	100.0	100.0	100.0	96.9	80.3	100.0	95.8	91.3	90.1	81.4	0.0	85.1	60
Iringa	98.0	98.0	98.0	95.8	87.0	95.8	93.8	87.8	91.9	84.0	2.0	86.9	37
Mbeya	(97.8)	(100.0)	(95.7)	(95.7)	(82.1)	(100.0)	(93.9)	(76.4)	(86.2)	(67.0)	(0.0)	(85.7)	101
Singida	95.9	97.2	93.4	91.9	65.9	97.2	92.6	86.6	86.2	79.5	2.8	87.4	78
Tabora	91.1	91.8	79.3	69.1	49.3	92.6	77.9	67.6	70.6	58.9	6.1	78.0	177
Rukwa	94.5	95.2	93.9	84.6	59.6	97.5	94.9	78.5	87.0	71.0	2.5	83.9	67
Kigoma	96.2	95.7	91.8	90.2	73.5	95.7	90.8	82.5	88.7	77.0	3.1	92.0	117
Shinyanga	90.9	90.9	87.9	72.0	45.7	92.0	86.9	70.3	68.6	55.5	8.0	77.8	84
Kagera	100.0	100.0	100.0	95.0	62.9	100.0	100.0	93.5	97.4	87.5	0.0	84.0	106
Mwanza	89.4	97.1	93.2	87.0	73.2	93.2	88.4	76.2	87.8	69.8	1.4	83.4	130
Mara	97.4	98.2	96.2	92.0	48.7	98.2	95.2	79.4	87.0	72.3	1.8	81.0	97
Manyara	95.1	97.1	97.1	97.1	50.6	97.1	96.6	94.8	87.2	82.8	2.9	82.4	85

(Continued...)

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Table 10—*Continued*

Background characteristic	BCG	Penta[1] 1	Penta 2	Penta 3	Polio[2] 0	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[3]	No vaccinations	Percentage with a vaccination card	Number of children
Region													
Njombe	(100.0)	(100.0)	(100.0)	(97.5)	(71.7)	(100.0)	(100.0)	(97.5)	(89.9)	(87.4)	(0.0)	(95.0)	23
Katavi	84.1	87.3	75.0	67.7	32.5	88.6	73.6	66.9	60.9	54.1	11.4	79.4	26
Simiyu	96.7	97.2	94.3	83.9	45.3	97.2	93.3	84.6	73.9	68.1	2.8	84.4	98
Geita	91.7	95.0	88.1	80.2	38.0	93.4	84.3	75.9	78.0	64.6	3.6	84.6	100
Kaskazini Unguja	99.1	96.9	96.9	96.1	80.8	96.9	96.1	94.1	90.9	88.0	0.0	92.7	9
Kusini Unguja	100.0	100.0	98.2	96.4	70.9	100.0	96.2	89.0	97.5	89.0	0.0	86.1	5
Mjini Magharibi	100.0	100.0	98.9	97.6	73.6	100.0	96.6	81.1	92.9	76.5	0.0	78.4	23
Kaskazini Pemba	95.9	89.9	88.1	83.2	67.9	91.0	87.0	83.4	80.1	77.7	2.8	85.8	11
Kusini Pemba	97.2	95.7	92.5	90.4	57.4	94.2	91.0	88.9	85.2	83.6	2.8	91.8	9
Education													
No education	89.9	91.7	85.5	79.2	52.0	89.4	82.5	75.4	75.9	66.8	6.6	80.9	419
Primary	97.5	98.1	95.4	90.6	67.5	98.0	93.9	84.1	86.8	76.2	1.2	85.9	1,347
Secondary+	97.5	98.8	97.9	94.1	83.6	98.9	95.2	84.8	94.1	81.2	1.1	81.6	368
Wealth quintile													
Lowest	92.1	93.0	88.7	79.8	48.8	92.3	85.7	73.4	77.0	64.4	5.8	78.3	493
Second	95.8	97.0	90.7	88.0	57.4	96.9	90.5	85.3	81.0	74.0	1.6	88.2	458
Middle	97.4	97.7	95.3	91.2	68.7	97.6	93.7	84.0	88.2	78.6	1.3	88.5	384
Fourth	97.2	99.3	97.8	93.0	77.1	98.3	95.5	85.2	92.0	78.9	0.7	83.8	416
Highest	98.5	98.8	98.8	95.6	90.8	98.2	95.8	86.6	94.4	83.4	1.2	83.2	383
Total	96.0	97.0	93.9	89.0	67.3	96.5	91.9	82.5	85.9	75.2	2.3	84.2	2,134

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

[1] Pentavalent is DPT-HepB-Hib.
[2] Polio 0 is the polio vaccination given at birth
[3] BCG, measles, and three doses each of pentavalent, and polio vaccine, excluding polio vaccine given at birth

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Basic vaccination coverage does not differ substantially by the sex of the child. However, some differences between urban and rural residence are marked. Larger differences are observed at the zonal level; the percentage of children with all basic vaccination coverage ranges from a high of 83 percent in Central, Southern Highlands, and Eastern zones to a low in Southwest Highland zone (67 percent) and Western zone (66 percent). Mothers' educational level and wealth status are positively correlated with basic vaccination coverage of their children. For example, 68 percent of children whose mothers had no education received all basic vaccinations, as compared with 76 percent of those children whose mothers had primary education and 81 percent of those whose mothers had secondary education or higher.

3.10.2 Childhood Acute Respiratory Infection, Fever, and Diarrhoea

Acute respiratory infection (ARI), fever, and dehydration from diarrhoea are important contributing causes of childhood morbidity and mortality in developing countries (WHO 2003). Prompt medical attention when a child has the symptoms of these illnesses is therefore, crucial in reducing child deaths. In the 2015-16 TDHS-MIS, for each child under age 5, mothers were asked if the child had experienced an episode of diarrhoea; a cough accompanied by short, rapid breathing or difficulty breathing as a result of a chest-related problem (symptoms of ARI); or a fever in the 2 weeks preceding the survey. Respondents were also asked if treatment was sought when the child was ill. Overall, 4 percent of children under age 5 showed symptoms of ARI, 18 percent had fever, and 12 percent experienced diarrhoea in the 2 weeks preceding the survey (data not shown). It should be noted that the prevalence of these morbidities is seasonal and subject to a mother's reporting of illnesses.

Table 11 shows that treatment from a health facility or provider was sought for 70 percent of children with ARI symptoms and 66 percent of those with fever. Treatment was sought from a health facility or health provider for 67 percent of children with diarrhoea. Forty-five percent of children with diarrhoea received a rehydration solution from an oral rehydration salt (ORS) packet or pre-packaged ORS fluid.

Table 11 Treatment for acute respiratory infection, fever, and diarrhoea

Among children under 5 who had symptoms of acute respiratory infection (ARI) or had fever in the 2 weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under 5 who had diarrhoea during the 2 weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets or given pre-packaged ORS fluid, percentage given zinc, and percentage given ORS and zinc, by background characteristics, Tanzania, 2015-16

Background characteristic	Children with symptoms of ARI[1]		Children with fever		Children with diarrhoea				
	Percent-age for whom treatment was sought from a health facility/ provider[2]	Number of children	Percent-age for whom treatment was sought from a health facility/ provider[2]	Number of children	Percent-age for whom treatment was sought from a health facility/ provider[2]	Percent-age given fluid from ORS packet or pre-packaged ORS fluid	Percent-age given zinc	Percent-age given any ORS and zinc	Number of children
Age in months									
<6	(82.3)	41	75.8	111	56.1	26.2	17.6	7.0	65
6-11	(80.3)	53	67.4	212	71.1	45.9	19.8	15.2	217
12-23	73.5	111	65.8	485	68.8	51.0	19.5	15.3	446
24-35	62.4	70	68.9	395	62.8	45.4	15.1	13.0	200
36-47	(72.0)	37	62.8	271	68.7	33.5	8.1	6.9	123
48-59	(49.7)	44	58.6	232	63.8	37.2	20.3	14.8	71
Sex									
Male	72.5	183	66.3	905	67.5	43.4	18.2	13.9	562
Female	67.9	174	65.5	801	66.7	46.1	16.7	13.0	559
Residence									
Urban	71.8	131	76.2	465	67.4	46.0	18.3	15.1	359
Rural	69.4	225	62.1	1,241	67.0	44.2	17.1	12.7	762
Mainland/Zanzibar									
Mainland	70.0	346	65.7	1,662	67.2	44.6	17.1	13.1	1,095
Urban	71.3	128	76.4	453	67.6	46.1	18.2	14.9	353
Rural	69.3	218	61.7	1,209	67.1	43.9	16.6	12.2	742

(Continued…)

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Table 11—*Continued*

Background characteristic	Children with symptoms of ARI[1]		Children with fever		Children with diarrhoea				
	Percentage for whom treatment was sought from a health facility/ provider[2]	Number of children	Percentage for whom treatment was sought from a health facility/ provider[2]	Number of children	Percentage for whom treatment was sought from a health facility/ provider[2]	Percentage given fluid from ORS packet or pre-packaged ORS fluid	Percentage given zinc	Percentage given any ORS and zinc	Number of children
Mainland/Zanzibar									
Zanzibar	78.6	11	72.7	44	61.3	51.1	31.6	28.7	26
Unguja	(79.9)	6	75.6	27	63.6	55.4	38.9	35.0	16
Pemba	(76.9)	5	68.1	17	57.7	44.4	20.2	18.8	10
Zone									
Western									
Northern	(60.4)	37	57.0	217	65.1	45.1	16.7	12.8	136
Central	(76.2)	32	65.7	125	54.6	41.5	23.4	18.1	72
Southern Highlands	*	21	62.5	81	66.3	38.8	13.4	9.5	108
Southern	*	14	62.6	77	64.0	40.7	17.2	13.6	52
South West Highlands	*	9	80.1	87	66.3	52.4	13.2	9.2	61
Lake	(74.6)	40	68.0	138	67.4	46.2	12.9	11.1	141
Eastern	59.5	130	61.5	695	70.8	47.0	19.5	14.0	361
Zanzibar	(84.9)	63	81.5	242	68.4	41.0	16.9	14.3	163
	78.6	11	72.7	44	61.3	51.1	31.6	28.7	26
Region									
Dodoma	*	9	*	38	*	*	*	*	39
Arusha	*	12	(53.5)	38	*	*	*	*	31
Kilimanjaro	*	10	(63.9)	28	*	*	*	*	17
Tanga	*	10	(74.4)	59	*	*	*	*	24
Morogoro	*	16	(78.9)	76	*	*	*	*	36
Pwani	*	5	(75.7)	29	*	*	*	*	20
Dar es Salaam	*	41	84.2	136	70.3	46.2	16.6	15.0	108
Lindi	*	3	78.9	43	(69.7)	(42.9)	(16.2)	(10.6)	23
Mtwara	*	6	(81.2)	44	(64.2)	(58.4)	(11.3)	(8.3)	37
Ruvuma	*	3	(67.4)	43	(75.5)	(45.9)	(13.4)	(13.4)	28
Iringa	*	6	*	18	*	*	*	*	12
Mbeya	*	20	(78.9)	79	(69.8)	(61.5)	(17.7)	(17.7)	73
Singida	*	9	(58.5)	23	(72.7)	(47.7)	(23.5)	(18.2)	31
Tabora	*	4	64.1	87	(67.3)	(45.6)	(18.8)	(11.3)	35
Rukwa	(57.0)	17	54.5	42	61.3	29.8	8.0	4.0	51
Kigoma	(56.0)	33	52.2	130	64.4	44.9	16.0	13.4	101
Shinyanga	*	13	67.9	90	(77.6)	(58.6)	(23.1)	(17.1)	50
Kagera	*	18	44.1	88	(42.5)	(31.7)	(8.8)	(7.0)	54
Mwanza	(56.9)	63	68.3	159	(67.6)	(50.6)	(24.1)	(20.3)	82
Mara	*	13	66.0	158	69.8	47.1	17.6	11.8	75
Manyara	*	3	*	20	(54.1)	(34.3)	(11.5)	(7.8)	39
Njombe	*	5	(58.9)	16	*	*	*	*	12
Katavi	*	2	50.9	18	75.3	31.0	7.6	4.8	18
Simiyu	*	7	56.3	102	91.6	45.3	19.3	12.2	62
Geita	*	16	58.2	98	(77.8)	(48.5)	(24.1)	(13.8)	38
Kaskazini Unguja	*	2	(67.8)	6	(63.6)	(53.1)	(32.1)	(29.7)	6
Kusini Unguja	*	0	(79.3)	4	*	*	*	*	2
Mjini Magharibi	*	4	77.6	17	(65.8)	(55.3)	(44.4)	(38.6)	8
Kaskazini Pemba	*	4	70.7	9	(56.4)	(51.7)	(24.9)	(24.9)	6
Kusini Pemba	*	1	65.2	8	(59.8)	(33.7)	(13.3)	(9.9)	4
Mother's education									
No education	65.8	74	56.5	342	59.1	38.9	14.7	12.1	186
Primary	72.7	221	66.9	1,115	68.0	45.8	16.5	12.4	734
Secondary+	66.7	61	74.2	249	71.1	46.5	23.4	18.6	202
Wealth quintile									
Lowest	57.5	63	55.4	372	58.3	38.7	12.9	10.1	204
Second	76.5	65	59.1	400	72.0	43.0	17.5	13.3	238
Middle	65.1	62	70.7	319	70.2	51.8	19.4	13.7	218
Fourth	66.2	86	68.7	311	66.7	44.9	21.1	16.7	236
Highest	83.4	81	79.8	304	67.3	45.2	15.8	13.1	226
Total	70.3	357	65.9	1,706	67.1	44.8	17.5	13.4	1,122

Notes: 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, which was chest-related, and/or by difficult breathing, which was chest-related)
[2] Excludes pharmacy, Accredited Drug Dispensing Outlets (ADDO), NGO and other

3.10.3 Nutritional Status of Children

Anthropometric indicators for young children were collected in the 2015-16 TDHS-MIS to provide outcome measures of nutritional status. As recommended by WHO, evaluation of nutritional status in this report is based on a comparison of three indices for the children in this survey with indices reported for a reference population of well-nourished children (WHO Multicentre Growth Reference Study Group 2006). The three indices (height-for-age, weight-for-height, and weight-for-age) are expressed as standard deviation units from the median for the reference group. Children who fall below minus two standard deviations (-2 SD) from the median of the reference population are regarded as moderately malnourished, while those who fall below minus three standard deviations (-3 SD) from the reference population median are considered severely malnourished. Marked differences, especially with regard to height-for-age and weight-for-age, are often seen between different subgroups of children within a country.

Table 12 shows nutritional status for children under age 5 according to the three anthropometric indices, by background characteristics. Height-for-age is a measure of linear growth. A child who is below -2 SD from the reference median for height-for-age is considered short for his or her age, or stunted, a condition reflecting the cumulative effect of chronic malnutrition. Thirty-four percent of children are stunted (below -2 SD), and 12 percent are severely stunted (below -3 SD). Stunting increases with age, peaking at 44 percent among children age 24-35 months. Stunting affects children in the rural areas (38 percent) more than those in the urban areas (25 percent). Stunting is inversely correlated with the mother's education level and household wealth quintile. For example, 39 percent of children whose mothers have no education are stunted, as compared with 35 percent of children whose mothers have primary education and 23 percent of children whose mothers have secondary or higher education.

Weight-for-height describes current nutritional status. A child who is below -2 SD from the reference median for weight-for-height is considered too thin for his or her height, or wasted, a condition reflecting acute or recent nutritional deficits. Overall, 5 percent of children are wasted.

Weight-for-age is a composite index of weight-for-height and height-for-age and thus does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). Children can be underweight for their age because they are stunted, wasted, or both. Weight-for-age is an overall indicator of a population's nutritional health. The results show that 14 percent of all children are underweight, and 3 percent are severely underweight. The proportion of children who are underweight is greater in rural areas (15 percent) than in urban areas (9 percent) and correlates inversely with the mother's education level and increasing wealth.

Z-score means are 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 cut-off. 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. As shown in Table 12, the mean stunting, wasting, and underweight Z-scores for children under age 5 are -1.5, -0.0, and -0.9, respectively.

Table 12 Nutritional status of children

Percentage of children under 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, Tanzania 2015-16

Background characteristic	Height-for-age[1]				Weight-for-height					Weight-for-age				
	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Number of children	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Number of children	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-Score (SD)	Number of children
Age in months														
<6	4.6	13.3	-0.5	984	4.0	9.4	11.1	0.1	961	2.1	6.4	2.2	-0.3	998
6-8	4.5	14.4	-0.6	521	1.2	4.6	5.5	0.0	521	2.3	8.7	2.5	-0.4	524
9-11	7.0	24.5	-1.1	455	2.0	9.7	4.8	-0.2	454	3.6	14.6	1.8	-0.7	457
12-17	10.7	33.0	-1.4	1,102	1.3	5.7	2.8	-0.2	1,103	3.5	14.1	1.0	-0.8	1,108
18-23	15.9	43.1	-1.8	1,035	0.7	4.8	3.5	-0.0	1,035	2.6	16.2	0.5	-0.9	1,040
24-35	16.5	44.4	-1.8	1,914	0.8	3.0	2.8	0.1	1,907	3.2	14.6	0.5	-0.9	1,917
36-47	13.5	40.0	-1.7	1,912	1.0	2.8	3.0	0.0	1,917	2.2	14.4	0.2	-1.0	1,918
48-59	10.3	33.7	-1.6	1,922	0.4	3.1	1.2	-0.2	1,913	2.8	15.1	0.2	-1.1	1,923
Sex														
Male	12.8	36.7	-1.5	4,971	1.2	5.2	3.7	-0.1	4,956	2.9	14.1	0.9	-0.9	4,989
Female	10.7	32.2	-1.4	4,875	1.1	3.8	3.6	-0.0	4,855	2.5	13.2	0.6	-0.8	4,897
Mother's interview status														
Interviewed	11.4	34.1	-1.4	8,672	1.3	4.8	3.8	-0.0	8,632	2.7	13.6	0.9	-0.9	8,712
Not interviewed, but in household	11.9	31.2	-1.5	196	0.8	3.5	1.9	0.1	197	4.6	15.5	0.5	-0.8	198
Not interviewed, not in household[3]	14.4	38.0	-1.6	979	0.7	2.1	3.0	0.0	981	2.9	13.8	0.0	-1.0	975
Residence														
Urban	7.6	24.7	-1.2	2,547	0.8	3.8	4.2	0.0	2,526	1.4	9.1	1.3	-0.6	2,555
Rural	13.2	37.8	-1.6	7,299	1.3	4.7	3.5	-0.1	7,285	3.2	15.2	0.6	-0.9	7,330
Mainland/Zanzibar														
Mainland	11.9	34.7	-1.5	9,585	1.2	4.4	3.7	-0.0	9,550	2.7	13.7	0.8	-0.9	9,624
Urban	7.7	25.0	-1.2	2,474	0.8	3.8	4.2	0.0	2,453	1.4	9.1	1.3	-0.6	2,482
Rural	13.3	38.1	-1.6	7,111	1.3	4.6	3.5	-0.1	7,097	3.2	15.2	0.6	-0.9	7,142
Zanzibar	7.0	23.4	-1.2	261	1.5	7.1	2.8	-0.3	261	2.9	13.8	0.2	-0.9	262
Unguja	6.0	20.0	-1.1	166	1.1	6.0	2.1	-0.4	166	3.2	12.7	0.1	-0.9	166
Pemba	8.8	29.3	-1.3	96	2.2	8.9	4.0	-0.3	95	2.4	15.7	0.4	-0.9	96
Zone														
Western	12.2	32.2	-1.5	1,214	1.3	4.6	2.8	-0.1	1,207	2.7	14.1	0.4	-0.9	1,214
Northern	13.2	36.2	-1.4	943	1.6	4.4	6.1	-0.0	934	2.3	14.6	1.9	-0.8	947
Central	9.4	34.0	-1.5	1,103	1.8	5.5	2.4	-0.2	1,102	2.6	15.4	0.2	-1.0	1,104
Southern Highlands	15.6	44.7	-1.8	534	0.8	2.6	4.9	0.2	530	2.1	12.2	0.1	-0.9	540
Southern	11.2	36.6	-1.6	394	0.2	2.3	3.6	0.0	394	2.7	12.9	0.1	-0.9	394
South West Highlands	15.6	43.1	-1.7	934	1.1	4.7	6.8	0.1	926	3.9	15.7	1.2	-0.9	939
Lake	12.6	35.6	-1.5	3,229	1.3	4.2	3.0	-0.0	3,229	2.9	14.2	0.6	-0.9	3,242
Eastern	6.6	23.2	-1.1	1,235	0.5	5.1	2.8	0.0	1,227	2.2	8.9	1.6	-0.6	1,243
Zanzibar	7.0	23.4	-1.2	261	1.5	7.1	2.8	-0.3	261	2.9	13.8	0.2	-0.9	262
Region														
Dodoma	10.9	36.5	-1.7	419	1.9	5.5	1.8	-0.2	419	1.2	17.1	0.0	-1.1	419
Arusha	12.1	36.0	-1.4	331	2.0	6.5	4.0	-0.3	325	4.5	20.1	1.5	-1.1	334
Kilimanjaro	11.3	29.0	-1.1	183	2.2	3.1	9.0	0.3	183	0.0	9.2	3.3	-0.4	184

(Continued…)

Table 12—Continued

Background characteristic	Height-for-age[1]				Weight-for-height					Weight-for-age				
	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Number of children	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Number of children	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-Score (SD)	Number of children
Region														
Tanga	14.8	39.4	-1.5	429	1.0	3.4	6.5	0.0	427	1.7	12.6	1.5	-0.9	430
Morogoro	9.0	33.4	-1.5	401	0.2	6.0	2.2	-0.0	399	3.0	11.5	0.9	-0.8	403
Pwani	11.0	30.0	-1.3	200	0.4	4.3	3.4	-0.0	199	1.8	11.5	0.5	-0.8	201
Dar es Salaam	3.8	14.6	-0.8	634	0.7	4.7	3.0	0.1	628	1.9	6.4	2.3	-0.4	639
Lindi	8.4	35.2	-1.5	180	0.4	1.2	3.6	0.0	180	0.5	10.1	0.3	-0.9	180
Mtwara	13.5	37.7	-1.7	214	0.0	3.2	3.6	-0.0	214	4.5	15.2	0.0	-0.9	214
Ruvuma	14.8	44.4	-1.8	244	1.0	2.6	2.9	0.1	243	1.9	12.3	0.0	-1.0	247
Iringa	15.5	41.6	-1.8	166	0.9	3.6	8.0	0.2	166	2.5	13.8	0.4	-0.9	168
Mbeya	12.2	37.7	-1.5	538	0.5	4.7	8.2	0.1	533	3.2	12.2	2.0	-0.8	536
Singida	4.9	29.2	-1.3	349	1.0	4.7	1.8	-0.3	347	2.1	11.7	0.4	-1.0	347
Tabora	10.3	27.9	-1.4	689	1.1	3.5	3.2	0.0	686	2.4	10.1	0.5	-0.7	692
Rukwa	23.6	56.3	-2.0	263	2.2	5.3	4.8	-0.0	261	5.4	23.0	0.0	-1.2	268
Kigoma	14.8	37.9	-1.6	524	1.6	6.0	2.1	-0.3	522	3.1	19.4	0.3	-1.1	522
Shinyanga	6.9	27.7	-1.3	454	0.7	3.3	3.1	-0.0	452	2.5	12.3	1.5	-0.8	457
Kagera	15.0	41.7	-1.7	550	0.5	2.3	1.9	-0.0	552	4.5	17.4	0.0	-1.0	552
Mwanza	14.6	38.6	-1.5	779	1.4	4.3	4.9	0.0	775	2.0	14.1	0.6	-0.8	777
Mara	8.2	29.2	-1.2	487	1.5	4.1	2.5	-0.2	487	1.9	10.2	0.3	-0.7	489
Manyara	12.3	36.0	-1.5	336	2.4	6.4	3.9	-0.2	336	4.8	17.0	0.3	-1.0	338
Njombe	17.4	49.4	-1.9	124	0.4	1.3	4.9	0.3	122	1.9	9.7	0.0	-0.9	124
Katavi	13.9	38.8	-1.6	133	1.2	3.4	4.7	0.1	132	3.8	15.4	0.4	-0.9	136
Simiyu	10.6	33.3	-1.4	506	0.8	5.0	1.4	-0.2	505	2.3	14.6	1.0	-0.9	509
Geita	18.6	40.5	-1.7	453	2.7	6.2	3.1	0.0	459	4.6	16.2	0.4	-0.9	459
Kaskazini Unguja	6.4	23.4	-1.2	42	0.8	6.3	1.1	-0.4	42	4.5	14.3	0.3	-1.0	42
Kusini Unguja	5.3	27.2	-1.2	27	1.8	7.9	2.5	-0.4	27	3.6	17.7	0.4	-1.0	27
Mjini Magharibi	6.0	16.5	-1.0	96	1.1	5.4	2.5	-0.3	97	2.5	10.6	0.0	-0.7	96
Kaskazini Pemba	10.9	34.1	-1.4	51	2.2	8.7	4.9	-0.2	51	3.1	17.3	0.8	-1.0	51
Kusini Pemba	6.3	23.8	-1.2	45	2.2	9.0	2.8	-0.4	44	1.6	13.8	0.0	-0.9	44
Mother's education[4]														
No education	14.6	39.2	-1.6	1,927	1.4	5.1	2.6	-0.1	1,918	3.4	16.3	0.6	-1.0	1,930
Primary	11.6	34.7	-1.5	5,700	1.3	4.9	3.7	-0.0	5,678	2.9	14.2	0.6	-0.9	5,737
Secondary+	6.1	23.1	-1.0	1,241	0.8	3.7	5.7	0.1	1,233	0.9	7.0	2.4	-0.5	1,243
Wealth quintile														
Lowest	14.7	39.2	-1.6	2,423	1.4	5.1	2.5	-0.1	2,423	4.0	17.6	0.5	-1.0	2,435
Second	14.5	39.9	-1.6	2,165	1.4	4.4	3.3	-0.1	2,154	3.2	15.1	0.3	-1.0	2,171
Middle	12.8	38.9	-1.6	1,905	1.0	5.0	4.6	-0.0	1,903	3.0	15.5	0.9	-0.9	1,917
Fourth	9.3	29.9	-1.4	1,806	1.3	4.2	3.5	-0.0	1,795	1.7	10.6	0.5	-0.8	1,807
Highest	4.9	19.2	-0.9	1,547	0.5	3.3	4.8	0.1	1,536	1.1	6.8	2.1	-0.5	1,557
Total	11.7	34.4	-1.5	9,846	1.2	4.5	3.6	-0.0	9,811	2.7	13.7	0.8	-0.9	9,886

Notes: Table is based on children who stayed in the household 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 1977 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 Growth Standards population median
[3] Includes children whose mothers are deceased
[4] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

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Figure 5 shows that the percentage of children who are underweight increases steadily from 6 percent among children under age 6 months to 15 percent among children 9-11 months and 16 percent among children age 18-23 months. This may be due to inappropriate and/or inadequate feeding practices.

Figure 5 Nutritional status of children by age

Note: *Stunting* reflects chronic malnutrition; *wasting* reflects acute malnutrition; *underweight* reflects chronic or acute malnutrition or a combination of both. Plotted values are smoothed by a five-month moving average.

Tanzania 2015-16
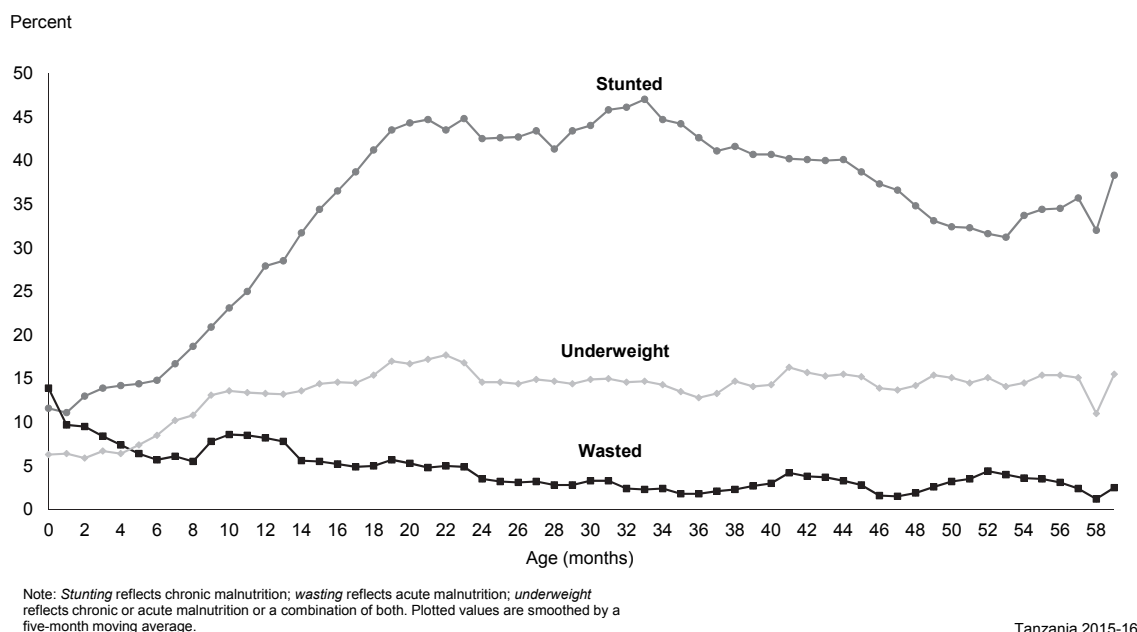
3.10.4 Infant and Young Child Feeding Practices

Breastfeeding is sufficient and beneficial for infant nutrition in the first 6 months of life. Breastfeeding immediately after birth also helps the uterus to contract, hence reducing the mother's postpartum blood loss. Supplementing breast milk before the child is age 6 months is discouraged because it may inhibit breastfeeding and expose the infant to illness. At a later stage of the baby's development, breast milk should be supplemented by other liquids and eventually by solid or mushy food to provide adequate nourishment (Pan American Health Organization 2002).

The 2015-16 TDHS-MIS collected data on infant and young child feeding (IYCF) practices for all children born in the 2 years preceding the survey. Table 13 shows breastfeeding practices by child's age. Fifty-nine percent of infants under 6 months are exclusively breastfed, an increase from the 2010 TDHS (50 percent) and in 2004-05 (41 percent). Thirty-nine percent of children under age 6 months were given something other than exclusively breast milk. For example, 22 percent consumed complementary foods in addition to breast milk, 11 percent of infants consumed plain water, 4 percent consumed other milk, and 2 percent consumed non-milk liquids. Feeding using a bottle with a nipple, a practice that is discouraged because of the risk of illness to the child, was found in only 3 percent of infants under age 6 months.

Ninety percent of children 6-8 months and 97 percent of children 9-11 months, receive timely complementary foods, and almost one half (47 percent) of children age 18-23 months have been weaned.

The minimum acceptable diet indicator is used to assess the proportion of children age 6-23 months who meet minimum standards with respect to IYCF practices. Specifically, children age 6-23 months who have a minimum acceptable diet meet all three IYCF criteria below:

1. Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula; fresh, tinned, or powdered animal milk; or yogurt.

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2. Fed with foods from four or more of the following groups: i. infant formula, milk other than breast milk, and cheese or yogurt or other milk products; ii. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; iii. vitamin A-rich fruits and vegetables (and red palm oil); iv. other fruits and vegetables; v. eggs; vi. meat, poultry, fish, and shellfish (and organ meats); and vii. legumes and nuts.

3. Fed the minimum recommended number of times per day according to their age and breastfeeding status:

   a. 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.

   b. 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.

Table 13 Breastfeeding status by age

Percent distribution of youngest children under 2 who are living with their mother, by breastfeeding status; the percentage currently breastfeeding; and the percentage of all children under 2 using a bottle with a nipple, according to age in months, Tanzania, 2015-16

| Age in months | Breastfeeding status | | | | | | | Percentage currently breast-feeding | Number of youngest children under 2 years living with the mother | Percent-age using a bottle with a nipple | Number of all children under 2 years |
	Not breast-feeding	Exclu-sively breast-feeding	Breast-feeding and consum-ing plain water only	Breast-feeding and consum-ing non-milk liquids[1]	Breast-feeding and consum-ing other milk	Breast-feeding and consum-ing comple-mentary foods	Total				
0-1	1.1	84.0	7.7	0.3	1.2	5.8	100.0	98.9	375	1.4	381
2-3	2.7	58.8	14.8	1.2	6.8	15.6	100.0	97.3	343	2.6	347
4-5	2.0	26.6	10.3	4.6	5.4	51.1	100.0	98.0	281	5.7	284
6-8	1.9	3.0	2.1	0.7	2.2	90.2	100.0	98.1	525	6.2	529
9-11	1.7	0.0	0.5	0.4	0.6	96.9	100.0	98.3	459	7.8	470
12-17	10.9	0.1	0.2	0.0	0.0	88.8	100.0	89.1	1,073	3.8	1,109
18-23	47.3	0.0	0.0	0.0	0.0	52.7	100.0	52.7	925	2.7	1,025
0-3	1.9	72.0	11.1	0.7	3.9	10.5	100.0	98.1	718	1.9	728
0-5	1.9	59.2	10.9	1.8	4.3	21.9	100.0	98.1	998	3.0	1,012
6-9	2.0	2.3	1.9	0.6	2.0	91.1	100.0	98.0	676	7.3	683
12-15	7.9	0.1	0.3	0.0	0.0	91.7	100.0	92.1	718	4.3	735
12-23	27.8	0.0	0.1	0.0	0.0	72.1	100.0	72.2	1,999	3.3	2,134
20-23	56.6	0.0	0.0	0.0	0.0	43.4	100.0	43.4	613	2.8	687

Notes: 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 breastfeeding, breastfeeding and consuming plain water, nonmilk liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and 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

Figure 6 shows the percentage of children being fed the minimum acceptable diet, by age. In total, less than one-tenth of children age 6-23 months (8 percent) have met the criteria for a minimum acceptable diet.

Figure 6 Percentage of children fed minimum acceptable diet by age, in months

Percent

9	9	11	4	8
6-8 months	9-11 months	12-17 months	18-23 months	Total 6-23 months

Age

Tanzania 2015-16
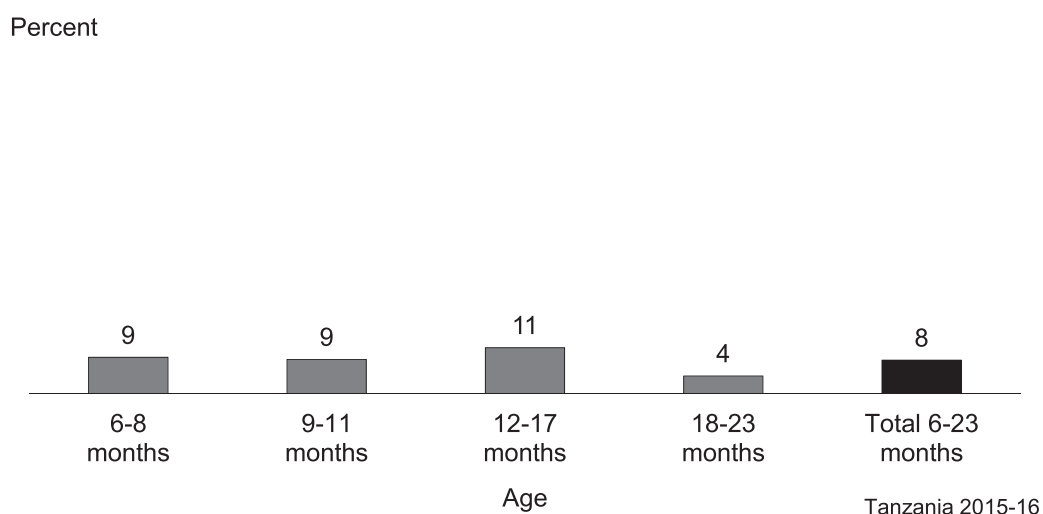
3.11   Anaemia Prevalence in Children and Women

Anaemia is a condition that is marked by low levels of haemoglobin in the blood. Iron is a key component of haemoglobin, and iron deficiency is thought to be responsible for half of the worldwide occurrence of anaemia. Other causes of anaemia include hookworms and other helminths, other nutritional deficiencies, chronic infections, and genetic conditions. Anaemia is a serious concern for children because it can impair cognitive development, stunted growth, and increase morbidity from infectious diseases.

The 2015-16 TDHS-MIS included direct measurement of haemoglobin levels using the HemoCue machine. This machine consists of a battery-operated photometer and a disposable microcuvette coated with a dried reagent that serves as the blood collection device. For the test, a drop of capillary blood taken from a child's fingertip or heel is drawn into the microcuvette. The blood in the microcuvette is analysed using the photometer, which displays the haemoglobin concentration. Haemoglobin levels among women were measured using procedures similar to those used for children, except that capillary blood was collected exclusively from a finger prick.

Table 14 presents anaemia prevalence for children age 6-59 months and women age 15-49 years by background characteristics. Haemoglobin levels for children and women were adjusted for altitude and, for women, smoking status. Children and pregnant women with haemoglobin levels below 11.0 g/dl and nonpregnant women with haemoglobin levels below 12.0 g/dl were defined as anaemic.

Overall, 58 percent of children suffered from some degree of anaemia: 26 percent were classified as mildly anaemic, 30 percent were moderately anaemic, and 2 percent were severely anaemic. The prevalence of any anaemia decreases with age, ranging from 79 percent among children age 6-11 months to 42 percent among children age 48-59 months. Anaemia prevalence varies by region, ranging from 36 percent in Singida region to 71 percent in Shinyanga.

Among women age 15-49, 45 percent had any anaemia: the majority of these women were mildly anaemic (about 33 percent of all women), 11 percent were moderately anaemic, and almost 1 percent were severely anaemic. The prevalence of any anaemia varies slightly by urban – rural residence, but there are larger differentials across regions; women in North Pemba had the highest prevalence of any anaemia (72 percent), whereas women in Mbeya had the lowest prevalence (24 percent).

Table 14 Anaemia among children and women

Percentage of de facto children age 6-59 months and women age 15-49 classified as having any, mild, moderate, and severe anaemia, by background characteristics, Tanzania, 2015-16

| Background characteristic | Any anaemia | Severity of anaemia | | | Number |
		Mild anaemia	Moderate anaemia	Severe anaemia	
		CHILDREN			
Sex					
Male	59.5	26.3	31.3	1.8	4,471
Female	55.7	26.5	27.7	1.4	4,407
Age in months					
6-11	79.4	30.7	45.3	3.5	974
12-23	72.9	30.1	40.2	2.5	2,142
24-35	56.7	27.4	28.1	1.2	1,917
36-47	45.6	23.1	21.4	1.1	1,921
48-59	42.3	22.3	19.2	0.7	1,924
Residence					
Urban	53.8	26.4	26.3	1.0	2,271
Rural	58.9	26.4	30.6	1.9	6,606
Mainland/Zanzibar					
Mainland	57.4	26.3	29.4	1.7	8,639
Urban	53.6	26.4	26.2	1.0	2,204
Rural	58.7	26.3	30.6	1.9	6,434
Zanzibar	64.5	30.5	33.4	0.6	239
Unguja	61.9	29.4	31.8	0.7	152
Pemba	69.1	32.4	36.1	0.5	87
Zone					
Western	63.3	25.0	35.4	2.9	1,100
Northern	51.4	23.4	25.9	2.1	833
Central	46.3	25.3	20.2	0.9	980
Southern Highlands	44.7	25.3	19.0	0.4	476
Southern	59.8	29.7	29.1	0.9	359
South West Highlands	53.9	29.1	24.4	0.3	852
Lake	61.9	25.8	33.7	2.5	2,921
Eastern	61.2	29.0	31.6	0.6	1,118
Zanzibar	64.5	30.5	33.4	0.6	239
Region					
Dodoma	49.3	27.4	21.4	0.5	374
Arusha	57.2	20.3	34.3	2.6	296
Kilimanjaro	48.9	25.4	22.5	0.9	167
Tanga	48.0	25.0	20.7	2.2	370
Morogoro	65.7	31.3	33.6	0.8	362
Pwani	57.5	30.6	25.9	1.0	181
Dar es Salaam	59.5	27.1	32.1	0.3	575
Lindi	61.1	29.7	30.4	1.1	165
Mtwara	58.6	29.8	28.0	0.8	194
Ruvuma	51.8	26.7	24.3	0.8	213
Iringa	40.1	26.9	13.2	0.0	151
Mbeya	54.3	29.2	24.7	0.4	495
Singida	36.0	24.3	11.8	0.0	309
Tabora	60.3	27.2	30.2	2.8	616
Rukwa	52.6	28.8	23.6	0.2	237
Kigoma	67.2	22.1	42.1	2.9	484
Shinyanga	70.9	27.0	39.7	4.2	405
Kagera	57.2	27.0	29.5	0.8	508
Mwanza	62.6	24.4	35.5	2.7	698
Mara	57.2	25.7	29.0	2.4	441
Manyara	53.3	23.6	27.4	2.3	297
Njombe	37.4	20.5	16.9	0.0	112
Katavi	54.9	29.4	24.9	0.6	120
Simiyu	57.0	26.0	30.1	1.0	460
Geita	68.1	25.2	38.7	4.2	409
Kaskazini Unguja	64.8	31.5	32.7	0.6	38
Kusini Unguja	62.4	27.6	33.2	1.5	25
Mjini Magharibi	60.5	29.0	31.0	0.5	89
Kaskazini Pemba	70.2	30.2	39.2	0.7	46
Kusini Pemba	67.9	34.9	32.7	0.3	41
Wealth quintile					
Lowest	64.0	25.7	36.2	2.1	2,164
Second	59.9	25.6	31.7	2.7	1,969
Middle	57.1	28.8	27.4	0.8	1,734
Fourth	53.2	27.4	24.6	1.3	1,603
Highest	50.1	24.6	24.7	0.9	1,407
Total	57.6	26.4	29.5	1.6	8,877

(Continued…)

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Table 14—*Continued*

Background characteristic	Any anaemia	Severity of anaemia			Number
		Mild anaemia	Moderate anaemia	Severe anaemia	
WOMEN					
Residence					
Urban	44.5	32.3	11.3	0.9	4,711
Rural	44.8	33.0	10.8	1.0	8,353
Mainland/Zanzibar					
Mainland	44.2	32.4	10.9	0.9	12,664
Urban	44.1	32.0	11.2	0.9	4,576
Rural	44.2	32.6	10.7	1.0	8,088
Zanzibar	60.1	43.0	15.6	1.5	400
Unguja	57.8	42.8	13.6	1.4	290
Pemba	66.2	43.4	20.8	2.0	110
Zone					
Western	53.1	38.6	13.7	0.9	1,274
Northern	36.1	27.1	8.3	0.7	1,540
Central	31.4	23.7	6.7	1.0	1,320
Southern Highlands	34.7	26.3	8.0	0.4	803
Southern	47.8	35.6	11.7	0.6	696
South West Highlands	27.7	24.1	3.5	0.1	1,236
Lake	51.8	36.3	14.0	1.5	3,429
Eastern	51.5	37.0	13.4	1.0	2,366
Zanzibar	60.1	43.0	15.6	1.5	400
Region					
Dodoma	30.6	23.2	6.0	1.3	569
Arusha	30.3	19.5	10.6	0.2	486
Kilimanjaro	29.1	23.8	3.5	1.8	358
Tanga	43.7	34.1	9.2	0.5	696
Morogoro	47.5	36.6	10.3	0.6	624
Pwani	51.7	35.0	14.9	1.8	277
Dar es Salaam	53.1	37.6	14.4	1.0	1,465
Lindi	48.9	38.3	10.0	0.6	287
Mtwara	47.1	33.7	12.9	0.5	408
Ruvuma	44.1	31.1	12.5	0.4	359
Iringa	28.4	23.0	4.7	0.7	242
Mbeya	23.8	22.2	1.6	0.0	823
Singida	25.9	20.3	5.2	0.4	366
Tabora	52.3	36.0	15.7	0.6	733
Rukwa	30.9	25.3	5.4	0.2	284
Kigoma	54.2	42.2	10.8	1.2	542
Shinyanga	59.4	36.0	21.4	1.9	503
Kagera	39.1	29.6	8.6	1.0	612
Mwanza	55.4	37.4	16.7	1.3	846
Mara	50.8	37.0	11.7	2.1	510
Manyara	38.0	27.6	9.3	1.0	385
Njombe	25.6	21.6	3.9	0.0	202
Katavi	45.2	33.5	11.3	0.4	130
Simiyu	53.7	41.5	10.7	1.5	477
Geita	52.6	37.5	13.9	1.2	480
Kaskazini Unguja	59.5	43.1	13.7	2.7	55
Kusini Unguja	55.3	41.5	12.4	1.4	35
Mjini Magharibi	57.8	43.0	13.8	1.0	200
Kaskazini Pemba	71.8	44.9	24.2	2.7	55
Kusini Pemba	60.6	41.9	17.4	1.4	54
Wealth quintile					
Lowest	48.3	35.1	12.5	0.7	2,220
Second	45.7	34.0	10.6	1.1	2,257
Middle	45.0	32.8	11.1	1.1	2,297
Fourth	41.5	30.5	10.1	0.9	2,787
Highest	44.0	32.0	11.1	0.9	3,501
Total	44.7	32.7	11.0	0.9	13,064

Note: Table is based on children and women who stayed in the household the night before the interview. Prevalence of anaemia, based on haemoglobin levels, is adjusted for altitude (for children and women) and smoking (for women) using CDC formulas (CDC 1998). Women and children with <7.0 g/dl of haemoglobin have severe anaemia, women and children with 7.0-9.9 g/dl have moderate anaemia, and nonpregnant women with 10.0-11.9 g/dl and children and pregnant women with 10.0-10.9 g/dl have mild anaemia.

3.12   Malaria

This section presents data that are useful for assessing the implementation of malaria control strategies including the availability, source, and use of mosquito nets by household members. Data presented show the percentage of households owning mosquito nets, the percent distribution of mosquito nets by source

of net, and the percentages of household members, of pregnant women, and of children under age 5 who slept under a net the night before the survey. Additionally, among children under age 5, information is provided on the percentage of children who experienced an episode of fever in the 2 weeks preceding the survey, whether advice or treatment was sought, the percentage who had blood taken for testing, whether they were treated with antimalarial drugs, and the timeliness with which they received drug treatment (the same day or next day following onset of fever).

3.12.1 Ownership, Source, and Use of Mosquito Nets

Table 15.1 presents information on the percentage of households that have at least one insecticide-treated net (ITN) and the average number of ITNs per household, by background characteristics. Sixty-six percent of households own at least one ITN and, on average, households own 1.6 ITNs. Ownership of at least one ITN has decreased notably from 91 percent recorded in the 2011-12 THMIS, as well as the average number of ITNs owned by households (2.3 in 2011-12). Among the regions in Tanzania Mainland, household ownership of at least one ITN varies from 22 percent in Manyara up to 98 percent in Simiyu region. In Zanzibar, the percentage of households with at least one ITN ranges from 64 percent in Mjini Magharibi region to 82 percent in Kaskazini Unguja and 83 percent in Kusini Unguja.

The data in Table 15.1 also indicates that 39 percent of households in Tanzania own at least one ITN for every two persons who stayed in the household the night preceding the survey (considered universal coverage). Universal net coverage in the 2015-16 TDHS-MIS (39 percent) is lower than that found in the 2011-12 THMIS (56 percent). There is almost no difference between urban and rural residents with regard to ownership of at least one ITN for every two persons who stayed in the household the night before the survey.

Table 15.1 Household possession of insecticide-treated nets

Percentage of households with at least one insecticide-treated net (ITN); average number of ITNs per household; and percentage of households with at least one ITN per two persons who stayed in the household last night, by background characteristics, Tanzania, 2015-16

Background characteristic	Percentage of households with at least one insecticide-treated net (ITN)[1]	Average number of insecticide-treated nets (ITN)[1] per household	Number of households	Percentage of households with at least one insecticide-treated net (ITN)[1] for every two persons who stayed in the household last night (universal coverage)[2]	Number of households with at least one person who stayed in the household last night
Residence					
Urban	66.8	1.5	4,178	39.7	4,152
Rural	65.0	1.7	8,385	38.3	8,345
Mainland/Zanzibar					
Mainland	65.4	1.6	12,247	38.7	12,184
Urban	66.8	1.5	4,089	40.0	4,064
Rural	64.7	1.7	8,158	38.1	8,120
Zanzibar	73.8	1.8	316	39.7	313
Unguja	71.6	1.7	213	37.8	212
Pemba	78.4	1.9	102	43.8	102
Zone					
Western	92.2	3.0	1,010	61.3	1,008
Northern	52.7	1.0	1,526	27.4	1,518
Central	35.7	0.6	1,469	13.8	1,464
Southern Highlands	55.4	1.1	933	32.6	929
Southern	64.7	1.3	798	42.8	792
South West Highlands	49.3	1.0	1,306	26.2	1,298
Lake	90.4	2.8	2,935	58.8	2,928
Eastern	62.5	1.2	2,270	34.7	2,246
Zanzibar	73.8	1.8	316	39.7	313

(Continued…)

Table 15.1—*Continued*

Background characteristic	Percentage of households with at least one insecticide-treated net (ITN)[1]	Average number of insecticide-treated nets (ITN)[1] per household	Number of households	Percentage of households with at least one insecticide-treated net (ITN)[1] for every two persons who stayed in the household last night (universal coverage)[2]	Number of households with at least one person who stayed in the household last night
Region					
Dodoma	38.8	0.6	683	15.3	679
Arusha	43.1	0.8	486	18.0	483
Kilimanjaro	63.8	1.2	431	39.5	430
Tanga	52.5	1.0	610	26.3	606
Morogoro	55.2	1.1	698	30.5	689
Pwani	64.6	1.3	317	37.2	313
Dar es Salaam	65.9	1.3	1,255	36.4	1,244
Lindi	69.9	1.5	313	47.0	310
Mtwara	61.3	1.3	485	40.1	482
Ruvuma	66.1	1.4	410	38.7	408
Iringa	45.7	0.8	301	25.0	300
Mbeya	50.4	0.9	902	27.8	895
Singida	43.9	0.9	392	17.4	391
Tabora	90.8	3.0	539	50.8	539
Rukwa	29.4	0.5	295	10.4	294
Kigoma	93.7	3.1	472	73.4	469
Shinyanga	78.7	2.3	400	48.0	400
Kagera	89.5	2.3	643	61.3	640
Mwanza	90.3	2.7	717	60.6	715
Mara	91.4	3.0	437	60.6	435
Manyara	22.3	0.4	395	7.6	395
Njombe	48.6	1.0	222	31.7	220
Katavi	94.7	2.7	110	55.5	109
Simiyu	97.6	3.7	348	61.5	346
Geita	96.4	3.0	390	58.2	390
Kaskazini Unguja	82.2	2.1	51	48.2	50
Kusini Unguja	83.3	2.1	32	55.0	32
Mjini Magharibi	64.4	1.4	130	29.5	129
Kaskazini Pemba	79.8	2.0	54	46.1	53
Kusini Pemba	76.9	1.9	49	41.3	48
Wealth quintile					
Lowest	57.3	1.7	2,050	27.3	2,046
Second	63.2	1.7	2,407	38.2	2,397
Middle	66.2	1.7	2,521	40.1	2,505
Fourth	71.0	1.6	2,699	42.6	2,680
Highest	67.9	1.5	2,886	42.6	2,869
Total	65.6	1.6	12,563	38.8	12,497

[1] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment or (2) a net that has been soaked with insecticide within the past 12 months.
[2] Percentage of de facto household population who could sleep under an ITN if each ITN in the household were used by up to two people

Among regions in Tanzania Mainland, Kigoma has the highest percentage of households with at least one ITN for every two people who stayed in the household the night before the survey (73 percent) and Manyara has the lowest (8 percent). By wealth quintile, universal net coverage increases with wealth, from 27 percent in the lowest quintile to 43 percent in the highest wealth quintile.

In the 2015-16 TDHS-MIS, respondents in households with mosquito nets were asked about the source of the nets. Results are presented in Table 15.2.

The majority of ITNs reported by the households (68 percent) were received free from net distribution campaigns (through the community or schools). These are government campaigns to distribute nets free of charge through Ward Executive Officers (on the Mainland) and Shehia Executive Officers (in Zanzibar). Twenty-five percent of the ITNs were purchased from a pharmacy, ADDO, shop, vendor, or market, and 4 percent were obtained during an antenatal care visit.

Table 15.2 Source of insecticide-treated mosquito nets (ITN)

Percent distribution of insecticide-treated mosquito nets by source of net, according to background characteristics, Tanzania, 2015-16

Background characteristic	Net distribution campaign	ANC	Immuni- sation visit	School net programme	Govern- ment health facility	Pharmacy	ADDO[1]	Shop/ market	CHW[2]	Religious institution	School	Other	Don't know	Total	Number of nets possessed by households
Net type															
ITN[3]	69.0	4.5	1.4	3.5	0.2	0.1	0.1	19.7	0.0	0.1	0.2	1.0	0.1	100.0	17,967
Other	22.6	3.6	0.4	3.2	0.1	0.4	0.9	66.2	0.0	0.2	0.4	1.3	0.6	100.0	2,074
Residence															
Urban	40.0	3.5	1.2	2.3	0.2	0.3	0.4	50.0	0.0	0.1	0.2	1.4	0.3	100.0	6,309
Rural	75.3	4.8	1.3	4.1	0.2	0.1	0.0	12.8	0.0	0.2	0.2	0.8	0.1	100.0	13,731
Mainland/Zanzibar															
Mainland	64.3	4.3	1.2	3.6	0.1	0.2	0.2	24.7	0.0	0.1	0.2	0.9	0.2	100.0	19,548
Urban	39.9	3.5	1.1	2.3	0.1	0.3	0.5	50.3	0.0	0.1	0.3	1.4	0.3	100.0	6,178
Rural	75.6	4.7	1.2	4.1	0.2	0.1	0.0	12.8	0.0	0.2	0.2	0.7	0.1	100.0	13,370
Zanzibar	62.4	7.4	4.1	1.6	1.1	0.2	0.0	19.0	0.1	0.0	0.0	3.2	0.8	100.0	492
Unguja	61.0	6.3	3.6	2.3	1.6	0.3	0.0	19.7	0.1	0.0	0.0	4.2	0.9	100.0	333
Pemba	65.3	9.9	5.1	0.3	0.1	0.0	0.0	17.6	0.1	0.1	0.0	1.2	0.4	100.0	160
Zone															
Western	87.9	2.0	0.3	0.3	0.0	0.0	0.0	8.9	0.0	0.2	0.0	0.3	0.0	100.0	3,028
Northern	38.6	8.7	1.2	1.9	0.4	0.4	0.2	45.1	0.1	0.7	0.2	2.5	0.1	100.0	1,632
Central	49.3	13.4	3.2	1.5	0.1	0.2	0.2	29.5	0.0	0.7	0.1	1.8	0.0	100.0	1,048
Southern Highlands	39.8	10.1	3.2	22.3	0.5	0.4	0.0	19.7	0.0	0.0	1.2	2.5	0.3	100.0	936
Southern	22.6	6.5	2.6	34.1	0.2	0.0	0.1	30.7	0.1	0.0	1.6	1.2	0.4	100.0	992
South West Highlands	64.8	8.4	3.2	0.9	0.3	0.2	0.0	21.2	0.0	0.1	0.0	0.3	0.6	100.0	1,308
Lake	84.9	1.5	0.4	0.8	0.1	0.1	0.1	11.5	0.0	0.0	0.1	0.3	0.1	100.0	8,058
Eastern	18.4	4.6	1.6	0.5	0.0	0.3	0.5	71.1	0.1	0.1	0.3	2.2	0.2	100.0	2,545
Zanzibar	62.4	7.4	4.1	1.6	1.1	0.2	0.0	19.0	0.1	0.0	0.0	3.2	0.8	100.0	492
Region															
Dodoma	45.1	14.4	4.2	1.3	0.0	0.4	0.4	29.5	0.0	1.3	0.0	3.5	0.0	100.0	522
Arusha	29.6	13.2	2.8	2.8	1.2	0.8	0.2	44.8	0.2	0.0	0.8	3.7	0.0	100.0	392
Kilimanjaro	56.5	6.1	1.5	1.4	0.0	0.5	0.2	31.1	0.0	0.4	0.0	2.1	0.3	100.0	525
Tanga	30.4	8.0	0.1	1.8	0.2	0.3	0.2	55.7	0.0	1.3	0.0	2.0	0.0	100.0	715
Morogoro	25.1	4.0	2.1	0.2	0.0	0.0	0.6	65.2	0.0	0.2	0.0	2.4	0.3	100.0	626
Pwani	33.4	6.7	2.2	1.0	0.2	0.2	0.4	52.0	0.0	0.0	0.0	2.6	0.9	100.0	344
Dar es Salaam	12.5	4.4	1.2	0.5	0.0	0.5	0.5	77.6	0.1	0.0	0.4	2.0	0.1	100.0	1,574
Lindi	17.3	5.2	4.0	41.2	0.4	0.0	0.1	30.6	0.2	0.0	0.0	1.2	0.7	100.0	380
Mtwara	25.9	7.4	1.7	29.8	0.0	0.0	0.0	30.7	0.0	0.0	2.5	1.2	0.7	100.0	612
Ruvuma	25.7	8.2	2.3	41.6	1.0	0.0	0.0	14.7	0.0	0.0	2.3	3.8	0.3	100.0	501
Iringa	43.2	13.2	4.5	0.0	0.0	1.0	0.0	36.6	0.0	0.0	0.0	1.3	0.3	100.0	264
Mbeya	60.7	10.0	4.8	1.1	0.5	0.2	0.0	21.7	0.0	0.0	0.0	0.2	0.7	100.0	833
Singida	57.9	10.8	3.1	0.8	0.4	0.0	0.0	26.7	0.0	0.0	0.2	0.1	0.0	100.0	376
Tabora	88.9	1.5	0.0	0.1	0.0	0.1	0.0	9.5	0.0	0.0	0.0	0.0	0.0	100.0	1,592
Rukwa	41.7	13.6	1.3	1.9	0.0	0.0	0.1	39.8	0.0	0.7	0.0	1.0	0.0	100.0	172
Kigoma	86.9	2.6	0.7	0.6	0.4	0.0	0.1	8.1	0.0	0.4	0.0	0.5	0.0	100.0	1,436
Shinyanga	74.9	1.2	0.1	0.2	0.0	0.1	0.0	22.7	0.0	0.0	0.0	0.7	0.1	100.0	958
Kagera	93.4	1.4	0.1	1.3	0.1	0.2	0.6	2.0	0.1	0.0	0.5	0.6	0.0	100.0	1,429
Mwanza	85.0	1.1	0.2	1.2	0.2	0.0	0.0	11.7	0.1	0.0	0.0	0.0	0.4	100.0	1,879
Mara	75.4	3.3	0.3	0.5	0.4	0.0	0.0	19.2	0.1	0.0	0.0	0.1	0.4	100.0	1,361
Manyara	42.1	16.7	0.4	4.1	0.0	0.0	0.0	36.7	0.0	0.0	0.0	0.0	0.0	100.0	151

(Continued…)

Table 15.2—*Continued*

Background characteristic	Net distribution campaign	ANC	Immuni- sation visit	School net programme	Govern- ment health facility	Pharmacy	ADDO[1]	Shop/ market	CHW[2]	Religious institution	School	Other	Don't know	Total	Number of nets possessed by households
Region															
Njombe	75.6	10.7	4.1	0.3	0.0	0.6	0.0	8.1	0.0	0.0	0.0	0.6	0.0	100.0	171
Katavi	89.3	0.9	0.0	0.0	0.0	0.1	0.1	9.3	0.0	0.0	0.0	0.0	0.3	100.0	302
Simiyu	89.0	1.1	0.7	0.7	0.0	0.3	0.0	8.1	0.0	0.0	0.0	0.1	0.0	100.0	1,312
Geita	89.3	0.6	0.3	0.6	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.4	0.2	100.0	1,120
Kaskazini Unguja	68.7	10.8	5.1	1.2	1.5	0.6	0.0	8.5	0.4	0.0	0.0	2.1	1.2	100.0	92
Kusini Unguja	74.1	6.0	4.0	2.0	2.8	0.0	0.0	8.0	0.0	0.2	0.0	1.7	1.1	100.0	54
Mjini Magharibi	53.4	4.1	2.8	2.8	1.3	0.2	0.0	28.6	0.0	0.0	0.0	6.0	0.7	100.0	187
Kaskazini Pemba	71.3	8.8	5.0	0.4	0.1	0.0	0.0	12.9	0.0	0.1	0.0	1.1	0.2	100.0	81
Kusini Pemba	59.2	11.0	5.2	0.2	0.0	0.0	0.0	22.5	0.1	0.0	0.0	1.3	0.6	100.0	79
Wealth quintile															
Lowest	86.3	3.7	0.7	2.7	0.1	0.0	0.0	5.7	0.0	0.2	0.2	0.4	0.0	100.0	3,327
Second	82.5	4.5	1.0	4.4	0.1	0.0	0.0	6.3	0.0	0.1	0.1	0.6	0.1	100.0	3,819
Middle	74.1	5.2	1.5	4.7	0.2	0.2	0.1	12.7	0.0	0.3	0.3	0.8	0.0	100.0	4,015
Fourth	57.3	5.5	1.9	3.7	0.3	0.1	0.1	28.5	0.1	0.1	0.4	1.6	0.4	100.0	4,261
Highest	31.1	3.2	1.1	2.1	0.1	0.4	0.5	59.7	0.0	0.0	0.2	1.3	0.2	100.0	4,618
Total	64.2	4.4	1.3	3.5	0.2	0.2	0.2	24.5	0.0	0.1	0.2	1.0	0.2	100.0	20,040

[1] Accredited Drug Dispensing Outlets
[2] Community health worker
[3] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment or (2)a net that has been soaked with insecticide within the past 12 months.

Table 16 shows the use of nets by children and pregnant women, by background characteristics. Fifty-five percent of children under age 5 in all households slept under an ITN the night before the survey, while 74 percent of those in the households with at least one ITN slept under an ITN the night before the survey. The use of ITNs by children under age 5 has decreased compared with what was observed in the 2011-12 THMIS, when 78 percent of children in all households slept under an ITN and 77 percent in the households with at least one ITN slept under an ITN the night before the interview. Among households with at least one ITN, children under age 5 residing in urban areas are more likely than their rural counterparts to have slept under an ITN the night before the interview (80 percent and 72 percent, respectively).

Fifty-four percent of pregnant women age 15-49 in all households slept under an ITN the night before the survey. In households with at least one ITN, 74 percent of pregnant women slept under an ITN the night before the survey. As was the case with children under age 5, there is a decrease in the percentage of pregnant women in all households who slept under an ITN the night before the survey from 75 percent in the 2011-12 THMIS to 54 percent in the 2015-16 TDHS-MIS. In the case of pregnant women who slept under an ITN the night before the survey in the households with at least one ITN, the decrease was from 81 percent in the 2011-12 THMIS to 74 percent in the 2015-16 TDHS-MIS.

Utilisation of ITNs among pregnant women in households with at least one ITN is higher in urban areas (81 percent) than in rural areas (72 percent). Net use among pregnant women in households with at least one ITN and household wealth are positively associated, ranging from 68 percent in the lowest quintile to 79 percent in the highest quintile.

Figure 7 shows the percentage of the de facto population with access to an ITN. Overall, 56 percent of the household population has access to an ITN. Those living in Pemba (60 percent) are most likely to use an ITN, and those in the lowest wealth quintile (51 percent) are least likely to use an ITN.

In Tanzania, the National Malaria Control Program (NMCP), and in Zanzibar, the Zanzibar Malaria Control Program (ZMCP), guidelines require that pregnant women receive intermittent preventative treatment for malaria in pregnancy (IPTp). Specifically, IPTp is preventive treatment with the antimalarial drug SP/Fansidar once at the beginning of the second trimester of pregnancy and once at the beginning of the third trimester. It is preferable that women receive IPTp during routine antenatal care. Pregnant women who take malaria medicine only to treat an existing case of malaria are not considered to have received IPTp.

Table 16 Use of insecticide-treated nets by children and pregnant women

Percentage of children under 5 who, the night before the survey, slept under an insecticide-treated net (ITN), and slept under an ITN or in a dwelling in which the interior walls have been sprayed against mosquitoes (IRS) in the past 12 months; and among children under 5 in households with at least one ITN, percentage who slept under an ITN the night before the survey; percentage of pregnant women age 15-49 who, the night before the survey, slept under an ITN, and slept under an ITN or in a dwelling in which the interior walls have been sprayed with IRS in the past 12 months; and among pregnant women age 15-49 in households with at least one ITN, percentage who slept under an ITN the night before the survey, by background characteristics, Tanzania 2015-16

Background characteristic	Children under age 5 in all households			Children under age 5 in households with at least one ITN[1]		Pregnant women age 15-49 in all households			Pregnant women age 15-49 in households with at least one ITN[1]	
	Percentage who slept under an ITN[1] last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number of children	Percentage who slept under an ITN[1] last night	Number of children	Percentage who slept under an ITN[1] last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number of pregnant women	Percentage who slept under an ITN[1] last night	Number of pregnant women
Residence										
Urban	60.5	61.9	2,629	79.5	2,000	55.8	57.5	337	80.7	233
Rural	52.4	54.3	7,414	72.0	5,402	53.1	54.9	785	71.9	580
Mainland/Zanzibar										
Mainland	54.5	55.9	9,777	74.1	7,192	54.0	55.4	1,091	74.6	790
Urban	60.9	61.9	2,554	79.9	1,948	56.4	57.6	328	81.5	227
Rural	52.2	53.8	7,223	71.9	5,244	53.0	54.5	764	71.8	563
Zanzibar	56.4	70.7	266	71.3	211	51.5	64.5	31	68.5	23
Unguja	52.2	68.3	168	66.9	131	41.4	56.0	17	57.9	12
Pemba	63.7	74.7	98	78.6	80	64.1	75.1	14	80.4	11
Zone										
Western	68.1	68.1	1,221	71.8	1,157	66.1	66.1	148	75.4	130
Northern	36.7	36.8	961	71.3	495	31.4	31.4	89	(70.0)	40
Central	24.4	24.4	1,119	61.0	448	31.4	31.4	132	71.1	58
Southern Highlands	38.2	38.2	545	65.5	318	35.8	35.8	56	(74.5)	27
Southern	51.4	51.4	396	71.4	285	(47.4)	(47.4)	48	(69.1)	33
South West Highlands	34.4	34.4	959	64.0	516	41.0	41.0	113	65.0	71
Lake	73.5	77.1	3,279	78.1	3,086	70.4	73.8	357	76.4	330
Eastern	55.3	57.1	1,297	80.8	887	54.8	57.4	148	80.1	102
Zanzibar	56.4	70.7	266	71.3	211	51.5	64.5	31	68.5	23
Region										
Dodoma	20.8	20.8	420	47.7	183	(26.8)	(26.8)	56	*	27
Arusha	33.7	33.7	347	83.9	139	*	*	27	*	11
Kilimanjaro	46.6	47.2	186	63.1	137	*	*	10	*	7
Tanga	34.9	34.9	428	68.4	218	(28.9)	(28.9)	52	*	22
Morogoro	50.4	51.3	416	81.9	256	*	*	40	*	28
Pwani	46.9	47.4	202	73.8	129	*	*	18	*	13
Dar es Salaam	60.7	63.6	679	82.1	502	60.7	65.0	90	(89.9)	61
Lindi	51.0	51.0	180	73.9	124	(56.0)	(56.0)	20	*	14
Mtwara	51.8	51.8	215	69.5	160	*	*	28	*	19
Ruvuma	50.8	50.8	250	72.8	174	*	*	19	*	11
Iringa	33.3	33.3	170	65.8	86	(48.5)	(48.5)	23	*	12
Mbeya	29.5	29.5	552	54.0	301	(35.4)	(35.4)	68	*	42
Singida	35.5	35.5	357	71.2	178	(46.3)	(46.3)	41	*	21
Tabora	79.2	79.2	694	84.1	654	73.8	73.8	95	86.2	81
Rukwa	17.9	17.9	271	58.5	83	(24.4)	(24.4)	28	*	13
Kigoma	53.4	53.4	527	55.8	503	(52.3)	(52.3)	53	(57.2)	48
Shinyanga	50.3	50.3	457	57.9	397	49.7	49.7	51	(59.1)	43

(Continued...)

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Table 16—*Continued*

Background characteristic	Children under age 5 in all households			Children under age 5 in households with at least one ITN[1]		Pregnant women age 15-49 in all households			Pregnant women age 15-49 in households with at least one ITN[1]	
	Percentage who slept under an ITN[1] last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number of children	Percentage who slept under an ITN[1] last night	Number of children	Percentage who slept under an ITN[1] last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number of pregnant women	Percentage who slept under an ITN[1] last night	Number of pregnant women
Region										
Kagera	73.6	81.0	553	81.3	501	(71.4)	(80.3)	54	(76.2)	51
Mwanza	71.5	78.2	791	73.3	771	(59.8)	(65.7)	95	(66.7)	85
Mara	72.3	75.3	502	78.7	461	80.1	82.8	59	83.6	57
Manyara	17.3	17.3	342	68.1	87	(21.5)	(21.5)	35	*	10
Njombe	19.5	19.5	126	42.9	57	(19.1)	(19.1)	14	*	5
Katavi	87.5	87.5	136	90.3	131	89.8	89.8	17	95.5	16
Simiyu	86.1	86.1	512	87.5	504	85.6	85.6	42	86.8	42
Geita	87.3	88.8	464	89.3	454	84.7	84.7	55	90.2	52
Kaskazini Unguja	63.5	83.0	43	72.0	38	*	*	3	*	3
Kusini Unguja	56.1	71.2	27	64.8	24	*	*	2	*	2
Mjini Magharibi	46.1	61.1	98	64.8	69	(35.4)	(48.7)	12	(52.8)	8
Kaskazini Pemba	62.5	78.1	52	77.6	42	(60.6)	(77.0)	7	(79.4)	6
Kusini Pemba	65.0	70.9	46	79.7	38	(68.3)	(72.9)	6	(81.6)	5
Wealth quintile										
Lowest	49.0	50.0	2,461	71.4	1,689	48.8	51.1	263	68.2	189
Second	55.0	56.8	2,183	75.2	1,596	52.0	53.3	234	74.8	163
Middle	52.5	54.6	1,947	70.2	1,457	58.1	59.1	199	76.1	152
Fourth	59.2	61.0	1,853	76.6	1,433	58.8	59.3	211	75.3	165
Highest	59.5	62.0	1,599	77.6	1,227	53.7	57.0	215	79.3	145
Total	54.5	56.3	10,043	74.0	7,402	53.9	55.7	1,122	74.4	813

Notes: Table is based on children who stayed in the household the night before the interview. 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] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment, or (2) a net that has been soaked with insecticide within the past 12 months.
[2] Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or nongovernmental organisation.

Figure 7 Percentage of the *de facto* population with access to an ITN in the household
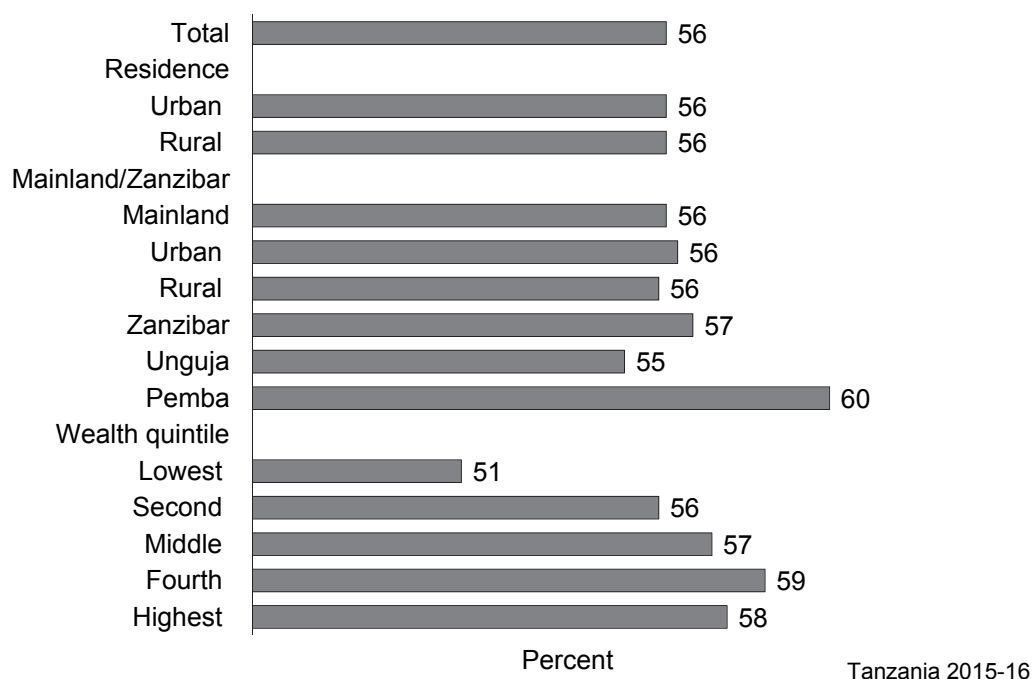

Tanzania 2015-16

Table 17 shows that 68 percent of pregnant women took one or more doses of SP/Fansidar during an ANC visit. Thirty-five percent of pregnant women took the recommended two or more doses of SP/Fansidar during their last pregnancy, classifying them as having received IPTp. This is a slight increase from 32 percent of pregnant women who received two or more doses of SP/Fansidar with at least one dose received during an ANC visit reported in the 2011-12 THMIS.

Table 17 Use of intermittent preventive treatment (IPTp) by women during pregnancy

Percentage of women age 15-49 with a live birth in the 2 years preceding the survey who, during the pregnancy preceding the last birth, received one or more doses of SP/Fansidar at least one of which was received during an ANC visit, received two or more doses of SP/Fansidar at least one of which was received during an ANC visit, and received three or more doses of SP/Fansidar at least one of which was received during an ANC visit, by background characteristics, Tanzania, 2015-16

Background characteristic	Percentage who received 1 or more doses of SP/ Fansidar[1]	Percentage who received 2 or more doses of SP/ Fansidar[1]	Percentage who received 3 or more doses of SP/ Fansidar[1]	Number of women with a live birth in the 2 years preceding the survey
Residence				
Urban	78.0	44.2	11.0	1,164
Rural	64.5	30.9	6.5	3,004
Mainland/Zanzibar				
Mainland	69.1	35.2	7.8	4,061
Urban	78.9	44.9	11.2	1,137
Rural	65.3	31.4	6.5	2,924
Zanzibar	37.9	13.0	5.5	106
Unguja	32.7	12.1	1.7	68
Pemba	47.1	14.5	12.2	38
Zone				
Western	56.8	21.3	1.8	534
Northern	78.2	41.7	2.9	399
Central	77.2	38.4	10.6	486
Southern Highlands	72.6	39.4	7.7	218
Southern	88.2	40.1	10.6	148
South West Highlands	63.1	29.3	6.8	415
Lake	63.7	33.2	7.7	1,280
Eastern	77.4	46.4	14.6	581
Zanzibar	37.9	13.0	5.5	106

(Continued…)

Table 17—*Continued*

Background characteristic	Percentage who received 1 or more doses of SP/Fansidar[1]	Percentage who received 2 or more doses of SP/Fansidar[1]	Percentage who received 3 or more doses of SP/Fansidar[1]	Number of women with a live birth in the 2 years preceding the survey
Region				
Dodoma	80.1	39.5	12.4	188
Arusha	72.5	33.6	2.1	141
Kilimanjaro	91.7	37.3	1.2	67
Tanga	77.7	49.3	4.1	190
Morogoro	68.8	44.9	13.1	165
Pwani	79.2	42.8	11.4	86
Dar es Salaam	81.2	48.1	16.2	330
Lindi	91.2	40.3	7.0	63
Mtwara	85.9	39.9	13.4	85
Ruvuma	65.0	29.9	7.0	101
Iringa	81.2	47.0	9.1	68
Mbeya	63.4	27.1	6.3	240
Singida	80.5	38.2	9.9	141
Tabora	50.4	19.5	1.2	318
Rukwa	66.1	36.9	9.2	120
Kigoma	66.0	23.9	2.6	217
Shinyanga	71.4	44.2	10.4	194
Kagera	75.8	48.7	8.9	203
Mwanza	64.9	27.2	9.3	290
Mara	55.7	32.0	7.6	199
Manyara	70.7	37.3	8.9	157
Njombe	76.5	48.6	7.2	50
Katavi	55.3	22.1	3.5	56
Simiyu	64.1	30.7	4.6	202
Geita	48.8	18.6	4.9	192
Kaskazini Unguja	32.4	10.6	3.9	18
Kusini Unguja	28.5	14.4	1.9	11
Mjini Magharibi	34.0	12.1	0.6	39
Kaskazini Pemba	53.3	16.2	14.4	21
Kusini Pemba	39.9	12.5	9.7	17
Wealth quintile				
Lowest	59.3	26.9	5.3	1,011
Second	61.7	29.8	7.4	878
Middle	72.6	34.7	7.0	772
Fourth	72.3	37.5	7.8	795
Highest	80.0	48.2	12.4	711
Total	68.3	34.6	7.7	4,167

[1] Received the specified number of doses of SP/Fansidar, at least one of which was received during an ANC visit

In Tanga, Kagera, and Njombe regions about half of the pregnant women took the recommended two doses of SP/Fansidar (49 percent) while in all other regions less than half of the pregnant women took the recommended dose of SP/Fansidar. Kaskazini Unguja region reported the lowest percentage of pregnant women that took the recommended dose of SP/Fansidar (11 percent). Pregnant women in urban areas are more likely to take the recommended two or more doses of SP/Fansidar (44 percent) than their rural counterparts (31 percent). The percentage of pregnant women taking the recommended two or more doses of SP/Fansidar increases with increasing wealth; rising from 27 percent in the lowest quintile to 48 percent in the highest quintile.

3.12.2 Treatment of Children with Fever

Prompt, effective treatment for malaria is crucial to prevent the disease from becoming severe and complicated. In Tanzania Mainland, the artemisinin combination therapy (ACT) of artemether-lumefantrine (ALu) is the recommended first-line antimalarial drug for uncomplicated malaria. Quinine is the second-line treatment. In Zanzibar, the first-line antimalarial treatment for uncomplicated malaria is artesunate-amodiaquine (ASAQ), and ALu is the second line of treatment.

The 2015-16 TDHS-MIS asked mothers whether their children under age 5 had had a fever in the 2 weeks preceding the survey and, if so, whether any treatment was sought. Questions were also asked about blood testing, the types of drugs given to the child, and how recently the drugs were taken. Table 18 shows treatment behaviours for children with fever in the 2 weeks preceding the survey by background characteristics.

In the two weeks preceding the survey, 18 percent of children under age 5 had a fever. Treatment or advice was sought for 66 percent of children with fever, while 36 percent had blood taken from a finger or heel for testing (considered a proxy for malaria testing). Forty-three percent of children who had fever were given ACT. Thirty percent of children with a fever took ACT the same day or next day after fever onset, as recommended by the treatment guidelines. Among children under age 5 with fever who took any antimalarial drug, 85 percent took ACT. Children with a fever in rural areas were more likely to be treated for malaria (e.g., take ACT, take ACT the same or next day as fever onset) compared with those in urban areas. Children under age 5 who had a fever in the 2 weeks preceding the survey in the Western (60 percent) and Southern (56 percent) zones were more likely to be given ACT than children in other zones.

Table 18 Prevalence, diagnosis, and prompt treatment of children with fever

Percentage of children under 5 with fever in the 2 weeks preceding the survey; among children under 5 with fever, percentage for whom advice or treatment was sought, percentage who had blood taken from a finger or heel, percentage who took any artemisinin-based combination therapy (ACT), and percentage who took any ACT the same or next day following the onset of fever; and among children under 5 with fever who took any antimalarial drug, percentage who took any ACT, by background characteristics, Tanzania, 2015-16

Background characteristic	Children under 5		Children under 5 with fever					Children under 5 with fever who took any antimalarial drug	
	Percentage with fever in the 2 weeks preceding the survey	Number of children	Percentage for whom advice or treatment was sought[1]	Percentage who had blood taken from a finger or heel for testing	Percentage who took any ACT	Percentage who took any ACT same or next day	Number of children	Percentage who took any ACT	Number of children
Residence									
Urban	18.1	2,565	76.4	60.9	35.6	25.9	465	78.2	212
Rural	17.8	6,955	62.1	26.6	46.3	31.5	1,241	87.0	660
Mainland/Zanzibar									
Mainland	17.9	9,268	65.8	36.0	44.5	30.8	1,662	85.0	871
Urban	18.1	2,499	76.6	61.4	36.5	26.5	453	78.2	211
Rural	17.9	6,770	61.7	26.5	47.5	32.4	1,209	87.1	659
Zanzibar	17.4	252	72.7	34.0	0.6	0.2	44	*	1
Unguja	16.9	158	75.6	41.8	0.4	0.4	27	*	1
Pemba	18.3	94	68.1	22.1	1.0	0.0	17	*	0
Zone									
Western	18.5	1,170	57.0	21.8	60.2	40.3	217	90.9	144
Northern	13.9	901	65.7	43.1	26.2	13.5	125	(89.1)	37
Central	7.6	1,065	62.5	33.4	23.3	18.2	81	*	22
Southern Highlands	14.9	517	62.6	23.6	40.2	31.0	77	(87.0)	36
Southern	23.4	372	80.1	48.0	56.0	43.7	87	100.0	49
South West Highlands	15.1	914	68.0	23.0	33.2	24.3	138	91.0	50
Lake	23.1	3,014	61.6	31.3	45.8	30.0	695	80.5	396
Eastern	18.4	1,315	81.5	66.3	46.7	36.6	242	81.9	138
Zanzibar	17.4	252	72.7	34.0	0.6	0.2	44	*	1
Region									
Dodoma	9.7	398	*	*	*	*	38	*	5
Arusha	11.2	341	(53.5)	(41.8)	(12.6)	(10.0)	38	*	8
Kilimanjaro	17.3	162	(63.9)	(21.1)	(8.0)	(8.0)	28	*	2
Tanga	14.8	398	(74.4)	(54.5)	(43.7)	(18.3)	59	*	27
Morogoro	18.3	417	(78.9)	(35.0)	(59.1)	(46.0)	76	(95.9)	47
Pwani	15.3	191	(75.7)	(56.9)	(60.2)	(46.1)	29	*	18
Dar es Salaam	19.2	707	84.2	85.9	36.9	29.4	136	(68.5)	73
Lindi	25.5	168	78.9	40.8	61.9	51.9	43	(100.0)	26
Mtwara	21.7	204	(81.2)	(54.9)	(50.4)	(35.8)	44	*	22
Ruvuma	18.4	236	(67.4)	(16.8)	(65.8)	(52.3)	43	(90.8)	31
Iringa	11.5	156	*	*	*	*	18	*	1
Mbeya	15.1	521	(78.9)	(20.4)	(28.0)	(17.1)	79	*	24
Singida	6.9	325	(58.5)	(37.4)	(42.6)	(35.8)	23	*	11
Tabora	12.9	675	64.1	28.1	53.6	35.0	87	(84.4)	55
Rukwa	16.0	261	54.5	24.2	32.3	26.6	42	*	16
Kigoma	26.2	495	52.2	17.6	64.7	43.8	130	95.1	88
Shinyanga	20.8	434	69.0	30.1	52.3	39.8	90	87.9	54
Kagera	17.5	505	44.1	35.3	47.0	23.9	88	(91.8)	45
Mwanza	22.8	698	68.3	38.3	47.3	26.8	159	82.5	91
Mara	34.2	462	66.0	34.6	32.5	26.8	158	76.5	67
Manyara	5.8	342	*	*	*	*	20	*	6

(Continued…)

Table 18—*Continued*

Background characteristic	Children under 5		Children under 5 with fever					Children under 5 with fever who took any antimalarial drug	
	Percentage with fever in the 2 weeks preceding the survey	Number of children	Percentage for whom advice or treatment was sought[1]	Percentage who had blood taken from a finger or heel for testing	Percentage who took any ACT	Percentage who took any ACT same or next day	Number of children	Percentage who took any ACT	Number of children
Region									
Njombe	12.6	125	(58.9)	(30.9)	(6.7)	(3.4)	16	*	3
Katavi	13.3	132	50.9	32.0	58.9	51.2	18	(93.3)	11
Simiyu	21.4	475	56.3	23.4	35.0	27.7	102	55.3	64
Geita	22.2	440	58.2	20.5	69.4	39.3	98	91.3	74
Kaskazini Unguja	14.0	42	(67.8)	(29.8)	(0.0)	(0.0)	6	*	0
Kusini Unguja	14.9	25	(79.3)	(41.7)	(2.6)	(2.6)	4	*	0
Mjini Magharibi	18.7	91	77.6	46.0	0.0	0.0	17	*	0
Kaskazini Pemba	18.0	51	70.7	21.4	0.0	0.0	9	*	0
Kusini Pemba	18.6	44	65.2	22.9	2.2	0.0	8	*	0
Wealth quintile									
Lowest	16.1	2,308	55.4	25.1	51.4	38.8	372	91.2	209
Second	19.6	2,044	59.1	21.1	51.4	33.4	400	90.7	227
Middle	17.7	1,798	70.7	36.2	42.0	25.6	319	80.9	166
Fourth	17.5	1,780	69.0	38.8	35.7	28.5	311	80.3	138
Highest	19.1	1,591	79.8	65.3	32.3	20.9	304	74.5	132
Total	17.9	9,520	66.0	35.9	43.4	30.0	1,706	84.9	872

Notes: 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] Excludes advice or treatment from a traditional practitioner.

3.12.3 Prevalence of Anaemia in Children

Anaemia is one of the complications of malaria infection, especially in children. Other causes of anaemia are nutritional deficiencies, helminth infestation, damage to bone marrow through heavy metal or other toxins, and genetically acquired disease like sickle cell anaemia. In endemic countries, a haemoglobin concentration of less than 8.0 g/dl indicates that an individual may have malaria.

Table 19 shows that 5 percent of children age 6-59 months have haemoglobin levels below 8.0 g/dl. Geita region has the highest proportion of children with haemoglobin levels below 8.0 g/dl (11 percent), while this proportion is the lowest in Njombe (0.4 percent). There is a slight difference in the proportion of children with haemoglobin levels below 8.0 g/dl in urban (3 percent) and rural (5 percent) areas. The percentage of children with haemoglobin levels below 8.0 g/dl is inversely associated with wealth status, decreasing from 7 percent of children in the lowest wealth quintile to 2 percent of children in the highest wealth quintile.

3.12.4 Prevalence of Malaria in Children

In the 2015-16 TDHS-MIS all children age 6-59 months living in the households selected for the survey were also eligible for malaria testing. In the field, the SD Bioline Malaria AG Pf/Pan rapid diagnostic test (RDT) was used to test for malaria. To detect the presence of malaria parasites, thick blood smears were also collected and were analysed by microscopy in a laboratory. However, the results presented here are only those of the RDT as analysis of blood smears by microscopy was not ready by the time this report was prepared. Results from the analysis of blood smears by microscopy will be presented in the final report.

Table 19 Haemoglobin <8.0 g/dl in children

Percentage of children age 6-59 months with haemoglobin lower than 8.0 g/dl, by background characteristics, Tanzania 2015-16

Background characteristic	Haemoglobin <8.0 g/dl	Number of children
Residence		
Urban	2.9	2,271
Rural	5.3	6,606
Mainland/Zanzibar		
Mainland	4.7	8,639
Urban	2.9	2,204
Rural	5.3	6,434
Zanzibar	3.6	239
Unguja	2.4	152
Pemba	5.6	87
Zone		
Western	7.3	1,100
Northern	4.3	833
Central	3.5	980
Southern Highlands	1.7	476
Southern	3.4	359
South West Highlands	1.7	852
Lake	6.9	2,921
Eastern	1.8	1,118
Zanzibar	3.6	239
Region		
Dodoma	2.7	374
Arusha	5.4	296
Kilimanjaro	2.4	167
Tanga	4.3	370
Morogoro	1.1	362
Pwani	2.2	181
Dar es Salaam	2.0	575
Lindi	3.2	165
Mtwara	3.6	194
Ruvuma	2.8	213
Iringa	1.0	151
Mbeya	0.9	495
Singida	0.7	309
Tabora	6.0	616
Rukwa	1.9	237
Kigoma	9.0	484
Shinyanga	9.7	405
Kagera	4.7	508
Mwanza	6.6	698
Mara	7.5	441
Manyara	7.3	297
Njombe	0.4	112
Katavi	4.6	120
Simiyu	3.1	460
Geita	11.0	409
Kaskazini Unguja	3.4	38
Kusini Unguja	2.2	25
Mjini Magharibi	2.0	89
Kaskazini Pemba	5.6	46
Kusini Pemba	5.7	41
Wealth quintile		
Lowest	7.3	2,164
Second	6.2	1,969
Middle	3.3	1,734
Fourth	2.8	1,603
Highest	2.3	1,407
Total	4.7	8,877

As presented in Table 20, using the RDT, 14 percent of children age 6-59 months in Tanzania tested positive for malaria during the 2015-16 TDHS-MIS fieldwork. Prevalence of malaria by RDT in 2015-16 is much higher compared with the 2011-12 THMIS results. However, comparison of the malaria prevalence between the two surveys should be done with caution as the timing of the two surveys was different. The 2011-12 THMIS fieldwork took place between December 2011 and May 2012, while the fieldwork for 2015-16 TDHS-MIS was done between August 2015 and February 2016.

Malaria prevalence is much higher in rural areas (18 percent) than in urban areas (4 percent). Among zones, malaria prevalence is highest in Western (28 percent) and lowest in Zanzibar (less than one percent). In general, malaria prevalence decreases with increasing levels of household wealth, ranging from 22 percent in the first and second quintile to 1 percent in the highest quintile.

In Tanzania Mainland, the difference in the prevalence of malaria among regions is striking. The highest prevalence of malaria is found in Kagera region (41 percent), while the regions of Arusha, Dodoma, Kilimanjaro, and Manyara had the lowest (almost zero) percentage of children with malaria. In Zanzibar, malaria is almost wiped out; the highest prevalence of malaria in children in Zanzibar is found in Kusini Unguja (0.3 percent).

Table 20 Prevalence of malaria in children

Percentage of de facto children age 6-59 months classified as having malaria according to RDT, by background characteristics, Tanzania, 2015-16

Background characteristic	Malaria prevalence according to RDT	
	RDT positive	Number of children
Residence		
Urban	3.9	2,271
Rural	18.0	6,606
Mainland/Zanzibar		
Mainland	14.8	8,639
Urban	4.0	2,204
Rural	18.5	6,434
Zanzibar	0.0	239
Unguja	0.0	152
Pemba	0.0	87
Zone		
Western	27.7	1,100
Northern	1.4	833
Central	1.7	980
Southern Highlands	10.4	476
Southern	18.8	359
South West Highlands	3.1	852
Lake	23.4	2,921
Eastern	10.3	1,118
Zanzibar	0.0	239
Region		
Dodoma	0.0	374
Arusha	0.0	296
Kilimanjaro	0.0	167
Tanga	3.2	370
Morogoro	22.5	362
Pwani	15.4	181
Dar es Salaam	1.1	575
Lindi	17.4	165
Mtwara	20.0	194
Ruvuma	22.6	213
Iringa	0.5	151
Mbeya	0.7	495
Singida	5.5	309
Tabora	19.5	616
Rukwa	2.7	237
Kigoma	38.1	484
Shinyanga	16.5	405
Kagera	41.0	508
Mwanza	15.1	698
Mara	19.1	441
Manyara	0.0	297
Njombe	0.4	112
Katavi	13.5	120
Simiyu	13.4	460
Geita	38.2	409
Kaskazini Unguja	0.0	38
Kusini Unguja	0.3	25
Mjini Magharibi	0.0	89
Kaskazini Pemba	0.0	46
Kusini Pemba	0.0	41
Wealth quintile		
Lowest	22.3	2,164
Second	21.7	1,969
Middle	14.7	1,734
Fourth	6.0	1,603
Highest	1.0	1,407
Total	14.4	8,877

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