South Sudan

Household Health Survey 2010

Ministry of Health
Promotes Health & Provides Care

NATIONAL BUREAU OF STATISTICS
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South Sudan

Household Health Survey

2010

Final Report

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SOUTH SUDAN

Household Survey
2010

MONITORING THE SITUATION OF CHILDREN AND WOMEN IN SOUTH SUDAN

MINISTRY OF HEALTH

NATIONAL BUREAU OF STATISTICS

UNITED NATIONS CHILDREN'S FUND (UNICEF)

South Sudan Household Survey 2010

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Sudan Household Health Survey is modelled on MICS, an international household survey programme developed by UNICEF. SHHS 2 was conducted as part of the fourth global round of MICS surveys (MICS4). MICS provides up-to-date information on the situation of children and women and measures key indicators that allow countries to monitor progress towards the Millennium Development Goals (MDGs) and other internationally agreed upon commitments. Additional information on the global MICS project may be obtained from www.childinfo.org.

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The second South Sudan Household Health (SHHS 2) saw success through a gamut of joint efforts by organisations, individual government institutions and staff, and subject matter experts. The team responsible for the supervision and production of this report acknowledges the extraordinary contributions of these institutions and individuals.

The Ministry of Health (MoH) and the National Bureau of Statistics (NBS) played a significant role with respect to the administrative and technical aspects of the survey. In particular, we acknowledge the administrative and institutional contributions of All director Generals Ministry of Health and Hon. Isaiah Chol Aruai, Chairman of the National Bureau of Statistics, whose leadership was instrumental in setting the direction of the study. Many staff of the Ministry of Health and the National Bureau of Statistics were instrumental in this survey, therefore are greatly appreciated. The South Sudan AIDS Commission (SSAC) was critical in the planning processes of the survey and is highly acknowledged.

We acknowledge the combination of all international agencies, including the United Nations (UN), the bilateral donors, the NGOs and other development partners whose financial and technical assistance to the health sector immensely contributed to effective planning, implementation, and publication of the results of this survey. In particular, this survey would have not been possible without the profound contributions of the United Nations Children's Fund (UNICEF), the World Food Programme (WFP), the United Nations Fund for Population Activities (UNFPA), the World Bank, the United States Agency for International Development (USAID), and the World Health Organisation (WHO), UNAIDS.

We are indebted to the Multiple Indicator Cluster Survey (MICS) support desks, both at UNICEF Headquarter offices, ESARO and MENA Regions, for providing technical assistance on methodology, especially with respect to data analysis.

Our sincere appreciation equally goes to our colleagues in the then Sudan's Government of National Unity (GoNU) for their collaboration during the survey planning and implementation processes. Sincere appreciation is also due to the State Ministries of Health and Sub-Offices of the National Bureau of Statistics for assisting in the data collection phase of the survey.

Finally, we are grateful to the individuals in selected sample units for participating in this important study and allowing us access to their households. This study would have not been a success without their consent and participation.

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Foreword

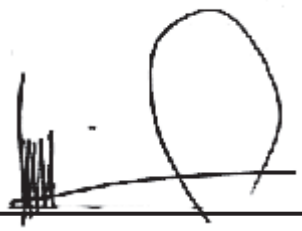
The South Sudan Household Health Survey (SHHS 2) marks the second household and health study in post-conflict South Sudan. This exercise was timely, given its relevance to changes in Sudanese geopolitics, which have considerable implications for children and women's health in the nascent polity. The emphasis of the study is to assess the state of health for children and women and some other important aspects of their wellbeing following the first survey, and to streamline childhood and maternal health services in South Sudan. The study also assesses the state of other facets related to children and women's livelihood. This study establishes evidence-based insights concerned with childhood and maternal health experience in South Sudan, the results of which could be used to develop key strategies for health policy in the area.

Covering the ten states South Sudan, the SHHS 2 provides comparative analyses of childhood and maternal health and other aspects of children's welfare across spaces and according to individual and residence specific indicators.

The success of this project depended primarily on the extraordinary contributions made by various developmental partners and the then Government of Southern Sudan. The joint efforts enabled efficient and effective planning processes for generating and analysing data. As well, the efforts are crucial in mobilising resources that assist in poverty reduction and equitable distribution of social services in South Sudan.

The present data are useful for objectively informing strategies towards attaining the Millennium Development Goals (MDGs) in South Sudan. The principal importance of the data lies in devising solutions geared towards restructuring the health infrastructure, services, and institutional structures in order to ensure effective service delivery practices in the polity.

The SHHS 2 helps illuminate upon current health and other social conditions of children and women in South Sudan, making reference to prior status as provided in the first study with exlusion of MMR which will be done seperately The Survey is a periodical study meant to continuously generate health and other key aspects of social and health history for the population of South Sudan. It is therefore our sincere hope that this report will enable the relevant institutions and their partners to make objectively informed decisions in policy formulation concerned with the provision of services, while promoting consistency in preventive and curative health programs.



Hon. Dr. Michael Milli Hussein
Minister
Minister of Health

Hon. Mr. Isaiah Chol Aruai
Chairman
National Bureau of Statistics (NBS)

Message from UNICEF's Country Office

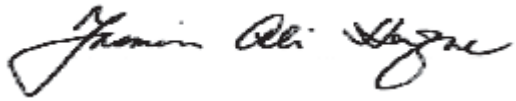
I congratulate the Ministry of Health and the National Bureau of Statistics on the successful completion of the second round of the South Sudan Household Health Survey. This report is extremely opportune as it comes only five months after the birth of this new nation: The Republic of South Sudan. This is the first report ever produced on the situation of children and women in the independent country.

The report provides updated data at the national and sub-national level on health as well as social status of children and women in the new state. The data in the survey reveal the alarmingly poor status of children and women in the country and also highlights geographic and social inequities within the country.

It is well established that the wellbeing of children and women form the cornerstone of the Millennium Development Goals (MDGs). Promoting the rights of children to better life, survival and development is a prerequisite for making tangible and significant progress in attainment of the relevant MDGs. This report forms the primary basis for effective and relevant planning and policy development for promoting the welfare of children and women, in the process simultaneously accelerating progress towards the MDGs. Further, it lays a strong baseline for tracking obligations as laid out in the South Sudan Child Act of 2008.

Our vision at UNICEF for this report goes beyond being a useful reference document for policy makers and administrators only. We strongly encourage academics, researchers, development partners and the civil society to use information contained therein for evidence-based planning, decision-making and reporting on children and women's issues in South Sudan.

This report and the survey that generated this critical information are proof of the rewards of cooperation between the government of the Republic of South Sudan and partnership with Swedish International Development Agency (SIDA) USAID and sister UN agencies, namely United Nations Population Fund (UNFPA), World Health Organisation (WHO) and World Food Programme (WFP). UNICEF stands committed to further strengthen this cooperation and partnerships with relevant institutions of the Republic of South Sudan, civil society, the UN community and international agencies to improve child survival and development in South Sudan within the framework of equitable development and the progressive realisation of the rights of children.



Dr. Yasmin Ali Haque
UNICEF Representative
Republic of South Sudan

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List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BCG	Bacillis-Cereus-Geuerin (Tuberculosis)
CSPro	Census and Survey Processing System
DPT	Diphteria Pertussis Tetanus
EPI	Expanded Programme on Immunization
FGM/C	Female genital mutilation/cutting
GPI	Gender Parity Index
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorders
ITN	Insecticide Treated Net
IUD	Intrauterine Device
LAM	Lactational Amenorrhea Method
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MICS4	Fourth global round of Multiple Indicator Clusters Surveys programme
MoH	Ministry of Health
NAR	Net Attendance Rate
ORT	Oral rehydration treatment
ppm	Parts Per Million
SPSS	Statistical Package for Social Sciences
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session on HIV/AIDS
USAID	United States Agency for Development
UNICEF	United Nations Children's Fund
WFFC	World Fit For Children
WHO	World Health Organization
WFP	World Food Programme

Summary Table of Findings

Multiple Indicator Cluster Surveys (MICS) and Millennium Development Goals (MDG) Indicators, South Sudan, 2010

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value
CHILD MORTALITY				
Child mortality	1.1	*4.1*	Under-five mortality rate	108 per 1,000
	1.2	*4.2*	Infant mortality rate	79 per 1,000
	1.3		Neonatal mortality rate	43 per 1,000
	1.4		Post-neonatal mortality rate	36 per 1,000
	1.5		Child mortality rate	32 per 1,000
NUTRITION				
Nutritional status			Underweight prevalence	
	2.1a	*1.8*	Moderate and Severe (- 2 SD)	27.6 percent
	2.1b		Severe (- 3 SD)	12.2 percent
			Stunting prevalence	
	2.2a		Moderate and Severe (- 2 SD)	31.1 percent
	2.2b		Severe (- 3 SD)	17.1 percent
			Wasting prevalence	
	2.3a		Moderate and Severe (- 2 SD)	22.7 percent
	2.3b		Severe (- 3 SD)	9.9 percent
Breastfeeding and infant feeding	2.4		Children ever breastfed	38.0 percent
	2.5		Early initiation of breastfeeding	48.1 percent
	2.6		Exclusive breastfeeding under 6 months	45.1 percent
	2.7		Continued breastfeeding at 1 year	82.3 percent
	2.8		Continued breastfeeding at 2 years	38.0 percent
	2.9		Predominant breastfeeding under 6 months	72.9 percent
	2.10		Duration of breastfeeding	17.2 months
	2.11		Bottle feeding	5.5 percent
	2.12		Introduction of solid, semi-solid or soft foods	20.9 percent
	2.13		Minimum meal frequency	11.5 percent
	2.14		Age-appropriate breastfeeding	30.4 percent
	2.15		Milk feeding frequency for non-breastfed children	17.9 percent
Salt iodization	2.16		Iodized salt consumption	54.0 percent
Vitamin A	2.17		Vitamin A supplementation (children under age 5)	3.9 percent
CHILD HEALTH				
Vaccinations	3.1		Tuberculosis immunization coverage	31.4 percent
	3.2		Polio immunization coverage	12.7 percent
	3.3		Immunization coverage for diphtheria, pertussis and tetanus (DPT)	13.1 percent
	3.4	*4.3*	Measles immunization coverage	20.4 percent
Tetanus toxoid	3.7		Neonatal tetanus protection	36.9 percent
Care of illness	3.8		Oral rehydration therapy with continued feeding	23.0 percent
	3.9		Care seeking for suspected pneumonia	47.6 percent
	3.10		Antibiotic treatment of suspected pneumonia	32.9 percent
Solid fuel use	3.11		Solid fuels	99.0 percent

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value
Malaria	3.12		Household availability of insecticide-treated nets (ITNs)	34.2 percent
	3.16		Malaria diagnostics usage	28.0 Percent
	3.17		Antimalarial treatment of children under 5 the same or next day	27.1 percent
	3.18	*6.8*	Antimalarial treatment of children under age 5	51.2 percent
	3.20		Intermittent preventive treatment for malaria	19.0 percent
WATER AND SANITATION				
Water and sanitation	4.1	*7.8*	Use of improved drinking water sources	68.7 percent
	4.2		Water treatment	9.0 percent
	4.3	*7.9*	Use of improved sanitation	7.4 percent
	4.4		Safe disposal of child's faeces	15.7 percent
REPRODUCTIVE HEALTH				
Contraception and unmet need	5.1	*5.4*	Adolescent birth rate	18.4 per 1,000
	5.2		Early childbearing	27.9 percent
	5.3	*5.3*	Contraceptive prevalence rate	4.0 Percent
	5.4	*5.6*	Unmet need	26.3 Percent
Maternal and newborn health			Antenatal care coverage	
	5.5a 5.5b	*5.5*	At least once by skilled personnel	40.3 percent
			At least four times by any provider	17.3 percent
	5.6		Content of antenatal care	12.8 percent
	5.7	*5.2*	Skilled attendant at delivery	19.4 percent
	5.8		Institutional deliveries	11.5 percent
	5.9		Caesarean section	0.6 percent
EDUCATION				
Literacy and education			Literacy rate among young people	
	7.1	*2.3*	women age 15-24 years	13.4 percent
	7.2		School readiness	16.7 percent
	7.3		Net intake rate in primary education	11.2 percent
	7.4	*2.1*	Primary school net attendance rate (adjusted)	26.2 percent
	7.5		Secondary school net attendance rate (adjusted)	4.4 percent
	7.6	*2.2*	Children reaching last grade of primary	64.5 percent
	7.7		Primary completion rate	10.8 percent
	7.8		Transition rate to secondary school	56.0 percent
	7.9		Gender parity index (primary school)	0.81 ratio
	7.10		Gender parity index (secondary school)	0.43 ratio
CHILD PROTECTION				
Birth registration	8.1		Birth registration	35.4 percent
Early marriage and polygyny			Marriage before age 15	6.9 percent
	8.6		women age 15-49 years	
			Marriage before age 18	44.8 percent
	8.7		women age 20-49 years	
	8.8		Young women age 15-19 years currently married or in union	40.1 percent
			Polygyny	
	8.9		women age 15-49 years	41.0 percent
Domestic violence			Attitudes towards domestic violence	
	8.14		women age 15-49 years	78.5 percent

HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN				
Topic	**MICS Indicator Number**	**MDG Indicator Number**	**Indicator**	**Value**
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention women age 15-49 years	8.6 percent
	9.2	*6.3*	Comprehensive knowledge about HIV prevention among young people women age 15-24 years	9.8 percent
	9.3		Knowledge of mother-to-child transmission of HIV women age 15-49 years	14.6 percent
	9.4		Accepting attitudes towards people living with HIV women age 15-49 years	9.7 percent
	9.5		Women who know where to be tested for HIV	19.3 percent
	9.6		Women who have been tested for HIV and know the results	3.9 percent
	9.7		Sexually active young women who have been tested for HIV and know the results	6.0 percent
	9.8		HIV counselling during antenatal care	14.6 percent
	9.9		HIV testing during antenatal care	9.7 percent
Sexual behaviour	9.10		Young women who have never had sex	74.8 percent
	9.11		Sex before age 15 among young people women age 15-24 years	10.5 percent
	9.13		Sex with multiple partners women age 15-49 years	3.6 percent
	9.14		Condom use during sex with multiple partners women age 15-49 years	4.8 percent
	9.15		Sex with non-regular partners women age 15-24 years	13.3 percent
	9.16	*6.2*	Condom use with non-regular partners women age 15-24 years	2.8 percent
Orphaned children	9.17		Children's living arrangements	13.2 percent
	9.18		Prevalence of children with one or both parents dead	17.2 percent
	9.19	*6.4*	School attendance of orphans	26.5 percent
	9.20	*6.4*	School attendance of non-orphans	34.0 percent

Executive Summary

The South Sudan Household Health Survey (SHHS 2), the second round of its kind, is a nationally representative sample survey of households, women and men aged 15-49 years and children aged 0-5 years. The survey studies the general well-being of women and children in South Sudan. It aims to collect health and related indicators essential to identifying women, men and children's health needs and for establishing priorities for evidence-based planning, decision-making and reporting. The sample design, based on MICS4 (Multiple Indicator Cluster Survey 4) methodology, provides robust estimates of the selected health and social development indicators required for effective planning and management purposes.

The South Sudan Household Health Survey (SHHS 2) was carried out in 2010 by the National Bureau of Statistics, and Ministry of Health with Financial & Technical Support from UNICEF and the Ministry of Health. The results presented in this report pertain to last week of March to the end of June 2010, when the field work was conducted.

Household Characteristics

Of the 9,950 households selected for the sample, 9,760 were contacted for interviews. Of these, 9,369 were interviewed, giving a response rate of 96 percent. In the households interviewed, 11,568 women aged 15–49 years were identified. Of these, 9,069 were duly interviewed, producing a response rate of 78 per cent. Concerning children under the age of 5 years, 10,040 were identified, for whom responses were obtained from their mothers or caregiver in 8,338 complete interviews, giving a response rate of 83 percent. For the male survey, 8,656 men aged 15-49 years were identified, and 4,345 successfully interviewed, yielding a response rate of 50 percent. However, given this very low response rate, the men's results were dismissed from this SSHS2 report analysis.

Overall, the survey found that 42 percent of households in South Sudan are headed by women. Children less than 15 years constitute 53 percent of the total population. Furthermore, 23 percent of households are in urban areas compared to 77 percent in rural areas. The most common household size is 5-6 household members (33 percent), followed by 3-4 and 7-8 household members with 22 percent each.

Characteristics of Female Respondents

The SHHS 2 data show that for women, the largest population age-group is 20-29 years with 40 percent in this category. In addition, 81 percent of women are currently married/in union, while 11 percent have never been married/in union. Jonglei, Warap and Central Equatoria have the highest proportion of women, with 14 percent each. The lowest proportion of women is in Western Bahr El Ghazal (4 percent).

In South Sudan, 81 percent of women have given birth at least once, and 38 percent gave birth in the last two years. About 74 percent women live in rural areas; while for children, about 76 percent live in rural areas compared to 24 percent in urban areas. With respect to educational level, 79 percent of women have no education; 17 percent of women have primary education; and only 4 percent of women have secondary or higher levels of education.

For children under five, South Sudan has roughly the same proportion of girls (49 percent) and boys (51 percent) but there are more children in rural areas (76 percent) than in urban areas (24 percent). Eighty-four percent of the children have mothers with no formal education, while 13 percent have mothers/care takers with primary education and only 3 percent have mothers/ caretakers with secondary and higher education. The highest proportions of children are in Jonglei (15 percent) and Warap (14 percent), while the lowest proportion is found in Western Bahr El Ghazal (4 percent). The age distribution in months of the children under-five years is also provided. Children are somehow evenly distributed across age-groups (months), except for the last age-group of 48-59 months with only 14 percent.

Child Mortality

The second South Sudan Household Survey (SHHS 2) was conducted from the last week of March and concluded by the end of June 2010 and early childhood mortality rates were estimated using the direct method. The reference point (mid-point interval) for the childhood mortality for the most recent five year period is the last week of September 2007.

The results estimate South Sudan under-five mortality rate at 108 deaths per 1,000 live births. The child mortality rate is estimated at 32 deaths per 1,000 children aged 1 year, while the infant mortality rate is estimated at 79 deaths per 1,000 live births. Post neonatal and neonatal mortality rates are estimated at 36 and 43 deaths per 1000 live births, respectively, for the same period.

Neonatal mortality rate represents 55 percent of the infant mortality rate in South Sudan, meaning that 55 percent of deaths in infancy occur during the first 28 days of a child's life. Significant variations are also noted across the states. The highest infant mortality rates are in Northern Bahr El Ghazal (120 deaths per 1,000 live births), Central Equatoria (115 deaths per 1,000 live births) and Eastern Equatoria (106 deaths per 1,000 live births), while the lowest are in Jonglei and Unity with 31 deaths per 1,000 live births each. The highest proportions of under-five morality rates are in Northern Bahr El Ghazal (157 deaths per 1,000 live births) and Central Equatoria (152 deaths per 1,000 live births), and the lowest proportions are found in Jonglei (48 deaths per 1,000 live births) and Unity (51 deaths per 1,000 live births).

An unexpected pattern is observed across residence and wealth index quintiles. Children living in urban areas experience higher levels of infant and under-five mortality rates (90 and 118 deaths per 1,000 live births respectively), compared to those living in rural areas (75 and 105 deaths per 1000 live births respectively). The infant mortality rate is estimated at 90 deaths per 1000 live births for children from the richest wealth quintile, and 71 deaths per 1000 live births for children in the middle wealth quintile; and the under-5 mortality rate is estimated at 117 deaths per 1,000 live births for children from the richest households, compared to 99 deaths per 1,000 live births for children belonging to the middle households.

Nutritional Status

Almost one in 4 children (28 percent) under the age of five years is moderately or severely underweight and 12 percent are classified as severely underweight. The results also reveal that nearly 1 in every 3 children (31 percent) is moderately or severely stunted, and 17 percent are

severely stunted. Sixteen percent of the children are moderately or severely wasted, and 6 percent can be considered severely wasted. There are no significant variations across the gender and residence for all three indicators.

However at state level, differentials are noticed. The highest rates for underweight (46 percent), stunting (40 percent) and wasting (35 percent) are found in Unity; while the lowest rates for underweight are recorded in Central Equatoria (17 percent), for the stunting in Upper Nile and Western Bahr El Ghazal (27 percent each) and in Central Equatoria for wasting (11 percent). For all three indicators, the rates decrease with mother's/caretaker educational level and wealth index quintiles.

Breastfeeding and Infant and Young Child Feeding

Approximately 45 percent of children aged 0-5 months are exclusively breastfed, a level considerably lower than recommended. The mean duration for any breastfeeding is 17 months, 4 month for exclusively breastfeeding and 8 months for predominant breastfeeding. In addition, 21 percent of children aged 6-8 months are currently breastfed and receiving solid, semi-solid or soft foods, and 30 percent of children aged 0-23 months are appropriately breastfed.

SHHS2 data also show that, for children aged 6-23 months currently breastfeeding, 11 percent are receiving solid, semi-solid and soft foods the recommended minimum number of times. For children aged 6-23 months not currently breastfeeding, 14 percent are receiving solid, semi-solid and soft foods or milk feeds 4 times or more. And for all children aged 6-23 months, 12 percent receive minimum meal frequency.

About 6 percent of children aged 0-23 months and 7 percent of children aged 6-11 months are fed using a bottle with a nipple. Results also show that the most likely children to be bottle-fed are those from Jonglei and Central Equatoria (8 percent each), those living in urban areas (9 percent), those whose mothers have primary (9 percent) or secondary education (10 percent) and those from the wealthiest households (10 percent).

Salt Iodization

Salt used for household cooking was tested in the SHHS 2 through the use of Rapid Salt Kits. In about 78 percent of households, salt used for cooking was tested for iodine content by using salt test kits and testing for the presence of potassium iodide or potassium iodate content or both. In 45 percent of households where the test was carried out, salt was found to contain 15 parts per million (ppm) or more of iodine. Use of adequately iodized salt was lowest in Northern Bahr El Ghazal (13 percent), Unity (14 percent) and Upper Nile (15 percent); and highest in Central Equatoria (83 percent) and Western Equatoria (81 percent).More than one in two (57 percent) of urban households were found to be using adequately iodized salt, compared to 42 percent in rural areas. Also, 61 percent of richest households use iodized salt compared to 37 percent in the poorest and 38 percent in second households.

Vitamin A Supplement

Within the six months prior to SHHS2, 4 percent of children aged 6-59 months received a high dose Vitamin A supplement. Vitamin A supplementation coverage is lower in Warap, Jonglei

and Unity than in other States. Overall, percentages for most of the States are below 5 percent, except for Jonglei (8 percent) and Western Bahr El Ghazal (6 percent). Urban areas record 6 percent compared to 3 percent in rural areas). In addition, the Vitamin A supplementation increases with mother's educational level and household wealth index. The highest proportion (16 percent) of Vitamin A supplementation was found in age-group 12-23 months.

Immunization

According to UNICEF and WHO guidelines, a child should receive a BCG vaccination to protect against tuberculosis, three doses of DPT to protect against diphtheria, pertussis, and tetanus, three doses of polio vaccine, and a measles vaccination by the age of 12 months. In South Sudan, the SSHH2 results show that 6 percent of children aged 12-23 months are fully immunized before their first birthday; and the coverage rate for all vaccination for children aged 12-23 months is also 6 percent, while 56 percent of children have not received any vaccinations.

Approximately 31 percent of children aged 12-23 months received a BCG vaccination by their first birthday, 20 percent were immunized against measles by their first birthday, and 13 percent received 3 doses of DPT/HepB/INFL. Also, 13 percent of children aged 12-23 months had received 3 doses of polio.

Tetanus toxoid

Thirty-seven percent of women who gave birth in the last two years are protected against tetanus. Nearly 1 in four (28 percent) of them are protected because they received at least two doses of tetanus toxoid injection during their most recent pregnancy, while 9 per cent of women are protected because they received at least two doses of the vaccine in the last three years. More women in urban areas received the 2 doses during their last pregnancy (51 percent), compared to their rural counterparts (32 percent). The Central Equatoria has the highest percentage of women who received at least 2 doses of tetanus vaccination during their last pregnancy (71 percent), while Warap state the lowest with 17 percent. Also the proportion of protection against tetanus increases with mother's educational level and wealth index.

Oral rehydration treatment

Thirty percent of children under-five had diarrhoea in the two weeks prior to the survey. Around 2 in 5 third (39 percent) of children with diarrhoea were treated with ORS (fluid made with an ORS packet or pre-packaged ORS fluids), and 25 percent received recommended home-prepared fluids. Less than half (49 percent) of children with diarrhea in the two weeks prior to the survey received oral rehydration treatment (ORT), meaning that they received either ORS, or the recommended home-prepared liquids, or increase of fluids. The rate of use of ORT is higher in Central Equatoria state (73 percent) compared to Lakes (33 percent) Warap (35 percent). The SHHS 2 data also show that 23 percent of children received ORT and, at the same time, feeding was continued, as recommended.

Care-seeking and antibiotic treatment of pneumonia

About 1 in 5 (19 percent) of children aged 0–59 months were reported as presenting symptoms suggestive of pneumonia in the two weeks prior to the survey. Of the children with suspected pneumonia, less than half (48 percent) were taken to an appropriate health provider. In addition, 33 percent of children with suspected pneumonia received antibiotics.

Malaria

More than half (52 percent) of all households own at least one mosquito net and 34 percent of all households have at least one long-lasting insecticidal net (LLIN). The availability of LLIN is slightly lower in rural areas (31 percent) than in urban areas (44 percent). Western Equatoria state has the highest (58 percent) LLIN coverage, while the lowest coverage rates are found in Warap (17 percent), Unity (20 percent) and Upper Nile (22 percent). This proportion is higher in urban areas (44 percent) than in rural areas (31 percent). Nearly 31 percent of households with an uneducated heads have at least one LLIN, compared to 45 percent for households where the heads have secondary education or higher. The proportion of poorest households with at least one LLIN is lower (27 percent) than that of households from the richest households, standing at 45 percent

The SHHS 2 data also reveal that nearly 1 in 3 children under-five (32 percent) had fever in the two weeks preceding the survey, and 51 percent of them took antimalarial drugs; just over 1 in 4 of them (27) took the antimalarial drugs the same or next day. The malaria diagnostics usage is at 28 percent.

Water and Sanitation

Nearly 69 percent of household members in South Sudan are using improved sources of drinking water, which means that South Sudan still has to make progress in order to achieve the 2015 MDG 7 target of 78 percent of the population using improved drinking water. However, wide variations exist across states with the highest proportion in Lakes (92 percent) compared to 52 Western Bahr El Ghazal. There seems not be significant variations across residence, education and wealth index.

The great majority of households (89 percent) do not use any method for treating water. Regarding households with unimproved sources of water, 9 percent of them treat their water using appropriate water treatment method before they drink it. Concerning access to water for those households without water on the premises, for about 33 percent of all households that use an improved drinking water source, it takes less than 30 minutes for the round trip to fetch water, while 34 percent of households spend 30 minutes or more.

Ninety-eight percent of households do not have drinking water on premises or delivered by tankers/carts. And in the majority of households (86 percent), the person who fetches water is an adult woman. Adult men collect water in only 5 percent of cases, while for the rest of the households, female or male children under age 15 collect water (9 and 1 percent respectively).

The MDGs and the WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation classify households as using an unimproved sanitation facility if they are using otherwise acceptable sanitation facilities but sharing a facility between two or more households or using a public toilet facility. Taking into account this definition, only 7 percent of household members were using an improved and not shared sanitation facility. The highest proportions are in Western Equatoria (23 percent) and Central Equatoria (13 percent), while the lowest are in Warap (1 percent) and Northern Bahr El Ghazal (2 percent).

About 64 percent of households in South Sudan practice open defecation or have no toilet facility, and this was more pronounced in rural areas (70 percent) than urban areas (46 percent). And except Western Equatoria (15 percent) and Central Equatoria (49 percent), the proportions of open defecation are above 60 percent in all remaining 8 states.

The proportion of access to both improved drinking water sources and improved sanitation is 6 percent in South Sudan.

Fertility

The adolescent birth rate and total fertility rate (TFR) are respectively 158 live births per 1,000 women and 7.5 children per woman. The average TFR is 7.4 children per woman in the urban areas and 7.5 per woman in the rural areas. At state level, the Upper Nile, Northern Bahr El Ghazal and Western Bahr El Ghazal states have the highest TFR with 8.1children per woman each and they are followed by Unity state with 7.8 children per woman. And as can be expected, the lowest TFR is observed among women with secondary or higher education (5.3 children per woman) and in the richest quintile (6.9 children per woman).

Twenty-six percent of women aged 15-19 years had already given birth, 5 percent were pregnant with their first child and therefore, in total, 31 percent had begun childbearing. Furthermore, 3 percent have had a live birth before the age 15 and about 28 percent of women aged 20-24 years have had a live birth before age 18.

Contraception use and unmet need

Only 4 percent women currently married or in union reported using any method of contraception: 1 percent of all women use modern methods and 3 percent use traditional methods. There is a slight difference in contraceptive use depending on residence, with 5 percent of users in urban areas against 4 percent in rural areas.

The unmet need for contraception refers to fecund women who are not using any method of contraception, but who wish to postpone the next birth (spacing) or who wish to stop childbearing altogether (limiting). Overall, 26 percent of women aged 15-49 years have an unmet need for contraception. Nineteen percent have an unmet need for spacing and 7 percent have an unmet need for limiting.

Antenatal care

Forty percent of women aged 15-49 years who gave birth in the 2 years preceding the survey received at least one antenatal care (ANC) visit by skilled health personnel and 17 percent had 4 or more antenatal care visits. Central Equatoria state recorded the highest proportions of pregnant women who attended 4 or more antenatal care visits with 35 percent. The Warap state recorded the lowest proportion of pregnant women that had at least 4 antenatal care visits (6 percent). During their antenatal care, 13 percent of the women had blood pressure measured, a urine specimen taken and a blood test.

Assistance at delivery

Around 19 percent of women aged 15-49 years who gave birth in the last two years were assisted by skilled personnel during the delivery. This percentage is highest in the State of Central Equatoria at 39 percent and lowest in Warap state at 9 percent. The data also show that 12 percent of women delivered in health facilities, and nearly 1 percent had a C-section.

Literacy and Education

Thirteen percent of young women (aged 15-24 years) are literate. In the richest wealth quintile, 29 percent of young women are literate while in the poorest wealth quintile only 4 percent of young women are literate. Seventeen percent of children attending first grade attended preschool in the previous year. Only 11 percent of children of primary school entry age entered grade 1, which means that 89 percent of children enter the education system late. Timely entry into school is greater in urban (20 percent) than in rural areas (9 percent). The SHHS 2 shows that there is a strong relationship between timely entry into grade 1 and the educational level of the mother and the household's economic situation.

The primary school net attendance rate (adjusted) is 26 percent. In urban areas, the net attendance rate (adjusted) is 43 percent compared to 21 percent in rural areas. The secondary school net attendance rate (adjusted) is 4 percent, with 8 percent in urban areas compared to 3 percent in rural areas. In addition, 65 percent of children who enter grade 1 reach grade 8. The primary school completion rate is 11 percent while the transition rate to secondary school is 56 percent. The gender parity ratio for net attendance rate (adjusted) is 0.81 in primary school and 0.43 in secondary school.

Birth registration

The births of 35 percent of children under-five years have been registered with civil authorities. Forty-five percent of children in urban areas are registered, compared to 33 percent of children in rural areas. Across states, children in the Central Equatoria are more likely to be registered (61 percent), followed by children in the Western Equatoria (56 percent), while those in the Lakes and Northern Bahr El Ghazal are the least likely to be registered (17 percent). Among children whose births are registered, 29 percent have birth certificates and 6 percent do not have their birth certificates. The birth registrations as well as the possession of birth certificates increase with mother's educational level and wealth index quintiles. No significant variations observed across gender.

Early marriage and polygamy

The SHHS 2 data show that the proportion of women aged 15-49 years married before age 15 is 7 percent; and proportion of women aged 20-49 years married before age 18 is about 45 percent. Such marriages (before age 15) are higher in Western Equatoria (13 percent) and Western Bahr Ghazal (12 percent) than in Lakes (4 percent), Upper Nile (5 percent) Northern Bahr Ghazal (5 percent). No significant differentials observed across the residence, age-group, education and economic status among women aged 15-59 years married before the age 15.

The SHHS 2 data also show that 41 percent of women aged 15-49 years are in polygynous marriages/ unions. In addition, 40 percent of women aged 15-19 years are currently married/in union.

Domestic violence

The SHHS 2 results reveal that 79 percent of women think that a husband is justified in beating his wife for at least one of the following reasons: when the woman goes out without telling him, if she neglects the children, if she argues with him, if she refuses to have sex with him, if she burns the food, if she insults him, if she refuses to give him food, if she has another partner, if she steals, if she gossips, and for any of other reasons. The proportions range from 74 percent in Western Bahr El Ghazal to 88 percent in Warap. No significant variations noted across residence, age-groups, education and wealth index quintiles.

Children's living arrangements and orphanhood

Overall, 54 percent of children aged 0-17 years in South Sudan live with both their parents, but 13 percent are not living with a biological parent. Seventeen percent of children in South Sudan are orphans of one or both parents, and 2 percent of the children aged 0-17 years are double orphans. While about 29 percent live with their mother only, just 3 percent live with their father only. For children living with neither of their biological parents, 8 percent have both parents alive, 1 percent has only their father alive, 3 percent have only their mother alive, and 2 percent both parents are dead. For children living with their mother only, 18 percent have their father alive, while for 11 percent of them their father is dead. For the 3 percent of all children aged 0-17 years living with only their father, their mothers are alive in two in three cases.

HIV/AIDS and Sexual Behaviour

The SHHS 2 shows that 53 percent of women have heard about AIDS, but only 9 percent of women aged 15-49 years have comprehensive knowledge of AIDS. Specifically, 15 percent of women reject the two most common misconceptions about AIDS and know that a healthy looking person can have the AIDS virus.

Fifty-nine percent of young women (aged 15-24 years) have heard of AIDS, and 10 percent of young women have comprehensive knowledge of the disease. Seventeen percent of young women reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus.

Forty-one percent of women aged 15-49 years know that HIV can be transmitted from mother to child, and 15 percent know all three means of transmission of AIDS from mother to child. Only 10 percent of women aged 15-49 years express accepting attitudes toward people living with HIV/AIDS on all four indicators analysed in the SHHS 2. A positive attitude towards people living with HIV/AIDS is strongly correlated with educational levels, household wealth, and area of residence. This is also true for knowledge of a place for HIV testing. At the national level, 19 percent of interviewed women know a place for HIV testing.

Among women aged 15-49 years who gave birth in the last 2 years, 15 percent received HIV counselling during antenatal care; and 9 percent were offered an HIV test and were tested for HIV during antenatal care, and received the results.

During the last 12 months prior to the survey, 54 percent of young women had sex. For young women who are sexually active, 25 percent of them know where to get HIV testing, 16 percent have been tested, 10 percent were tested in the 12 months prior to the survey, and 6 percent were told their results.

The SHHS 2 results also show that about 4 percent of women aged 15-49 years had sex with more than one partner in last 12 months. Among those, only 5 percent of women used a condom. For young women aged 15-24 years, the proportion of having sex with more than one partner in the last 12 months is 4 percent and among them, 7 percent used a condom.

I. Introduction

Background

This report is based on the second South Sudan Household Health Survey (SHHS 2), conducted in 2010 by the Ministry of Health and National Bureau of Statistics. The survey provides valuable information on the situation of children and women in South Sudan, and was based, in large part, on the needs to monitor progress towards goals and targets emanating from recent international agreements: the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000, and the Plan of Action of A World Fit For Children, adopted by 189 Member States at the United Nations Special Session on Children in May 2002. Both of these commitments build upon promises made by the international community at the 1990 World Summit for Children.

In signing these international agreements, governments committed themselves to improving conditions for their children and to monitoring progress towards that end. UNICEF was assigned a supporting role in this task (see table below).

A Commitment to Action: National and International Reporting Responsibilities

The governments that signed the Millennium Declaration and the World Fit for Children Declaration and Plan of Action also committed themselves to monitoring progress towards the goals and objectives they contained:

"We will monitor regularly at the national level and, where appropriate, at the regional level and assess progress towards the goals and targets of the present Plan of Action at the national, regional and global levels. Accordingly, we will strengthen our national statistical capacity to collect, analyse and disaggregate data, including by sex, age and other relevant factors that may lead to disparities, and support a wide range of child-focused research. We will enhance international cooperation to support statistical capacity-building efforts and build community capacity for monitoring, assessment and planning." (A World Fit for Children, paragraph 60)

"…We will conduct periodic reviews at the national and subnational levels of progress in order to address obstacles more effectively and accelerate actions…." (A World Fit for Children, paragraph 61)

The Plan of Action (paragraph 61) also calls for the specific involvement of UNICEF in the preparation of periodic progress reports:

"… As the world's lead agency for children, the United Nations Children's Fund is requested to continue to prepare and disseminate, in close collaboration with Governments, relevant funds, programmes and the specialized agencies of the United Nations system, and all other relevant actors, as appropriate, information on the progress made in the implementation of the Declaration and the Plan of Action."

Similarly, the Millennium Declaration (paragraph 31) calls for periodic reporting on progress:

"…We request the General Assembly to review on a regular basis the progress made in implementing the provisions of this Declaration, and ask the Secretary-General to issue periodic reports for consideration by the General Assembly and as a basis for further action."

The report is based on the analysis of the information collected during the second South Sudan Household Survey (SHHS 2) carried out in 2010. The survey was largely based on the methodology of the UNICEF supported Multiple Indicator Cluster Survey (MICS). Additional questions and modules were incorporated in the questionnaires during the planning stage in order to obtain additional information required by the Ministry of Health and various development partners for improved planning, decision-making, reporting and management. Planning for the survey was a participatory exercise steered by the Ministry of Health in South Sudan, with technical support from the National Bureau Statistics (NBS).

Since the signing of the Comprehensive Peace Agreement (CPA) in 2005 between the then Government of Sudan and the Sudan People¡¦s Liberation Movement (SPLM), the then government of Southern Sudan has worked to establish evidence-based health care system in accordance with the health policy 2006-2011. This survey is part of this effort of establishing the Health Management Information System (HMIS) in the country. A noteworthy capacity development aspect of this survey is that it provides the foundation for the new country to conduct similar surveys in the future.

This is the second large-scale household health survey conducted in South Sudan. Along with the success and satisfaction of having completed this very large and important task were also many challenges. The enormity of the task; the anticipated but challenging logistical arrangements to reach selected households; the difficulties for effective field supervision; the complexity of the questionnaire; and the unanticipated non-response by one of the target groups (men aged 15-49), resulting in some data being invalid for inclusion in the report. Still, all of these lessons will no doubt benefit future exercises.

Finally, this report presents results on principal topics covered in the survey. The MICS and MOH-GoSS indicators are presented in the summary Table 1. The next chapters present specific objectives, methodology, findings, and conclusions. This final report presents the results of the indicators and topics covered in the survey.

Survey Objectives

The primary objectives of the second South Sudan Household Health Survey (SHHS 2) include:

- To provide up-to-date information for assessing the situation of children and women in South Sudan;
- To furnish data needed for monitoring progress toward goals established in the Millennium Declaration and other internationally agreed upon goals, as a basis for future action;
- To contribute to the improvement of data and monitoring systems in South Sudan and to strengthen technical expertise in the design, implementation, and analysis of such systems.
- To generate data on the situation of children and women, including the identification of vulnerable groups and of disparities, to inform policies and interventions.
- To provide up-to-date information on the health status of children and women of South Sudan in order to understand differences related to determinants of health, such as poverty, education, gender, residence type (rural/urban), and the State of residence;
- To generate data that assist in monitoring progress towards achieving the MDGs and WFFC's goals; and
- To contribute to essentially desired improvements of data collection, quality, and analysis in South Sudan.

II. Sample and Survey Methodology

Sample Design

The sample for the second South Sudan Household Health Survey (SHHS 2) was designed to provide estimates for a large number of indicators on the situation of children and women at the national level, for urban and rural areas, and for the 10 states across the country: The said States are Upper Nile, Jonglei, Unity, Warap Northern Bahr El Ghazal, Western Bahr El Ghazal, Lakes, Western Equatoria, Central Equatoria, Eastern Equatoria.

The sampling frame used for the SHHS 2 is the 2008 Sudan Population and Housing Census. States were identified as the sampling domains or domains of analysis. The sample uses 20 urban and rural strata, two per State.

The sample size for the survey was determined by the degree of precision required for survey estimates for each state: 1,000 households in each state. Since a similar level of precision was required for the survey results from each state, it was decided to draw 40 clusters from each state and 25 households from each cluster. However, in each of Unity and Jonglei states only 39 clusters were selected and that yields 975 households by state. The total sample was finally 9,950 households or 398 clusters (enumeration areas)

The sample was selected in two stages: within each State, enumeration areas were randomly selected with probability proportional to size as primary sampling units. After a household listing was carried out within the selected enumeration areas, a sample of 25 households was drawn in each sampled enumeration area.

The sample is not self-weighting; for reporting national level results, sample weights are used.

Questionnaires

Four sets of questionnaires were used in the survey: 1) a household questionnaire which was used to collect information on all *de jure* household members (usual residents), the household, and the dwelling; 2) a women's questionnaire administered in each household to all women aged 15-49 years; 3) a men's questionnaire administered in each household to all men aged 15-49 years; and 4) an under-5 questionnaire, administered to mothers or caretakers for all children under 5 living in the household. The questionnaires included the following modules:

The Household Questionnaire included the following modules:

- household information panel
- Household Listing Form and Education
- Water and Sanitation (country specific tables were produced for use of improved water sources, Household water treatment, Time to source of drinking water and Drinking water and sanitation ladders)
- Household Characteristics
- Insecticide Treated Nets (Results are only available for household possession of at least one mosquito net and one long-lasting treated net)Salt Iodization

The Questionnaire for Individual Women was administered to all women aged 15-49 years living in the households, and included the following modules:

o Woman's Information Panel
o Women's Background
o Child Mortality
o Live Birth History
o Desire for Last Birth (Results not available)
o Maternal and Newborn Health
o Contraception
o Unmet Need
o Attitudes Towards Domestic Violence
o Marriage/Union
o Female Genital Mutilation/Cutting (Results not available)
o Sexual Behaviour
o HIV/AIDS
o Sexually Transmitted Infections (Results not available)

The Questionnaire for Individual Men was administered to all men aged 15-49 years living in the households, and included the following modules:
o Men's information panel
o Men's Background
o Attitudes Towards Domestic Violence
o Marriage/Union
o Sexual Behaviour
o HIV/AIDS
o Sexually Transmitted Infections

The Questionnaire for Children Under -Five was administered to mothers or caretakers of children under 5 years of age[1] living in the households. Normally, the questionnaire was administered to mothers of under-5 children; in cases when the mother was not listed in the household roster, a primary caretaker for the child was identified and interviewed. The questionnaire included the following modules:

o Under-five Child Information Panel
o Age
o Birth Registration
o Breastfeeding
o Early Child Development (Results not available)
o Care of Illness
o Malaria
o Immunization
o Anthropometry

[1]The terms "children under 5", "children age 0-4 years", and "children aged 0-59 months" are used interchangeably in this report.

The questionnaires are based on the MICS4 model questionnaire[2]. Based on the results of the pre-test, modifications were made to the wording and translation of the questionnaires. A copy of the South Sudan Household Health Survey questionnaires is provided in Appendix F.

In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine content, and measured the weights and heights of children age under 5 years. Details and findings of these measurements are provided in the respective sections of the report.

Training and Fieldwork

Training for the fieldwork was conducted from February to March 2010. Training included lectures on interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions. Towards the end of the training period, trainees spent 2 days in practice interviewing in Juba Payam, Central Equatoria State.

Field work staff and data analysts were selected across the ten states. A total of 677 field staffs were recruited and trained in January, February and March 2010. The data were collected by these staffs, comprising 40 teams. Each team was comprised of 3 interviewers, one driver, one editor, one measurer and a supervisor. Fieldwork began in last week of March and concluded by the end of June 2010.

Data Processing

Data were entered using the CSPro software. The data were entered on 20 microcomputers and carried out by 40 data entry operators and 4 data entry supervisors. In order to ensure quality control, all questionnaires were double entered and internal consistency checks were performed. Procedures and standard programs developed under the global MICS4 programme and adapted to the South Sudan questionnaire were used throughout. Data processing began after the end of data collection and was completed in July 2010. Data were analysed using the Statistical Package for Social Sciences (SPSS) software program, Version 18, and the model syntax and tabulation plans developed by UNICEF were used for this purpose.

[2]The model MICS4 questionnaires can be found at www.childinfo.org/mics4_questionnaire.html

III. Sample Coverage and the Characteristics of Households and Respondents

Sample Coverage

Of the 9,950 households selected for the sample, 9,760 were found to be occupied. Of these, 9,369 were successfully interviewed for a household response rate of 96 percent. In the interviewed households, 11,568 women (age 15-49 years) were identified. Of these, 9,069 were successfully interviewed, yielding a response rate of 78 percent within interviewed households. In addition, 8,656 men (age 15-49 years) were listed in the household questionnaire. Questionnaires were completed for 4,345 of eligible men, which corresponds to a response rate of 50 percent within interviewed households. There were 10,040 children under age five listed in the household questionnaire. Questionnaires were completed for 8,338 of these children, which corresponds to a response rate of 83 percent within interviewed households. Overall response rates of 75, 48, and 80 are calculated for the women's, men's and under-5's interviews respectively (Table HH.1).

Across the 10 States, women's response rates, except Northern Bahr el Ghazal, are below 85 percent. The results for these States should thus be interpreted with some caution, as their response rates are low. The response rates for the children under five years of age in 5 of the 10 States were equally low. These are Western Equatoria, Central Equatoria, Unity, Upper Nile and Lakes States. These results are low, and therefore interpretation in these States should also be handled with caution. Response rates for urban and rural areas for the three categories (women, men and children under-five) are also below 85 percent; this as well requires some caution in the interpretation of the results. Crucially, response for the men's module was exceedingly low, as their overall response rate is 48. Accordingly, all analysis on men has been dropped from this report.

Characteristics of Households

The weighted age and sex distribution of survey population is provided in Table HH.2. The distribution is also used to produce the population pyramid in Figure HH.1. In the 9,369 households successfully interviewed in the survey, 56,001 household members were listed. Of these, 26,392 were males, and 29,609 were females.

Table HH.2 presents percent and frequency distribution of the household population by five-year age- groups, together with dependency age-groups by child and adult populations. The table also shows the proportions of households with at least one child under 18, and household with at least one adult aged 18 years and above.

Almost 18 percent of the population in the country is below the age five years. Of these, about 49 percent are males and 51 percent are females. Put together, age-groups 0-4 and 5-9 constitute 38 percent of the total population of the country. This proportion was 32 percent in 2008 Population and Housing Census. Accordingly, 60 percent of the population is below age 20 years, indicative of an exceedingly young population. The percentages for the dependency age-groups of 0-14 years, 15-64 years, and 65+ years are 53, 45 and 2 percent, respectively. The comparison of the age-groups and sex distributions of SHHS 2 with those from the 2008 Population and Housing Census (Southern Sudan Counts, 2010, Table 1-4, p. 10) shows no significant differences.

Table HH.1: Results of household, women's, men's and under-five interviews

Numbers of households, women, men and children under 5 by results of the household, women's, men's and under-5's interviews, and household, women's, men's and under-5's response rates, South Sudan, 2010

	Residence		State										Total
	Urban	Rural	Upper Nile	Jonglei	Unity	Warap	Northern Bahr El Ghazal	Western Bahr El Ghazal	Lakes	Western Equatoria	Central Equatoria	Eastern Equatoria	
Households Sampled	2600	7350	1000	975	975	1000	1000	1000	1000	1000	1000	1000	9950
Households Occupied	2542	7218	982	947	942	966	991	987	988	978	990	989	9760
Households Interviewed	2420	6949	949	912	840	935	982	950	939	944	963	955	9369
Household response rate	95.2	96.3	96.6	96.3	89.2	96.8	99.1	96.3	95.0	96.5	97.3	96.6	96.0
Women Eligible	3233	8335	1314	1069	1077	1272	1058	1021	1169	1205	1257	1126	11568
Women Interviewed	2438	6631	976	843	787	1024	948	840	957	953	917	824	9069
Men Eligible	2657	5999	1007	627	737	980	655	872	798	915	1197	868	8656
Men Interviewed	1324	3021	493	375	294	366	383	591	285	622	629	307	4345
Women's response rate	75.4	79.6	74.3	78.9	73.1	80.5	89.6	82.3	81.9	79.1	73.0	73.2	78.4
Women's overall response rate	71.8	76.6	71.8	75.9	65.2	77.9	88.8	79.2	77.8	76.3	71.0	70.7	75.3
Men's response rate	49.8	50.4	49.0	59.8	39.9	37.3	58.5	67.8	35.7	68.0	52.5	35.4	50.2
Men's overall response rate	47.4	48.5	47.3	57.6	35.6	36.1	57.9	65.2	33.9	65.6	51.1	34.2	48.2
Children under 5 Eligible	2718	7322	1095	968	1070	1098	1042	962	1032	923	961	889	10040
Children under 5 Mother/Caretaker Interviewed	2174	6164	827	825	900	950	967	820	863	771	662	753	8338
Under-5's response rate	80.0	84.2	75.5	85.2	84.1	86.5	92.8	85.2	83.6	83.5	68.9	84.7	83.0
Under-5's overall response rate	76.1	81.0	73.0	82.1	75.0	83.7	92.0	82.0	79.5	80.6	67.0	81.8	79.7

Table HH.2: Household age distribution by sex, South Sudan, 2010

Percent and frequency distribution of the household popilation by five-year age groups, dependency age groups and by child (age 0-17 years) and adult populations (age 18 or more) by sex, south sudan, 2010

	Males		Females		Total		Population and Housing Census 2008
	Number	Percent	Number	Percent	Number	Percent	Percent
Age-group							
0-4	5075	19.2	4960	16.7	10035	17.9	15.8
5-9	5726	21.7	5698	19.2	11424	20.4	15.7
10-14	4258	16.1	4018	13.6	8276	14.8	12.8
15-19	1739	6.6	2154	7.3	3893	7.0	10.8
20-24	1299	4.9	2124	7.2	3423	6.1	8.9
25-29	1387	5.3	2561	8.7	3948	7.0	8.4
30-34	1163	4.4	1768	6.0	2932	5.2	6.5
35-39	1340	5.1	1628	5.5	2968	5.3	5.8
40-44	796	3.0	752	2.5	1548	2.8	4.1
45-49	951	3.6	685	2.3	1636	2.9	3.3
50-54	996	3.8	1548	5.2	2544	4.5	2.4
55-59	549	2.1	639	2.2	1188	2.1	1.5
60-64	527	2.0	530	1.8	1057	1.9	1.4
65-69	258	1.0	264	0.9	523	0.9	2.6
70-74	164	0.6	141	0.5	305	0.5	2.6
75-79	78	0.3	53	0.2	131	0.2	2.6
80-84	48	0.2	52	0.2	101	0.2	2.6
85+	36	0.1	31	0.1	68	0.1	2.6
Missing/DK	1	0.0	2	0.0	2	0.0	2.6
Dependency age groups							
0-14	15058	57.1	14676	49.6	29734	53.1	44.0
15-64	10748	40.7	14390	48.6	25137	44.9	52.0
65+	585	2.2	542	1.8	1127	2.0	4.0
Missing/DK	1	0.0	2	0.0	2	0.0	0.0
Children and adult populations							
Children age 0-17 years	16126	61.1	15846	53.5	31972	57.1	na
Adults age 18+ years	10265	38.9	13762	46.5	24027	42.9	na
Missing/DK	1	0.0	2	0.0	2	0.0	na
Total	26392	100.0	29609	100.0	56001	100.0	100.0

Some discussion on the age pyramid (Figure HH.1) is provided here. The Figure HH.1 presents some irregularities for both sexes in comparison with the 2008 Population and Housing Census data. However, the irregularities of most concerns are those that may have impact on outcomes of under-five children, children mortality and birth history of women aged 15-49 years. And in this regards the Figure HH.1 shows an excess of children aged 5-9 years compared to those aged 0-4 years. It is probably due to a preference for reporting age 5 and therefore under-reporting for age-group 0-4 years. This is quiet visible when examining the Table DQ.1. The figures reported at age 4 for both sexes are lower compared that reported at ages 5 and 6.The same situation (under-reporting) is observed for women aged 45-49 years compared to those aged 50-54 year); and the Table DQ.1 also shows that the figures reported at age 49 years are lower than that reported to age 50 years for both sexes. For women, the difference is huge: the number of women reporting age 50 years is nearly 9 times higher (805 women) than that aged

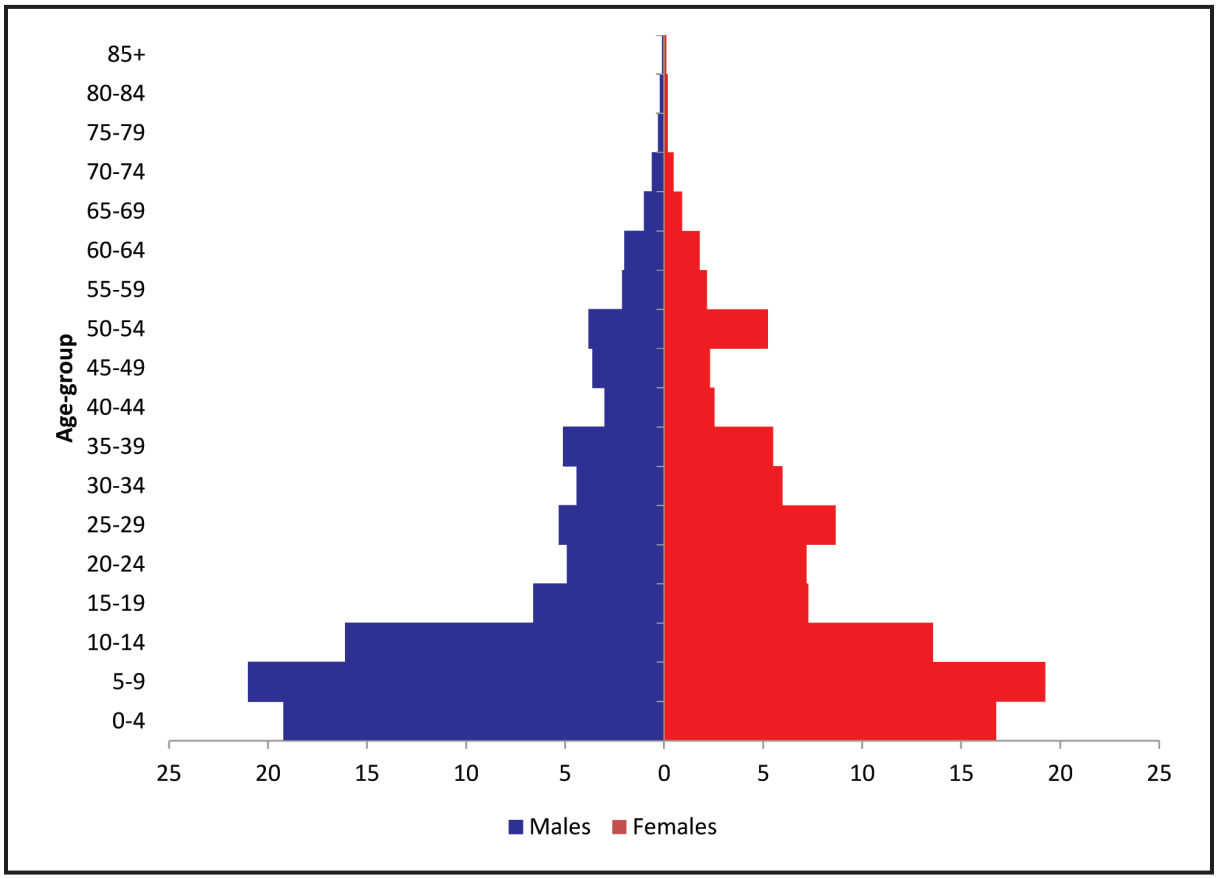
49 years (90 women). Furthermore, the Table DQ.2 shows that the ratio of women aged 50-54 years to those aged 45-49 years is more than double (2.26 times), which is a another confirmation of under-reporting of women age-group 45-49 years.

This under-reporting phenomenon can also be a result of the two other following factors:

- Cheating on behalf of some data collectors in order to reduce the workload on under-five questionnaire and on women birth history module
- Another explanation is that the household's respondent providing the age of each household member might have genuinely rounded ages.

Indeed data from South Sudan 2008 Population and Housing Census provide a different structure for children age-groups 0-4 years and 5-9 years, and for women age-groups 45-49 and 50-54 years. For example, for both sexes, as well as the total, the number of children aged 0-4 years exceeds slightly that of children aged 5-9 years; also for women, the number of women aged 45-49 years is higher than that of women aged 50-54 years.

Figure HH.1: Age and sex distribution of household population, South Sudan, 2010



Tables HH.3 - HH.5 provide basic information on the households, female respondents aged 15-49 years and children under-5 by presenting the unweighted, as well as the weighted numbers. Information on the basic characteristics of households, women and children under-5 interviewed in the survey is essential for the interpretation of findings presented later in the report and also can provide an indication of the representativeness of the survey. The remaining tables in this report are presented only with weighted numbers. See Appendix A for more details about the weighting.

Table HH.3 provides basic background information on the households. Within households, the sex of the household head, state, residence, number of household members, and education of household head are shown in the table. These background characteristics are used in subsequent tables in this report; the figures in the table are also intended to show the numbers of observations by major categories of analysis in the report.

The weighted and unweighted numbers of households are equal, since the sample weights were normalized (See Appendix A).

Generally, the head of household is considered as the key person because he/she ensures that the needs and well-being of the members are addressed in the household. Table HH.3 shows that 58 percent of the head of households interviewed were male, while female were 42 percent. More than three quarters of the households are rural. And 58 percent of households have members in the range 4 -7 persons; only 9 percent of households reported having 10 and more family members.

Jonglei, Warap, Central Equatoria, Eastern Equatoria and Upper Nile states constitute about two-third (64 percent) of the entire household population in South Sudan for both SHHS 2 and the 2008 South Sudan Population and Housing Census.

The education of the head of household has an impact on the welfare of the household members. The proportion of heads of households who have no education is nearly 80 percent, while it is 12 percent for those with primary education and about 9 percent for those with secondary and higher education.

The weighted percent of households and respondents presented in Table HH.3 was also compared to the data of the 2008 South Sudan Population and Housing Census. The main discrepancies observed are the following:

- The current share of male is 58 percent compared to 52 percent in 2008 South Sudan Population and Housing Census. Likewise, the current share of female is 42 percent, while it was 48 percent in 2008;

- The distribution of population by residence is 23 percent for urban areas and 77 percent for rural areas, compared to 9 and 91 percent respectively in the 2008 South Sudan Population and Housing Census.

Table HH.3a: Household composition Percent distribution of households by selected characteristics, South Sudan, 2010				**Population and Housing Census 2008**
	Weighted percent	Number of households		Percent
		Weighted	Unweighted	
Sex of household head				
Male	58.0	5437	5377	52.0
Female	42.0	3932	3992	48.0
State				
Upper Nile	10.7	998	949	11.7
Jonglei	15.3	1432	912	16.4
Unity	6.5	608	840	7.1
Warap	12.9	1205	935	11.8
Northern Bahr El Ghazal	9.9	930	982	8.7
Western Bahr El Ghazal	4.1	387	950	4.0
Lakes	7.2	676	939	8.4
Western Equatoria	8.2	770	944	7.5
Central Equatoria	13.3	1249	963	13.4
Eastern Equatoria	11.9	1114	955	11.0
Residence				
Urban	23.1	2161	2420	8.9
Rural	76.9	7208	6949	91.1
Number of household members	na			
1	3.2	295	325	na
2	5.6	524	560	na
3	9.0	840	851	na
4	13.1	1224	1226	na
5	16.3	1528	1491	na
6	16.2	1520	1478	na
7	12.5	1173	1135	na
8	9.0	847	839	na
9	5.7	533	543	na
10+	9.4	885	921	na
Education of household head				
None	79.5	7446	7363	na
Primary	11.9	1120	1196	na
Secondary +	8.5	797	804	na
Missing/DK	0.1	6	6	na
Total	100.0	9369	9369	100.0

Table HH.3a provides the proportions of households with at least one child under 18 years, at least one child under 5 years, at least one eligible woman aged 15-49 years and at least one eligible man aged 15-49 years, and the mean household size.

In South Sudan, 68 percent of Households have at least one child aged 0-4 years, 91 percent of Households have at least one child aged 0-17 years, 88 percent of Households have at least one woman aged 15-49 years, 64 percent of Households have at least one man aged 15-49, and the mean household size is 6 persons. This average size was 7 persons per household in 2008 Population and Housing Census.

Table HH.3b: Household composition
Percent distribution of households by selected characteristics, South Sudan, 2010

	Number of households		
	Weighted percent	Weighted	Unweighted
Households with at least: one child age 0-4 years	67.8	9369	9369
Households with at least: one child age 0-17 years	90.6	9369	9369
Households with at least: one woman age 15-49 years	88.2	9369	9369
Households with at least: one man age 15-49 years	64.1	9369	9369
Mean household size	6.0	9369	9369

Characteristics of Female Respondents 15-49 Years of Age and Children Under-5

Tables HH.4 and HH.5 provide information on the background characteristics of female respondents 15-49 years of age and of children under age 5. In both tables, the total numbers of weighted and unweighted observations are equal, since sample weights have been normalized (standardized). In addition to providing useful information on the background characteristics of women and children, the tables are also intended to show the numbers of observations in each background category. These categories are used in the subsequent tabulations of this report.

Table HH.4 provides background characteristics of female respondents aged 15-49 years. The table includes information on the distribution of women according to state, residence, age, marital status, motherhood status, births in last two years, education[3], and wealth index quintiles[4].

According to Table HH.4, Jonglei, Central Equatoria and Warap States are some of the States with relatively higher proportion of women aged 15-49 years (14 percent, each). These proportions are lower in Western Bahr El Ghazal State (4 percent), and also in Unity and Lakes States, each reporting 7 percent. Besides, 32 percent of the women are from age-groups 15-19 and 20-24 years. The age-groups 40-44 and 45-49 years constitute 13 percent of the women of aged 15-49 years. The SHHS 2 has also shown that almost three quarters of women aged 15-49 years are from rural areas.

Most women of reproductive age-group were found to be either married or in union (81 percent), and the same proportion reported to ever given birth. Besides, 38 percent are reported to have given birth in last two years prior to the survey. The proportion of women aged 15-49 years who never married or being in union constitutes 11 percent, while the proportion divorced and separated, collectively, makes 4 percent. Most of the women (79 percent) have no education. Those that have primary and secondary education constitute relatively small percentages of 17 and 4 percents, respectively.

[3] Unless otherwise stated, "education" refers to educational level attended by the respondent throughout this report when it is used as a background variable.

[4] Principal components analysis was performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth to assign weights (factor scores) to each of the household assets. Each household was then assigned a wealth score based on these weights and the assets owned by that household. The survey household population was then ranked according to the wealth score of the household they are living in, and was finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest). The assets used in these calculations were as follows: source of drinking water, type of sanitation facility, persons per sleeping room, type of floor, type of roof, type of wall, type of cooking fuel, household member assets (watch, mobile phone, bicycle, motor cycle, car/truck, computer, internet), ownership of agricultural land. The wealth index is assumed to capture the underlying long-term wealth through information on the household assets, and is intended to produce a ranking of households by wealth, from poorest to richest. The wealth index does not provide information on absolute poverty, current income or expenditure levels. The wealth scores calculated are applicable for only the particular data set they are based on. Further information on the construction of the wealth index can be found in Filmer, D. and Pritchett, L., 2001. "Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India". Demography 38(1): 115-132. Gwatkin, D.R., Rutstein, S., Johnson, K. , Pande, R. and Wagstaff. A., 2000. Socio-Economic Differences in Health, Nutrition, and Population. HNP/Poverty Thematic Group, Washington, DC: World Bank. Rutstein, S.O. and Johnson, K., 2004. The DHS Wealth Index. DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro.

Table HH.4: Women's background characteristics

Percent and frequency distribution of women age 15-49 years by selected characteristics, South Sudan, 2010

	Weighted percent	Number of women	
		Weighted	Unweighted
State			
Upper Nile	12.0	1088	976
Jonglei	14.3	1299	843
Unity	6.5	594	787
Warap	14.0	1273	1024
Northern Bahr El Ghazal	8.6	779	948
Western Bahr El Ghazal	3.6	323	840
Lakes	7.3	659	957
Western Equatoria	8.6	778	953
Central Equatoria	13.9	1264	917
Eastern Equatoria	11.2	1012	824
Residence			
Urban	25.6	2321	2438
Rural	74.4	6748	6631
Age			
15-19	14.8	1344	1360
20-24	17.5	1589	1612
25-29	22.8	2067	2097
30-34	16.4	1490	1468
35-39	15.4	1396	1370
40-44	6.9	627	620
45-49	6.1	555	542
Marital/Union status			
Currently married/in union	81.0	7350	7340
Widowed	3.9	350	343
Divorced	1.3	117	124
Separated	2.5	227	235
Never married/in union	11.1	1009	1013
Missing	0.2	16	14
Motherhood status			
Ever gave birth	81.0	7345	7322
Never gave birth	7.9	715	734
Never married/in union	11.1	1009	1013
Births in last two years			
Had a birth in last two years	38.4	3479	3516
Had no birth in last two years	50.5	4581	4540
Never married/in union	11.1	1009	1013
Education			
None	78.8	7150	7153
Primary	16.9	1537	1559
Secondary +	3.9	353	331
Adult education/Khalwa/Sunday education	0.3	29	26
Wealth index quintiles			
Poorest	19.0	1724	1613
Second	19.3	1746	1726
Middle	19.8	1798	1818
Fourth	20.5	1859	1920
Richest	21.4	1943	1992
Total	100.0	9069	9069

Selected background characteristics of children under 5 are presented in Table HH.5. These include the distribution of children by several attributes: sex, region and area, age, mother's or caretaker's education, and wealth. Fifty-one percent of the children under-five years are male. Five of the ten States have a slight higher proportion of children under-five years. These are Jonglei (15 percent), Warap (14 percent), Central Equatoria and Upper Nile States (each having 12 percent), and Easter Equatoria, with a reported 10 percent of children under five. The State with the lowest proportion is Western Bahr El Ghazal (4 percent).

Table HH.5 also showed that about three quarters (76 percent) of children under-five years are from rural areas. The age distribution in months of the children under-five years is also provided. Children are somehow evenly distributed across age-groups (months) of 0-11, 12-23, 24-35, 36-47, on average with 22 percent in each age group (months). However the last age-group of 48-59 months has only 14 percent, due probably to mortality. The average for all 5 age-groups should be 20 percent.

Eighty-four percent of the children have mothers/caretakers with no formal education, while 13 percent have mothers/care takers with primary education and 3 percent have mothers/ caretakers with secondary and higher education. On contrary, the proportions of children under-five years are evenly (20 percent) distributed across wealth groups.

Table HH.5: Under-5's background characteristics

Percent and frequency distribution of children under five years of age by selected characteristics, South Sudan, 2010

	Weighted percent	Number of children	
		Weighted	Unweighted
Sex			
Male	51.1	4261	4258
Female	48.9	4077	4080
State			
Upper Nile	11.6	967	827
Jonglei	15.0	1254	825
Unity	7.6	635	900
Warap	14.1	1176	950
Northern Bahr El Ghazal	9.8	820	967
Western Bahr El Ghazal	3.9	326	820
Lakes	7.4	618	863
Western Equatoria	7.7	644	771
Central Equatoria	12.4	1036	662
Eastern Equatoria	10.3	862	753
Residence			
Urban	24.5	2042	2174
Rural	75.5	6296	6164
Age-group			
0-5	10.4	866	877
6-11	10.4	864	870
12-23	20.4	1704	1683
24-35	23.5	1958	1971
36-47	21.5	1789	1798
48-59	13.9	1156	1139
Mother's education			
None	83.9	6993	7031
Primary	13.0	1080	1060
Secondary +	3.1	262	245
Missing/DK	0.0	3	2
Wealth index quintiles			
Poorest	20.5	1712	1644
Second	19.6	1635	1609
Middle	19.8	1653	1672
Fourth	21.0	1753	1802
Richest	19.0	1585	1611
Total	100.0	8338	8338

IV. Child Mortality

One of the overarching goals of the Millennium Development Goals (MDGs) and the World Fit for Children (WFFC) is to reduce infant and under-five mortality. Specifically, the MDG4 calls for the reduction of under-five mortality by two-thirds between 1990 and 2015. Monitoring progress towards this goal is an important but difficult objective.

This chapter describes levels, trends, and differentials in early childhood mortality in South Sudan. Early childhood mortality rates in general and infant mortality rate (Miller and Goldman, 2011) in particular contribute to a better understanding of a country's socio-economic situation and is a major indicator of the quality of life of the population. The information in this chapter is disaggregated by geographic, socio-economic and demographic characteristics since they help to identify subgroups that are at high risk and therefore to put in place appropriate health programmes for child survival.

Measuring childhood mortality may seem easy, but attempts using direct questions, such as "Has anyone in this household died in the last year?" give inaccurate results. Using direct measures of child mortality from birth histories is time consuming, more expensive, and requires greater attention to training and supervision. Alternatively, indirect methods developed to measure child mortality produce robust estimates that are comparable with the ones obtained from other sources. The previous MICS rounds used the indirect estimation technique, known as the Brass method (United Nations, 1983) for the estimation of childhood mortality rates. Indirect methods minimize the pitfalls of memory lapses, inexact or misinterpreted definitions, and poor interviewer performance. However, the indirect methods cannot provide the very important infant mortality rate breakdown (neonatal and post-neonatal mortality rates) and the estimate of child mortality rate (4q1); it also does not provide the richness of data collected from female respondents' birth histories.

The childhood mortality rates presented in this chapter are computed directly from birth histories collected from the female respondents. Women in the age-group 15-49 years who had ever given birth were asked to provide a detailed history of all their live births in chronological order starting with the first live birth. All children born to the respondents, whether dead or alive, were listed by name, sex, birthday and if dead, the date of death. The data analysis on childhood mortality was limited to a period of 15 years prior to the survey, in order to minimize the effect of the pitfalls of memory lapses and also due to the failure to capture births from old women.

Since the primary causes of childhood mortality change according to child's age, from mostly biological factors to environmental factors, the childhood mortality rates are expressed by age categories and are defined as follows:

- Neonatal mortality rate (NMR): the probability of dying within the first month of life
- Post-neonatal mortality (PNMR): the difference between infant and neonatal mortality rates
- Infant mortality rate (1q0): the probability of dying between birth and the first birthday
- Child mortality rate (4q1): the probability of dying between exact ages one and five
- Under-five mortality rate (5q0): the probability of dying between birth and the fifth birthday

Assessment of Data Quality in early childhood mortality

In any survey, the quality of early childhood mortality estimates depends on sampling and non-sampling errors. For SHHS 2, the sampling errors are dealt with in Appendix F. The non-sampling errors have to do with the completeness of data on childhood mortality and the accuracy of the information provided by mother on the date of birth for all live births, and date of death for deceased children. Typically, three types of non-sampling errors are known to affect the childhood mortality estimates: omission of births and deaths, displacement of dates of births and deaths, and misreporting of age at death.

Taking into consideration the different elements described above as well as the response rate for women's questionnaire, some caution is necessary when interpreting the childhood mortality trends suggested by SHHS 2.

The Data Quality Tables presented in Appendix E were reviewed and the main observations are summarized below:

Table DQ.2: The focus of this table is the completion rate by age-group. The results show that the completion rate is low: it goes from 63 percent to 86 percent for the 7 age-groups, with an overall rate of 78 percent for all women aged 15-49 years. Furthermore, the ratios of age-groups 15-19 years to 10-14 years and 50-54 years to 45-49years are 0.54 and 2.26 respectively. This means that some eligible women aged 15-49 years were left out of the SSHH2 women's sample. This has an impact on early childhood mortality rates estimates as well as on the fertility rate estimate.

Table DQ.3: This table provides data on the household population of children aged 0-7 years, children aged 0-4 years whose mothers/caretakers were interviewed, and the percentage of under-5 children whose mothers/caretakers were interviewed, by single ages. This table shows that the ratio of the population aged 5 years to that aged 4 years is 1.26. In other words, there is evidence of misreporting of age at birth for some children aged 4 years. As result, some children aged 4 years were not included in the under-five children sample.

Table DQ.17: This table shows the number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by year of birth, according to living, dead, and total children. Some discrepancies are visible in the following areas:

- Number of births: For 2010, the numbers of births reported are lower (around one-quarter) compared to 10 previous years. The numbers should have been close to the half of the numbers of reported births for the 10 previous years, since the survey covered the half of 2010;
- Percent of dead children with complete birth date: From 1993 to 2010, the percentage of dead children with complete birth date is below 85%;
- Sex ratio at birth: Significant variations are noticed for the sex ratio at birth. For all births, for example, the sex ratio at birth ranges from 97.1 in 2006 to 141.0 in 1991;
- Calendar year ratio: Major variations are also noted. These range from 9.1 in 1990 to 159.9 in 2000 for all births.

Table DQ.18: This table provides information on the distribution of reported deaths under one month of age by age at death in days, and the percentage of neonatal deaths reported to have occurred at ages 0-6 days, by 5-year periods preceding the survey. For the four five-periods considered (0-4, 5-9, 10-14 and 15-19 years before the survey), the figures show some heaping at ages zero, one, three, four and seven days.

Table DQ.19: The focus of this table is to examine the degree of heaping at ages one and 12 months as these are the cut-off points for specific childhood mortality rates. The data do not suggest any heaping at these two cut-offs points.

Although there is evidence of some typical data issues found in different surveys (MICS and DHS) worldwide, there is no apparent major reason to challenge the overall data quality in SHHS 2, and especially for the most recent period of 0–4 years preceding the survey.

Levels and Trends of Early Childhood Mortality

The second South Sudan Household Health Survey (SHHS 2) was conducted from the last week of March to the end of June 2010 and early childhood mortality rates were estimated using the direct method. The reference point (mid-point interval) for the childhood mortality for the most recent five year period is the last week of September 2007.

Table CM.1 presents the childhood mortality rates computed using the 'direct' or 'birth history' method of estimation during the last 15 years before the survey. The Neonatal mortality rate in the most recent 5-year period is estimated at 43 per 1,000 live births, while the post-neonatal mortality rate is estimated as 36 per 1,000 live births.

The infant mortality rate in the five years preceding the survey is 79 per 1,000 live births and under-five mortality is 108 deaths per 1,000 live births for the same period. And the child mortality rate is estimated at 32 deaths per 1,000 children aged 1 year for the 5 years preceding the survey.

Table CM.1 also show that for the 5 years preceding the survey the proportion of neonatal mortality rate in the infant mortality rate is 54 percent. This means that in the last 5 years before the survey, 54 percent of infant deaths occur within the month of life. This proportion was estimated at 50 percent in 2011 (UNICEF et al., 2012).

Table CM.1: Early childhood mortality rates

Neonatal, post-neonatal, Infant, child and under-five mortality rates for five year periods preceding the survey, South Sudan, 2010

Years Preceeding the Survey	Neonatal mortality rate [1]	Postneonatal mortality rate [2]	Infant mortality rate [3]	Child mortality rate [4]	Underfive mortality rate [5]
0-4	43	36	79	32	108
5-9	29	26	55	30	84
10-14	33	41	75	50	121

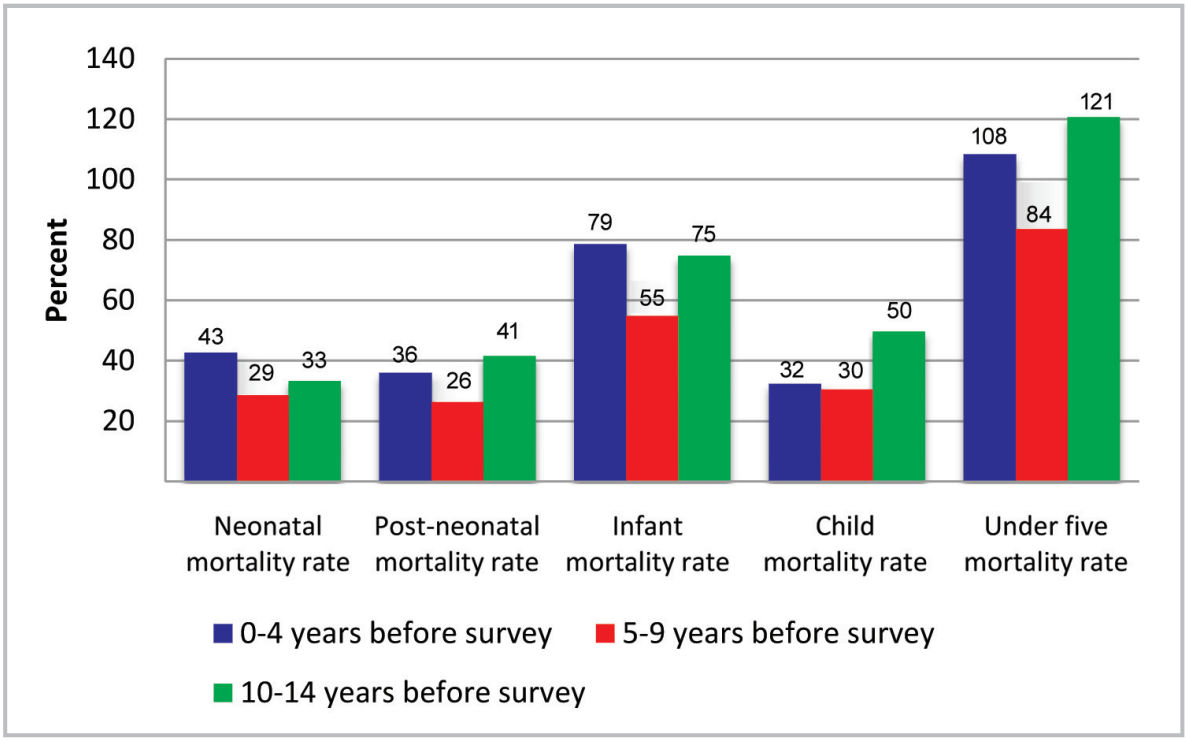
[1] MICS indicator 1.3
[2] MICS indicator 1.4
[3] MICS indicator 1.1, MDG indicator 4.1
[4] MICS indicator 1.5;
[5] MICS indicator 1.2; MDG indicator 4.2

Figure CM.1 shows that the under-five mortality rate declined from 121 deaths per 1,000 live births for the period 10-14 years before the survey to 84 deaths per 1,000 live births during the 5-9 years before the survey, and then increased significantly to 108 deaths per 1,000 live births during the 5-year period prior to the survey. For the 10-14 years before the survey, the infant mortality ratedeclined from 75 deaths per 1,000 live births to 55 deaths per 1,000 live births and then increased to 79 deaths per 1,000 live births for the 5-9 years before the survey. The child mortality rate declined from 50 deaths per 1,000 children aged 1 for the 10-14 years before the survey, and then remained at about the same level: 30 and 32 deaths per 1,000 children respectively for the periods 5-9 and 0-4 years before the survey.

The neonatal mortality rate remained at comparable levels for 10-14 and 5-9 years before the survey with 33 and 29 deaths per 1,000 live births, respectively, and then increased at 43 deaths per 1,000 live births. It is also observed that the proportion (contribution) of neonatal mortality rate in infant mortality rate has increased from 44 percent (10-14 years before the survey) to 55 percent (0-4 years before the survey).

The post-neonatal mortality rate declined from 41 deaths per 1,000 live births for the period 10-14 years before the survey to 26 deaths per 1,000 live births during the 5-9 years before the survey, and then increased slightly to 36 deaths per 1,000 live births during the 5-year period prior to the survey.

Figure CM.1: Trends in Childhood Mortality Rates for MICS4, South Sudan, 2010



Early childhood mortality rates by state, residence and socio-economic characteristics

Table CM.2 provides estimates of childhood mortality by state, residence and two socio-economic characteristics. The SHHS 2 data indicate that there are also some differences across all the background characteristics considered. The early childhood mortality estimates for the state level show that Northern Bahr El Ghazal and Central Equatoria have the highest under-five mortality rate with 157 deaths per 1,000 live births and 152 deaths per 1,000 live births, respectively; and the lowest proportions are reported in Jonglei (48 percent) and Unity (51 deaths per 1,000 live births). Northern Bahr El Ghazal state has also the highest infant mortality rate (120 deaths per 1,000 live births) and the lowest infant mortality rates are in Jonglei and Unity (31 deaths per 1,000 live births each).

Table CM.2: Early childhood mortality rates by background characteristics

Neonatal, post neonatal, Infant and Under-five mortality rates for the 5-year period preceding the survey by socioeconomic characteristics, South Sudan, 2010

	Neonatal mortality rate [1]	Post neonatal mortality rate [2]	Infant mortality rate [3]	Child mortality rate [4]	Under five mortality rate [5]
State					
Upper Nile	29	44	74	26	98
Jonglei	14	17	31	17	48
Unity	15	16	31	20	51
Warap	31	40	71	50	117
Northern Bahr El Ghazal	78	42	120	42	157
Western Bahr El Ghazal	35	56	91	27	115
Lakes	29	23	52	22	73
Western Equatoria	53	43	95	38	130
Central Equatoria	76	39	115	42	152
Eastern Equatoria	59	47	106	35	137
Residence					
Urban	47	44	90	31	118
Rural	41	33	75	33	105
Education					
None	42	36	78	31	107
Primary	47	35	82	39	118
Secondary +	(43)	(40)	(83)	(35)	(115)
Wealth index quintile					
Poorest	48	31	79	31	108
Second	43	37	80	35	112
Middle	40	31	71	30	99
Fourth	38	35	73	35	106
Richest	44	46	90	29	117
Total	43	36	79	32	108

[1] MICS indicator 1.3
[2] MICS indicator 1.4
[3] MICS indicator 1.2, MDG indicator 4.2
[4] MICS indicator 1.5;
[5] MICS indicator 1.1; MDG indicator 4.1
Figures in parentheses '()' are based on 250-499 unweighted exposed persons

Residence and Socio-economic Differentials in Childhood Mortality

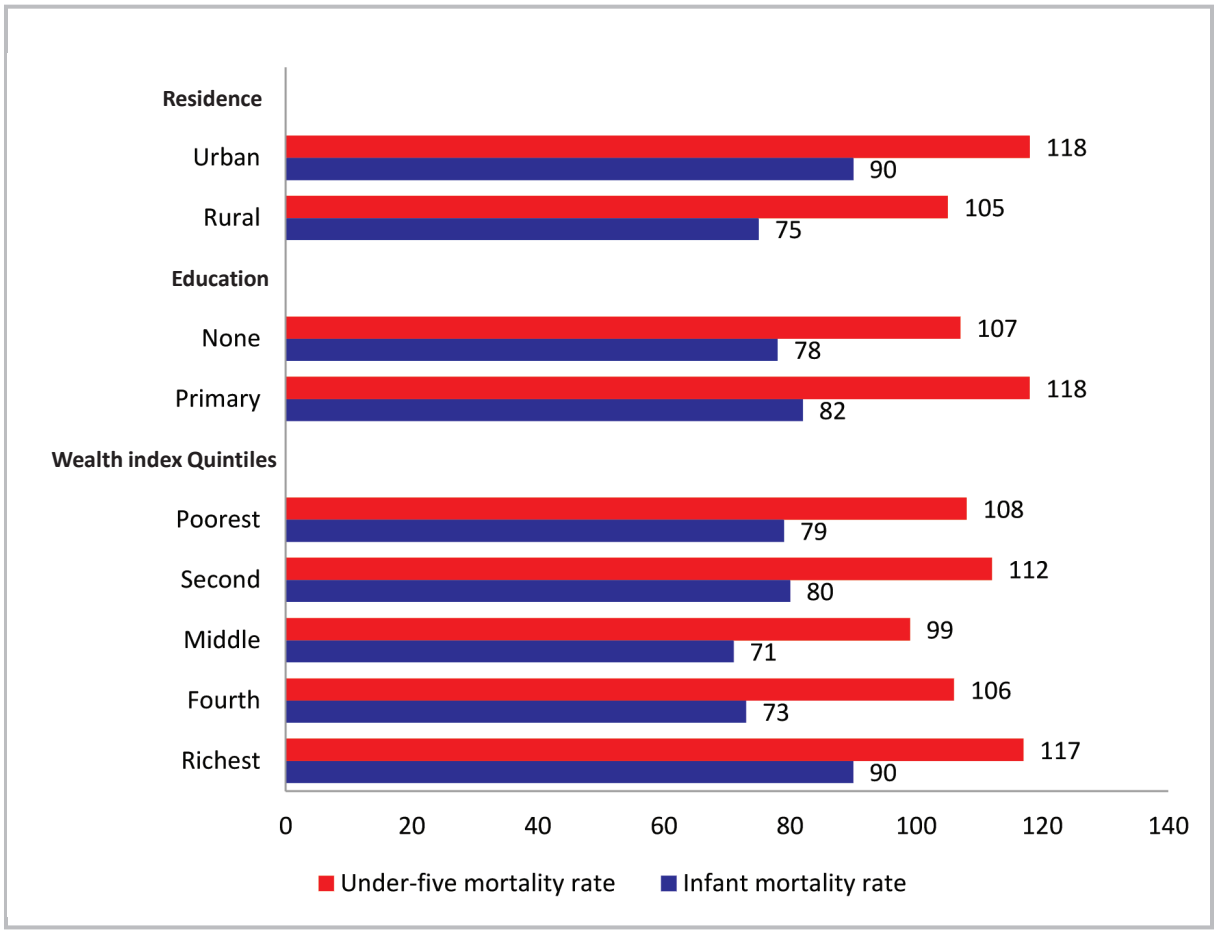
The data presented in Table CM.2 show an unexpected pattern for infant and under-five mortality rates across residence, mother's education and economic status. The two childhood mortality indicators are higher in urban areas, primary education and richest households.

The SHHS 2 results show that under-5 mortality is estimated at 118 deaths per 1,000 live births in urban areas, and 105 deaths per 1,000 live births in rural areas. For infant mortality, this is estimated at 90 deaths per 1,000 live births in urban areas, and 75 deaths per 1,000 live births in rural areas.

Secondary and higher education is not included in analysis due to the fewer cases of exposure (250-499 women). The findings show that under-five mortality rate is estimated at 107 deaths per 1000 live births for children whose mothers have no education and at 118 deaths per 1,000 live births for mothers with primary education. For children whose mothers have no education, infant mortality rate is estimated at 78 deaths per 1000 live births, and at 82 deaths per 1000 live births for children whose mothers have primary education.

As already mentioned above, the infant and under-five mortality rates are higher in the richest households compared to the remaining four and lower quintiles. Significant variations are also noted between middle and richest quintiles. The SSHHS 2 data indicate that children from the richest households have higher mortality rates, compared to those from the middle households (Table CM.2 and Figure CM.2). For example, infant mortality is estimated at 71 per 1000 live deaths for children from the middle wealth quintile, and 90 deaths per 1000 live deaths for children in the richest wealth quintile. This means that the children from the richest wealth quintile are more (1.27 times) likely to die before their first birthday compared to those from the middle wealth quintile. Under-5 mortality is estimated at 117 deaths per 1,000 live births for children from the richest households, compared to 99 deaths per 1,000 live births for children belonging to the middle households. This means that the children from the richest households are more (1.18 times) likely to die before their fifth birthday as those from the middle households (Figure CM.2).

Figure CM.2: Infant and under-5 mortality rates by background characteristics, South Sudan, 2010



Demographic Characteristics and Childhood Mortality

Demographic factors such as the sex of the child, age of the mother at birth, birth order, and length of the preceding birth interval, are strongly associated with the survival chances of young children. Table CM.3 and Figure CM.3 show the relationships between early childhood mortality rates and these demographic variables.

For all childhood mortality indicators (Figure CM.3), early childhood mortality rates are higher for males than females. For example, under-five mortality rate is estimated at 117 deaths per 1,000 live births for boys, and 99 deaths per 1,000 live births for girls. This means that male children are 1.18 times more likely to die before the fifth birthday than females. Neonatal mortality rate is estimated at 46 deaths per 1000 live births for male children, and 39 deaths per 1000 live births for female children, which means that male children are 1.18 times more likely to die during the first month of life than their female counterparts.

Table CM.3 and Figure CM.3 show that for mothers aged below 20 years, the infant mortality rate is estimated at 72 deaths per 1,000 live births, compared to 67 deaths per 1,000 live births for mothers aged 20-34 years. The under-five mortality rate is estimated at 91 deaths per 1,000 for women below the age of 20 years, and at 96 deaths per 1,000 live births for women aged 20-34 years. Infant and under-five mortality rates are higher for children born to women aged 35-49 years, with 134 deaths per 1,000 live births and 188 deaths per 1,000 live births, respectively.

Table CM.3: Early childhood mortality rates by demographic characteristics
Neonatal, post neonatal, Infant and Under-five mortality rates for the 5-year period preceding the survey by demographic characteristics, South Sudan, 2010

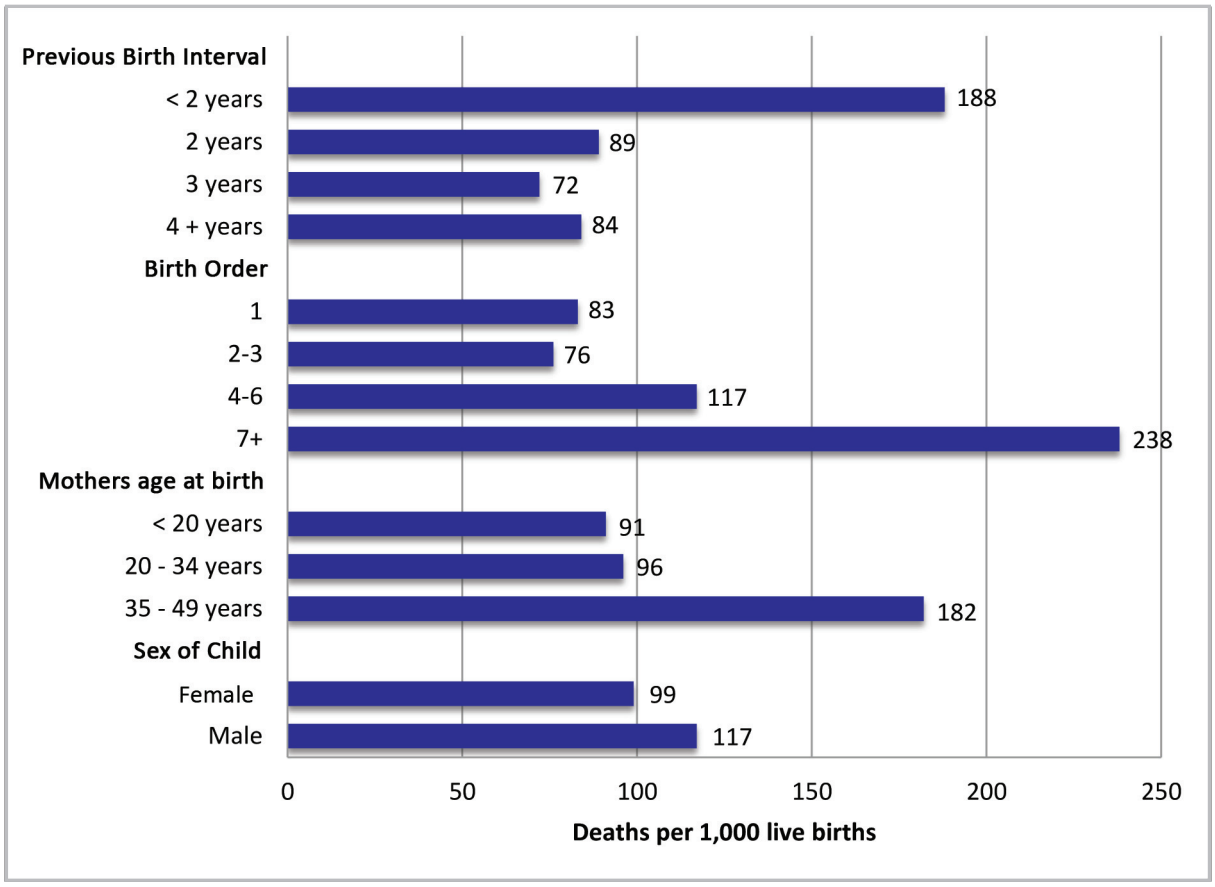
	Neonatal mortality rate [1]	Post neonatal mortality rate [2]	Infant mortality rate [3]	Child mortality rate [4]	Under five mortality rate [5]
Sex of child					
Male	46	38	84	36	117
Female	39	34	73	29	99
Mothers age at birth					
< 20 years	34	38	72	20	91
20 - 34 years	37	30	67	31	96
35 - 49 years	75	59	134	56	182
Birth order					
1	31	31	63	22	83
2-3	26	26	52	26	76
4-6	44	42	86	34	117
7+	107	54	161	91	238
Previous birth interval					
< 2 years	87	60	147	49	188
2 years	34	26	60	31	89
3 years	21	26	47	27	72
4 + years	29	31	60	26	84
Total	43	36	79	32	108

[1] MICS indicator 1.3
[2] MICS indicator 1.4
[3] MICS indicator 1.2, MDG indicator 4.2
[4] MICS indicator 1.5;
[5] MICS indicator 1.1; MDG indicator 4.1

Table CM.3 and Figure CM.3 also show that birth order 4-6 and above face a higher risk of under-five mortality. Birth orders seven and higher experience the highest levels of childhood mortality, while mortality is lowest for second and third order births. For example, under-5 mortality rate is estimated at 238 deaths per 1,000 live births for birth order seven and higher, 76 deaths per 1,000 live births for birth orders 2-3, and 117 deaths per 1,000 live births for birth order 4-6 (Figure CM.3).

The birth interval also affects survival when there is an interval of less than two years between pregnancies, demonstrating the importance of spacing on child survival. This is fairly consistent in all childhood mortality indicators. For example, infant mortality rate for children born at less than a two-year interval is 147 deaths per 1,000 live births and 47 deaths per 1,000 live births when the birth interval is 3 years. This means that the children born at less than a two-year interval are more than three times likely to die before their first birthday compared to the ones born at 3 years interval. Under-five mortality rate is 188 deaths per 1,000 live births for birth intervals of less than 2 years and 72 deaths per 1,000 live births when a birth occurs 3 years after a previous birth. Children born at less than a two-year interval are more likely to die before their fifth birthday compared to the ones born at 3 years interval.

Figure CM. 3: Under-5 mortality rates by demographic characteristics, South Sudan, 2010



V. Nutrition

Nutritional Status

Children's nutritional status is a reflection of their overall health. When children have access to an adequate food supply, are not exposed to repeated illness, and are well cared for, they reach their growth potential and are considered well nourished.

Malnutrition is associated with more than half of all child deaths worldwide. Undernourished children are more likely to die from common childhood ailments, and for those who survive, have recurring sicknesses and faltering growth. Three-quarters of the children who die from causes related to malnutrition were only mildly or moderately malnourished – showing no outward sign of their vulnerability. The Millennium Development target is to reduce by half the proportion of people who suffer from hunger between 1990 and 2015. A reduction in the prevalence of malnutrition will also assist in the goal to reduce child mortality.

In a well-nourished population, there is a reference distribution of height and weight for children under age five. Under-nourishment in a population can be gauged by comparing children to a reference population. The reference population used in this report is based on the WHO growth standards[5]. Each of the three nutritional status indicators can be expressed in standard deviation units (z-scores) from the median of the reference population.

Weight-for-age is a measure of both acute and chronic malnutrition. Children whose weight-for-age is more than two standard deviations below the median of the reference population are considered *moderately or severely underweight* while those whose weight-for-age is more than three standard deviations below the median are classified as *severely underweight.*

Height-for-age is a measure of linear growth. Children whose height-for-age is more than two standard deviations below the median of the reference population are considered short for their age and are classified as *moderately or severely stunted.* Those whose height-for-age is more than three standard deviations below the median are classified as *severely stunted.* Stunting is a reflection of chronic malnutrition as a result of failure to receive adequate nutrition over a long period and recurrent or chronic illness.

Finally, children whose *weight-for-height* is more than two standard deviations below the median of the reference population are classified as *moderately or severely wasted,* while those who fall more than three standard deviations below the median are classified as *severely wasted*. Wasting is usually the result of a recent nutritional deficiency. The indicator may exhibit significant seasonal shifts associated with changes in the availability of food or disease prevalence.

In SHHS 2, weights and heights of all children under 5 years were measured using anthropometric equipment recommended by UNICEF (www.childinfo.org). Findings in this section are based on the results of these measurements.

Table NU.1 shows percentages of children classified into each of the above described categories, based on the anthropometric measurements that were taken during fieldwork. Additionally, the table includes the percentage of children who are overweight, which takes into account

[5]http://www.who.int/childgrowth/standards/second_set/technical_report_2.pdf

those children whose weight for height is above 2 standard deviations from the median of the reference population, and mean z-scores for all three anthropometric indicators.

Children whose full birth date (month and year) were not obtained, and children whose measurements are outside a plausible range are excluded from Table NU.1. Children are excluded from one or more of the anthropometric indicators when their weights and heights have not been measured, whichever applicable. For example if a child has been weighed but his/her height has not been measured, the child is included in underweight calculations, but not in the calculations for stunting and wasting. Percentages of children by age and reasons for exclusion are shown in the Data Quality Tables DQ.6 and DQ.7 in Appendix D. Overall, 18 percent of children did not have both their weights and heights measured (Table DQ.6). Nearly 19 and 24 percent of children did not have complete information on weights and heights, respectively. Four percent of children did not have their months of birth recorded. However, there was no case of children with neither year nor month missing. Table DQ.7 shows that due to incomplete dates of birth, implausible measurements, and missing weight and/or height, 13 percent of children have been excluded from the calculations of the weight-for-height indicator.

About 28 percent of children under-five years in South Sudan are moderately and severely underweight and 12 percent are classified as severely underweight (Table NU.1). About a third of children (31 percent) are moderately and severely stunted or too short for their age and 17 are severely stunted; while 23 percent are moderately and severely wasted or too thin for their height and 10 percent are severely wasted.

Children in Unity State are more likely to be underweight (46 percent), stunted (40 percent) and wasted (35 percent) than children in other states. However, the result for wasting is comparable to those from Jonglei (31 percent) and Warap (32 percent). The three states of Central, Western and Eastern Equatoria as well as the state of Western Bahr EL Ghazal record the lowest rates of wasting with 11, 12, 14 and 16 percent, respectively. Central and Western Equatoria have also the lowest rates for underweight with 17 and 18 percent, respectively.

Those children whose mothers have secondary or higher education are the least likely to be underweight (15 percent), stunted (22 percent) and wasted (13 percent) compared to children of mothers with no education across the three nutritional status indicators. Boys appear to be slightly more likely to be underweight (30 percent), stunted (33 percent), and wasted (26 percent) than girls with 25 percent of underweight, 29 percent of stunted and 20 percent of wasted. Results of the age pattern suggest prevalence of higher proportion of undernourished children in the age-group 24-35 months for underweight and stunting compared to proportions of children from youngest age-group (Figure NU.1). This pattern is expected and is related to the age at which many children cease to be breastfed and are exposed to contamination in water, food and environment.

The overweight seems not to be a major problem among children under five: only 6 percent of them were found to be overweight. These are the children whose weight for height is above 2 standard deviations from the median of the reference population (Table NU.1).

Table NU.1: Nutritional status of children

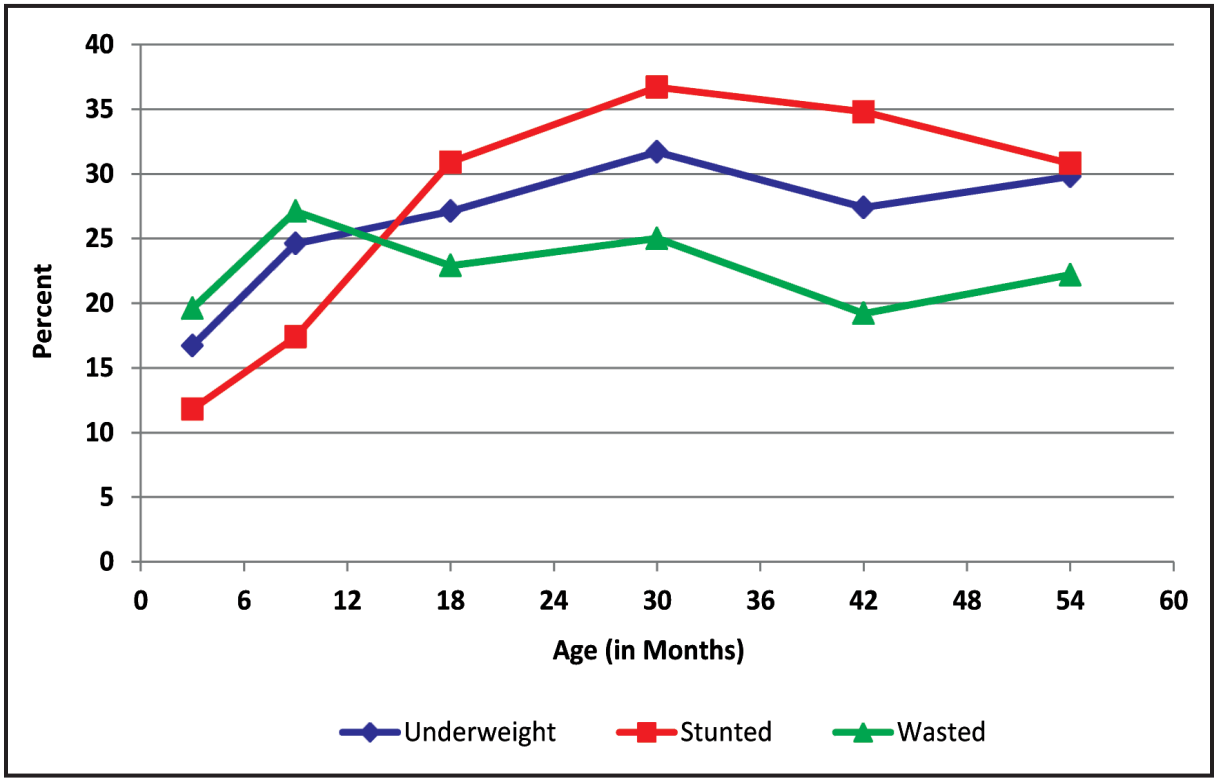
Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height South Sudan, 2010

	Weight for age (Underweight)				Height for age (Stunted)				Weight for height (Wasted)				
	% below -2 sd [1]	% below -3 sd [2]	Mean Z-Score (SD)	Number of children	% below -2 sd [3]	% below -3 sd [4]	Mean Z-Score (SD)	Number of children	% below -2 sd [5]	% below -3 sd [6]	% above +2 sd	Mean Z-Score (SD)	Number of children
Sex													
Male	30.4	14.3	-1.3	3421	33.1	18.3	-1.0	3095	25.7	11.7	6.1	- 0.9	3023
Female	24.5	9.9	-1.0	3240	28.9	15.8	- 0.9	2952	19.7	8.1	5.9	- 0.7	2902
Residence													
Urban	22.8	9.1	-1.0	1631	29.1	13.8	- 0.9	1470	18.1	7.1	4.4	- 0.7	1439
Rural	29.1	13.2	-1.2	5029	31.7	18.1	-1.0	4577	24.2	10.8	6.5	- 0.8	4486
State													
Upper Nile	24.2	10.2	-1.0	824	27.1	14.3	- 0.7	778	21.5	8.7	5.7	- 0.9	761
Jonglei	29.3	14.3	-1.3	1050	27.8	17.1	- 0.7	914	31.2	17.4	7.6	-1.1	910
Unity	46.1	23.0	-1.8	366	40.4	24.1	-1.3	358	35.4	16.5	3.7	-1.4	341
Warap	35.0	13.7	-1.3	775	29.4	17.1	- 0.8	741	31.9	12.4	3.4	-1.3	672
Northern Bahr El Ghazal	29.7	12.1	-1.3	744	27.6	14.1	- 0.8	694	26.7	10.4	2.6	-1.2	691
Western Bahr El Ghazal	22.3	9.7	-1.0	295	26.9	14.1	- 0.8	277	16.4	5.3	4.0	- 0.7	271
Lakes	29.9	15.3	-1.1	459	35.4	20.3	- 0.9	379	27.9	15.3	11.6	- 0.7	365
Western Equatoria	18.2	5.9	- 0.9	540	34.5	19.1	-1.3	485	11.8	4.8	7.5	- 0.1	488
Central Equatoria	17.0	6.7	- 0.7	851	31.1	13.3	-1.1	744	11.0	3.4	9.0	- 0.1	729
Eastern Equatoria	29.2	14.2	-1.1	755	37.2	21.6	-1.4	678	13.7	4.6	5.2	- 0.5	696
Age-group													
0-5	16.7	6.8	- 0.1	543	11.8	7.1	0.5	281	19.6	8.6	9.6	- 0.5	287
6-11	24.6	10.4	-1.0	693	17.4	8.6	- 0.1	597	27.1	11.5	5.8	-1.0	589
12-23	27.1	11.9	-1.1	1421	30.9	15.5	- 0.8	1306	22.9	10.1	5.4	- 0.8	1298
24-35	31.7	15.2	-1.3	1622	36.7	20.0	-1.2	1555	25.0	11.4	5.3	- 0.8	1523
36-47	27.4	12.4	-1.3	1450	34.8	19.7	-1.3	1424	19.2	8.0	7.5	- 0.7	1372
48-59	29.8	11.4	-1.5	932	30.8	18.8	-1.3	885	22.2	9.5	4.8	- 0.9	855
Mother's education													
None	29.0	13.0	-1.2	5517	31.7	17.9	-1.0	5011	24.1	10.7	6.0	-0.9	4904
Primary	22.0	8.7	-.9	911	29.8	13.7	-1.0	826	17.3	6.5	7.0	-0.5	813
Secondary +	15.0	6.5	-.8	232	21.9	11.0	-0.7	209	13.0	4.0	3.1	-0.5	207
Missing/DK	*	*	*	1	*	*	*	1	*	*	*	*	1
Wealth index quintiles													
Poorest	32.1	15.0	-1.4	1336	31.3	18.2	-1.0	1202	28.5	13.8	4.7	-1.1	1177
Second	35.0	15.4	-1.3	1287	34.1	20.2	-1.0	1162	27.9	13.8	6.3	-1.0	1125
Middle	26.8	12.5	-1.1	1287	32.0	17.0	-1.0	1176	21.6	8.6	6.9	- 0.7	1149
Fourth	23.9	10.7	-1.1	1374	31.7	18.0	-1.0	1251	20.3	7.9	7.1	- 0.6	1231
Richest	20.5	7.6	-.9	1376	26.5	12.2	-0.8	1255	16.1	5.9	5.1	- 0.6	1242
Total	27.6	12.2	-1.1	6660	31.1	17.1	-1.0	6048	22.7	9.9	6.0	- 0.8	5925

[1] MICS indicators see attached table

Figure NU.1: Nutritional Status of Children

Percentage of children under age 5 who are underweight, stunted and wasted, South Sudan, 2010



Breastfeeding and Infant and Young Child Feeding

Breastfeeding for the first few years of life protects children from infection, provides an ideal source of nutrients, and is economical and safe. However, many mothers stop breastfeeding too soon and there are often pressures to switch to infant formula, which can contribute to growth faltering and micronutrient malnutrition and is unsafe if clean water is not readily available.

WHO/UNICEF have the following feeding recommendations:

- Exclusive breastfeeding for first six months
- Continued breastfeeding for two years or more
- Safe and age-appropriate complementary foods beginning at 6 months
- Frequency of complementary feeding: 2 times per day for 6-8 month olds; 3 times per day for 9-11 month olds

It is also recommended that breastfeeding be initiated within one hour of birth.

The indicators related to recommended child feeding practices are as follows:

- Early initiation of breastfeeding (within 1 hour of birth)
- Exclusive breastfeeding rate (< 6 months)
- Predominant breastfeeding (< 6 months)
- Continued breastfeeding rate (at 1 year and at 2 years)
- Duration of breastfeeding
- Age-appropriate breastfeeding (0-23 months)

- Introduction of solid, semi-solid and soft foods (6-8 months)
- Minimum meal frequency (6-23 months)
- Milk feeding frequency for non-breastfeeding children (6-23 months)
- Bottle feeding (0-23 months)

Table NU.2 provides the proportion of children born in the last two years who were ever breastfed, those who were first breastfed within one hour and one day of birth. Overall, 93 percent of children were ever breastfed, less than half (48 percent) of babies are breastfed for the first time within one hour of birth and 75 percent of new-borns in South Sudan start breastfeeding within one day of birth. The proportions of ever breastfed range from 83 percent in Upper Nile to 98 percent in Central Equatoria. No significant variations noted across residence, mother's educational levels and economic status.

Initiation of breastfeeding varies among states. The proportion of infants that are breastfed within one hour of birth is higher (76 percent) in Warap, and the proportions are lower in Central Equatoria (27 percent) and Eastern Equatoria (31 percent). No variation across residence, while differences are observed across mother's education with 50 percent for children whose mothers/caretakers have no education compared to 40 percent for children whose mothers/caretakers have primary or higher education. An irregular pattern is observed in household wealth index quintiles for initial breastfeeding. For example, 41 percent of mothers in the fourth wealth quintile breastfed their infants within one hour of birth, compared to 57 percent of mothers from the poorest households, and 45 percent of mothers in the richest households.

The highest percentages of infants who started breastfeeding within one day of birth are in Unity (87 percent), Warap (86 percent), Lakes (84 percent) and Northern Bahr El Ghazal (82 percent), while the lowest proportions are found in Western Equatoria (57 percent) and Eastern Equatoria (65 percent). No variation noted across residence. However, the percentages decrease with mother's educational level, from 76 percent for children whose mothers/caretakers have no education to 67 percent for children whose mothers/caretakers have primary or higher education. An erratic pattern is also observed across the economic status. For example, 70 percent of mothers in the fourth wealth quintile breastfed their babies within one day of birth, compared to 80 percent of mothers/caretakers in the poorest and second wealth index quintiles, and 73 percent for mothers/caretakers in the richest wealth index quintiles.

Table NU.2: Initial breastfeeding

Percentage of last-born children in the 2 years preceding the survey who were ever breastfed, and percentage who were breastfed within one hour of birth and within one day of birth, South Sudan, 2010.

	Percentage who were ever breastfed[1]	Percentage who were first breastfed		Number of last-born children in the two years preceding the survey
		Within one hour of birth[2]	Within one day of birth	
Region				
Upper Nile	83.4	37.9	70.7	371
Jonglei	89.1	52.7	74.7	409
Unity	95.3	61.5	86.9	194
Warap	93.3	75.6	86.4	421
Northern Bahr El Ghazal	94.0	58.9	82.1	284
Western Bahr El Ghazal	95.2	40.6	72.1	141
Lakes	91.8	64.5	84.4	234
Western Equatoria	94.1	38.0	57.4	258
Central Equatoria	98.1	26.7	71.4	461
Eastern Equatoria	94.6	31.0	64.6	332
Residence				
Urban	91.4	47.6	73.2	824
Rural	93.1	48.3	75.4	2,280
Mother's education				
None	92.2	50.2	76.1	2,482
Primary	95.3	39.6	70.5	507
Secondary +	90.8	39.8	67.1	113
Missing/DK	*	*	*	1
Wealth index quintile				
Poorest	92.4	56.8	79.9	609
Second	94.8	54.8	79.6	582
Middle	93.4	44.9	72.5	584
Fourth	91.4	40.5	69.9	671
Richest	91.6	44.7	73.2	658
Total	92.7	48.1	74.9	3,104

1 MICS indicator 2.4
2 MICS indicator 2.5
*: Based on unweighted cases < 25

In Table NU.3, breastfeeding status is based on the reports of mothers/caretakers of children's consumption of food and fluids during the previous day or night prior to the interview. *Exclusively breastfed* refers to infants who received only breast milk (and vitamins, mineral supplements, or medicine). The table shows exclusive breastfeeding of infants during the first six months of life, as well as continued breastfeeding of children at 12-15 and 20-23 months of age.

Approximately 45 percent of children aged 0-5 month are exclusively breastfed, a level considerably lower than recommended. Gender differentials as well as those pertained to residence are not significant. There are however some difference across levels of education (none and primary only) of the mothers/caretakers of the children; the proportion of children exclusively breastfed is slightly higher amongst children whose mothers/caretakers have no education (46 percent) compared to the proportion of the children whose parents with primary education educated (40 percent). Differentials across wealth groups show a decline in

breastfeeding as with economic status increased, from 51 percent (poorest) to 42 percent (richest). State variations are also noticeable with 56 percent recorded in Warap while Lakes has 33 percent. Western Bahr El Ghazal was not taken into consideration due to the small numbers.

Similarly, the national proportion of children aged 0-5 month who were predominantly breastfed is 73 percent. The proportions are highest in Western Equatoria (83 percent) and Warap (81 percent); the lowest proportions are in Lakes and Northern Bahr El Ghazal States with 64 percents each. There are no significant differentials across wealth index, education, gender, and residence.

The proportion of children aged 12-15 month who were continually breastfeed until their first birthday is 82 percent. There are no significant variations across gender and mother/caretaker educational level (none and primary only). There are nonetheless significant differences across the states; the proportions are higher in Warap (91 percent) and Lakes (81 percent) and the lowest is in Upper Nile (68 percent). A slight variation is also noted at residence level with 84 percent in rural areas compared to 75 in urban areas. Differentials across wealth groups show a decline as the economic status increases, from 89 percent (poorest) to 75 percent (richest).

Table NU.3 shows that the proportion of Children aged 20-23 months breastfed is 38 percent. No significant variations observed for gender, residence and wealth index levels. Due to small numbers of children for some states, no conclusive comparative analysis can be done at state level. The mother's/caretaker educational levels show a notable difference between no education (36 percent) and primary education (48 percent).

Table NU.3: Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, South Sudan, 2010

	Children 0-5 months			Children 12-15 months		Children 20-23 months	
	Percent exclusively breastfed [1]	Percent predominantly breastfed [2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year) [3]	Number of children	Percent breastfed (Continued breastfeeding at 2 years) [4]	Number of children
Sex							
Male	45.5	73.5	432	83.7	392	37.6	263
Female	44.7	72.4	434	80.9	402	38.5	187
State							
Upper Nile	47.3	71.3	92	67.8	89	31.8	78
Jonglei	41.4	73.6	113	84.6	135	(34.0)	63
Unity	51.0	70.8	61	85.0	56	(33.3)	25
Warap	56.0	81.2	119	91.1	98	(38.2)	39
Northern Bahr El Ghazal	37.8	64.4	76	84.7	67	(23.2)	33
Western Bahr El Ghazal	56.7	74.5	42	88.5	38	(34.1)	14
Lakes	32.6	63.5	67	81.0	64	21.2	39
Western Equatoria	45.7	82.6	79	78.8	54	(53.9)	21
Central Equatoria	42.3	71.3	124	75.9	106	54.5	81
Eastern Equatoria	42.4	71.6	93	88.0	87	44.2	57
Residence							
Urban	43.2	72.5	226	75.1	177	42.9	109
Rural	45.8	73.1	640	84.3	616	36.4	341
Mother's education							
None	45.6	72.9	698	83.6	657	35.8	371
Primary	39.8	72.4	140	80.0	108	48.4	63
Secondary +	(59.5)	(76.7)	28	(58.8)	27	*	15
Missing/DK	-	-	0	*	1	-	0
Wealth index quintiles							
Poorest	50.9	74.2	168	88.7	170	39.4	78
Second	45.9	72.9	163	84.7	159	37.2	84
Middle	44.3	77.8	161	80.2	153	37.0	94
Fourth	43.4	69.4	189	81.7	171	38.9	98
Richest	41.5	71.1	185	74.5	141	37.5	95
Total	45.1	72.9	866	82.3	794	38.0	450

[1] MICS indicator 2.6
[2] MICS indicator 2.9
[3] MICS indicator 2.7
[4] MICS indicator 2.8
( ): Based on 25-49 unweighted cases
(*): Based on unweighted cases < 25

Table NU.4 presents indicators on the duration, in months, of breastfeeding practices among children aged 0-35 months. The main indicator is the median duration, in months, of any breastfeeding practice.

Overall, the mean duration of breastfeeding for children aged 0-35 months who were reported to have had any breastfeeding is 17 months. However, the median duration for children reportedly to have been exclusively breastfed is relatively small, standing at 4 months. As for children reportedly to have had predominant breastfeeding practice, the median duration is 8 months. No significant variations noted across all background characteristics for the duration of any breastfeeding.

Table NU.4: Duration of breastfeeding
Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, South Sudan, 2010

	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding [1]	Exclusive breastfeeding	Predominant breastfeeding	
Sex				
Male	18.3	2.0	6.0	2789
Female	18.8	2.0	5.3	2603
Residence				
Urban	18.9	1.8	4.7	1372
Rural	18.4	2.0	6.1	4021
Mother's education				
None	18.2	2.0	6.1	4441
Primary	19.8	1.9	4.6	764
Secondary +	20.5	3.2	4.2	186
Wealth index quintile				
Poorest	18.1	2.6	5.9	1059
Second	17.9	1.9	5.7	1040
Middle	19.3	2.0	7.7	1077
Fourth	17.6	2.0	5.1	1128
Richest	19.3	0.7	4.7	1089
Median	18.4	2.0	5.6	5393
Mean for all children (0-35 Months)	17.2	3.7	8.0	5393

[1] MICS indicator 2.10

The adequacy of infant feeding in children under 24 months is provided in Table NU.5. Different criteria of feeding are used depending on the age of the child. For infants aged 0-5 months, exclusive breastfeeding is considered as age-appropriate feeding, while infants aged 6-23 months are considered to be appropriately fed if they are receiving breast milk and solid, semi-solid or soft food.

Table NU.5 presents the pattern of exclusive breast fed infants aged 0-5 months. The nation-wide percentage is 45, with no gender difference. There is however some difference across wealth index, as the pattern of exclusive breast feeding amongst those from the richest quintile (42 percent) is slightly lower than that of the poorest quintile (51 percent). Exclusive

breastfeeding of children is slightly higher among uneducated mothers (60 percent) than those who have primary education (46 percent). Across the States, exclusive breast feeding amongst infants aged 0-5 months is highest in Western Bahr el Ghazal and Warap States, 57 and 56 percents, respectively. The State with the lowest proportion of exclusive breasting of infants aged 0-5 is Lakes State, reported at 33 percent.

Similarly, Table NU.5 also presents the proportion of children aged 6-23 months currently breastfeeding and receiving solid, semi-solid or soft foods. The national proportion for the indicator is 26 percent with the highest in Central Equatoria (40 percent) and lowest in Northern Bahr El Ghazal (17 percent) and Upper Nile (15 percent). There is no marked difference in feeding patterns between boys and girls. The urban-rural differentials are relatively small. There are however slight differences across wealth groups and the educational levels of the mothers/caretakers of the children. The proportion of the appropriately fed infants aged 6-23 months is highest amongst the richest (30 percent) compared to the proportion of these children amongst the poorest (23 percent). This pattern is also markedly visible amongst infants of uneducated mothers/caretakers (23 percent) compared to that of children whose parents attained primary educational level (36 percent).

Finally, Table NU.5 also presents the pattern of appropriately breastfed infants aged 0-23 months. Overall, the national proportion for the indicator is 30 percent. The proportions are highest in Central Equatoria (41 percent), Western Equatoria (39 percent) and Western Bahr El Ghazal (38 percent), and are lowest in Upper Nile and Northern Bahr El Ghazal (22 percent each). There are no significant differences across gender, residence, wealth groups, and education levels of mothers/caretakers.

Table NU.5: Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, South Sudan, 2010

	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Percent exclusively breastfed [1]	Number of children	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Percent appropriately breastfed [2]	Number of children
Sex						
Male	45.5	432	25.3	1333	30.3	1765
Female	44.7	434	25.6	1236	30.6	1670
State						
Upper Nile	47.3	92	15.2	335	22.1	427
Jonglei	41.4	113	23.0	344	27.6	457
Unity	51.0	61	21.7	152	30.1	213
Warap	56.0	119	20.4	352	29.4	470
Northern Bahr El Ghazal	37.8	76	17.4	234	22.4	310
Western Bahr El Ghazal	(56.7)	42	30.2	108	37.6	150
Lakes	32.6	67	20.5	204	23.5	272
Western Equatoria	45.7	79	36.0	188	38.9	267
Central Equatoria	42.3	124	40.4	383	40.8	507
Eastern Equatoria	42.4	93	30.5	269	33.6	362
Residence						
Urban	43.2	226	29.3	686	32.8	912
Rural	45.8	640	24.1	1882	29.6	2522
Mother's education						
None	45.6	698	23.4	2068	29.0	2766
Primary	39.8	140	35.8	402	36.8	542
Secondary +	(59.5)	28	27.5	97	34.7	125
Missing/DK	-	0	*	1	*	1
Wealth index quintiles						
Poorest	50.9	168	22.8	506	29.8	674
Second	45.9	163	22.1	497	28.0	661
Middle	44.3	161	24.1	487	29.1	648
Fourth	43.4	189	27.4	544	31.5	732
Richest	41.5	185	30.4	535	33.2	720
Total	**45.1**	**866**	**25.5**	**2569**	**30.4**	**3434**

[1] MICS indicator 2.6
[2] MICS indicator 2.4
( ): Based on 25-49 unweighted cases
(*):Based on 25-49 unweighted cases

Appropriate complementary feeding of children from 6 months to two years of age is particularly important for growth and development and the prevention of undernutrition. Continued breastfeeding beyond six months should be accompanied by consumption of nutritionally adequate, safe and appropriate complementary foods that help meet nutritional requirements when breastmilk is no longer sufficient. This requires that for breastfed children, two or more meals of solid, semi-solid or soft foods are needed if they are six to eight months old, and three or more meals if they are aged 9-23 months of age. For children aged 6-23 months and older who are not breastfed, four or more meals of solid, semi-solid or soft foods or milk feeds are needed.

Overall, 21 percent of infants aged 6-8 received solid, semi-solid, or soft foods (Table NU.6). Among currently breastfeeding infants the proportion is 22 percent. Table NU.6 shows a significant difference in the percentage of infants aged 6-8 months receiving solid, semi-solid or soft foods by area of residence. The urban percentage is nearly twice that of the rural one, 30 and 17 percent, respectively. There is no difference between male and female infants in terms of appropriate feeding.

Table NU.6: Introduction of solid, semi-solid or soft food
Percentage of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day, South Sudan, 2010

	Currently breastfeeding		Currently not breastfeeding		All	
	Percent receiving solid, semi-solid or soft foods	Number of Children age 6-8 months	Percent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Percent receiving solid, semi-solid or soft foods [1]	Number of children age 6-8 months
Sex						
Male	20.1	194	34.3	6	20.0	217
Female	23.5	203	12.8	7	21.7	227
Residence						
Urban	34.3	120	0	3	30.3	138
Rural	16.5	278	31.8	9	16.6	3.7
Total	21.9	398	23.0	13	20.9	444

[1] MICS indicator 2.12

Table NU.7 presents the proportion of children aged 6-23 months who received semi-solid or soft foods the minimum number of times or more during the day or night preceding the interview by breastfeeding status.

Only one in ten (11 percent) currently breastfeeding children aged 6-23 months were receiving solid, semi-solid and soft foods the minimum number of times. Across age groups, the proportion is relatively higher amongst age-groups 6-8 months and 18-23 months, but lower in age-groups 9-11 months and 12-17 months. The respective percentages for the earlier group are 15 and 16, respectively, while the proportions for the latter group stood at respectively 5 and 9. The States with relatively higher proportions are Western Equatoria (19 percent), Eastern Equatoria (17 percent), Central Equatoria (16 percent) and Western Bahr El Ghazal (15 percent). The

remaining States have proportions in the range 4 – 10 percent. Slight difference is noted across residence: 15 percent for urban compared to 9 percent for rural. Differentials across wealth index quintiles and education are also significant. The proportion amongst children whose mothers/caretakers have secondary education or higher (22 percent) is markedly higher than that of children of uneducated mothers (9 percent). Besides, the proportion amongst children from richest quintile (16 percent) doubles that of children from the poorest households (8 percent).

Among no breastfeeding children aged 6-23 months, 14 percent received solid, semi-solid and soft foods or milk feeds 4 times or more. While there is no gender difference, the results show a marked difference between urban and rural areas: 23 and 11 percent, respectively. There are also some variations across wealth quintiles. The proportion of children from the richest households is 28 percent compared to 8 percent for the poorest households.

Finally, Table NU.7 also presents the proportion of all children aged 6-23 months who received minimum meal. Overall, 12 percent of children aged 6-23 months received minimum meal. Across age- groups, the proportions are relatively higher in age-groups 6-8 months (14 percent), 18-23 months (13 percent) and 12-17 months (12 percent). The age-group with the lowest proportion is the age-group 9-11 months, with only 7 percent. Children aged 6-23 months and living in urban areas are more (17 percent) likely to receive minimum meal than the children from rural areas with 10 percent. Minimal meal frequency increases with the educational level of mothers/caretakers as well as with the household wealth.

Table NU.7: Minimum meal frequency

Percentage of children age 6-23 months who received solid, semi-solid, or soft foods (and milk feeds for non-breastfeeding children) the minimum number of times or more during the previous day, according to breastfeeding status, South Sudan, 2010

	Currently breastfeeding		Currently not breastfeeding			All	
	Percent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Percent receiving at least 2 milk feeds [1]	Percent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Percent with minimum meal frequency [2]	Number of children age 6-23 months
Sex							
Male	9.5	934	17.8	12.5	399	10.4	1333
Female	11.6	899	18.0	15.7	336	12.7	1236
Age							
6-8 months	14.7	398	19.2	(9.8)	47	14.2	444
9-11 months	5.4	381	(22.9)	(17.2)	39	6.5	420
12-17 months	9.0	767	24.5	20.0	229	11.5	995
18-23 months	15.8	288	13.7	10.8	421	12.9	709
State							
Upper Nile	10.1	195	31.5	23.3	141	15.6	335
Jonglei	9.8	245	12.9	10.0	99	9.8	344
Unity	3.9	108	17.9	17.9	44	7.9	152
Warap	4.3	269	7.7	6.2	83	4.7	352
Northern Bahr El Ghazal	3.5	172	15.0	11.0	62	5.4	234
Western Bahr El Ghazal	14.5	85	17.0	17.0	23	15.0	108
Lakes	8.4	131	15.0	8.8	73	8.5	204
Western Equatoria	19.1	142	11.3	9.8	46	16.8	188
Central Equatoria	15.6	280	18.2	15.2	103	15.5	383
Eastern Equatoria	16.5	206	19.9	15.7	63	16.3	269
Residence							
Urban	14.5	479	26.9	22.7	208	17.0	686
Rural	9.2	1355	14.4	10.5	528	9.5	1882
Mother's education							
None	9.4	1475	15.3	11.4	593	9.9	2068
Primary	13.9	293	30.8	25.8	109	17.2	402
Secondary +	22.3	64	22.0	(21.0)	33	21.9	97
Missing/DK	*	1	0	0	0	*	1
Wealth index quintiles							
Poorest	7.7	377	12.1	8.1	128	7.8	506
Second	5.9	369	14.0	10.0	129	7.0	497
Middle	8.5	348	14.3	10.5	139	9.1	487
Fourth	14.9	376	11.7	10.4	167	13.5	544
Richest	15.6	363	34.3	27.6	172	19.5	535
Total	10.5	1833	17.9	14.0	735	11.5	2569

[1] MICS indicator 2.15
[2] MICS indicator 2.13
( ): Based on 25-49 unweighted cases
(*): Based on unweighted cases < 25

The continued practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and lack of hygiene in preparation. Table NU.8 shows that bottle-feeding is not prevalent in South Sudan. Only 6 percent of children aged 0-23 months are fed using a bottle with a nipple.

Table NU.8: Bottle feeding
Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, South Sudan, 2010

	Percentage of children age 0-23 months fed with a bottle with a nipple [1]	Number of children age 0-23 months:
Sex		
Male	5.8	1765
Female	5.1	1670
Age		
0-5 months	5.7	866
6-11 months	6.9	864
12-23 months	4.6	1704
State		
Upper Nile	5.8	427
Jonglei	8.2	457
Unity	4.3	213
Warap	3.2	470
Northern Bahr El Ghazal	3.6	310
Western Bahr El Ghazal	5.3	150
Lakes	4.8	272
Western Equatoria	6.3	267
Central Equatoria	8.0	507
Eastern Equatoria	3.1	362
Residence		
Urban	8.5	912
Rural	4.4	2522
Mother's education		
None	4.5	2766
Primary	9.4	542
Secondary +	9.8	125
Missing/DK	*	1
Wealth index quintiles		
Poorest	1.5	674
Second	4.6	661
Middle	5.1	648
Fourth	5.4	732
Richest	10.3	720
Total	5.5	3434

[1] MICS indicator 2.11
(*): Based on unweighted cases < 25

The prevalence of bottle feeding practice amongst urban dwellers (9 percent) is more than double that in the rural areas (4 percent). There is however little or no difference in the practice across gender, as well as across age-groups 0-5, 6-11 and 12-23 months. The States with highest percentages of bottle feeding practice are Jonglei and Central Equatoria, with 8 percent each; while those with relatively lower proportions are Eastern Equatoria and Warap States with 3 percent each.

Children whose mothers/caretakers have secondary and higher education are more (10 percent) likely to be fed with nipple than those children whose mothers have no education (5 percent). Similarly, children from the richest households are more (10 percent) likely to be fed with nipple than those from the poorest households with only 2 percent.

While there is no gender difference, bottle feeding is more common in urban areas, among educated mothers/caretakers, in richest households and in the states of Jonglei, and Central Equatoria.

Salt Iodization

Iodine Deficiency Disorders (IDD) is the world's leading cause of preventable mental retardation and impaired psychomotor development in young children. In its most extreme form, iodine deficiency causes cretinism. It also increases the risks of stillbirth and miscarriage in pregnant women. Iodine deficiency is most commonly and visibly associated with goitre. IDD takes its greatest toll in impaired mental growth and development, contributing in turn to poor school performance, reduced intellectual ability, and impaired work performance. The indicator is the percentage of households consuming adequately iodized salt (>15 parts per million).

Currently there is no national salt iodization program in South Sudan; most of the salt consumed in South Sudan is imported from the neighbouring countries mainly Uganda, Kenya and Sudan. Efforts are underway to develop the National Salt Legislation, and to as well institute a monitoring system at various levels, including the border entry points.

The results in Table NU.9 show a low coverage of salt testing. This may introduce a bias and therefore the results should be interpreted with caution. In 78 percent of households, salt used for cooking was tested for iodine content by using salt test kits and testing for the presence of potassium iodide or potassium iodate content or both. In 45 percent of households where the test was carried out, salt was found to contain 15 parts per million (ppm) or more of iodine. Use of adequately iodized salt was lowest in Northern Bahr El Ghazal (13 percent), Unity (14 percent) and Upper Nile (15 percent); and highest in Central Equatoria (83 percent) and Western Equatoria (81 percent). In fact, there is a huge gap (Figure NU.2) between on one hand the three states of Equatoria and the state of Lakes, and on other hand the remaining 6 states.

More than one in two (57 percent) of urban households were found to be using adequately iodized salt, compared to 42 percent in rural areas. As shown in Table NU.9 and Figure NU.2, there is a significant difference across the economic status in terms of iodized salt consumption. About 61 percent of richest households use iodized salt compared to 37 percent in the poorest households.

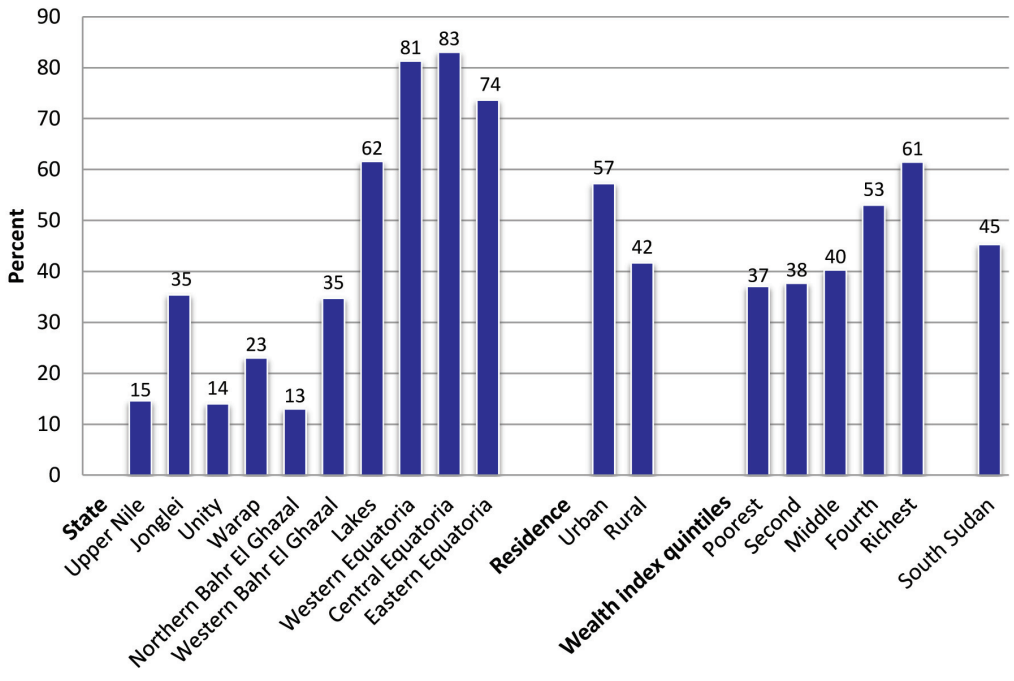
Table NU.9: Iodized salt consumption

Percent distribution of households by consumption of iodized salt, South Sudan, 2010

	Percent of households in which salt was tested	Number of households	Percent of households with					Number of households in which salt was tested or with no salt
			No salt	Salt Test Result			Total	
				Not iodized 0 PPM	>0 and <15 PPM	15+ PPM [1]		
Residence								
Upper Nile	74.8	998	20.0	52.4	13.1	14.6	100.0	933
Jonglei	59.0	1432	32.9	13.7	18.0	35.4	100.0	1259
Unity	56.9	608	28.7	44.2	13.1	14.0	100.0	486
Warap	70.3	1205	20.5	36.4	20.1	23.0	100.0	1066
Northern Bahr El Ghazal	94.3	930	4.9	57.8	24.4	12.9	100.0	923
Western Bahr El Ghazal	89.8	387	7.1	45.7	12.4	34.7	100.0	374
Lakes	83.1	676	11.0	1.9	25.5	61.6	100.0	632
Western Equatoria	92.7	770	2.5	7.9	8.3	81.3	100.0	732
Central Equatoria	87.9	1249	10.3	1.1	5.6	83.0	100.0	1224
Eastern Equatoria	83.5	1114	14.8	2.6	9.0	73.6	100.0	1092
Residence								
Urban	87.0	2161	6.6	23.7	12.4	57.3	100.0	2015
Rural	75.4	7208	19.0	23.9	15.4	41.7	100.0	6705
Wealth index quintiles								
Poorest	70.0	1879	23.1	25.1	14.7	37.0	100.0	1712
Second	72.2	1995	22.1	25.3	15.0	37.7	100.0	1851
Middle	78.0	2004	17.6	25.4	16.8	40.3	100.0	1896
Fourth	83.2	1913	10.6	20.9	15.5	53.0	100.0	1779
Richest	88.9	1578	5.3	22.2	11.0	61.4	100.0	1483
Total	**78.1**	**9369**	**16.1**	**23.9**	**14.7**	**45.3**	**100.0**	**8720**

[1] MICS indicator 2.16

Figure NU.2: Percentage of households consuming adequately iodized salt, South Sudan, 2010



Children's Vitamin A Supplementation

Vitamin A is essential for eye health and proper functioning of the immune system. It is found in foods such as milk, liver, eggs, red and orange fruits, red palm oil and green leafy vegetables, although the amount of vitamin A readily available to the body from these sources varies widely. In developing areas of the world, where vitamin A is largely consumed in the form of fruits and vegetables, daily per capita intake is often insufficient to meet dietary requirements. Inadequate intakes are further compromised by increased requirements for the vitamin as children grow or during periods of illness, as well as increased losses during common childhood infections. As a result, vitamin A deficiency is quite prevalent in the developing world and particularly in countries with the highest burden of under-five deaths.

The 1990 World Summit for Children set the goal of virtual elimination of vitamin A deficiency and its consequences, including blindness, by the year 2000. This goal was also endorsed at the Policy Conference on Ending Hidden Hunger in 1991, the 1992 International Conference on Nutrition, and the UN General Assembly's Special Session on Children in 2002. The critical role of vitamin A for child health and immune function also makes control of deficiency a primary component of child survival efforts, and therefore critical to the achievement of the fourth Millennium Development Goal: a two-thirds reduction in under-five mortality by the year 2015.

For countries with vitamin A deficiency problems, current international recommendations call for high-dose vitamin A supplementation every four to six months, targeted to all children between the ages of six to 59 months living in affected areas. Providing young children with two high-dose vitamin A capsules a year is a safe, cost-effective, efficient strategy for eliminating vitamin A deficiency and improving child survival. Giving vitamin A to new mothers who are breastfeeding helps protect their children during the first months of life and helps to replenish the mother's stores of vitamin A, which are depleted during pregnancy and lactation. For countries with vitamin A supplementation programs, the definition of the indicator is the percent of children 6-59 months of age receiving at least one high dose vitamin A supplement in the last six months.

Based on UNICEF/WHO guidelines, the Ministry of Health in South Sudan recommends that children aged 6-11 months be given a Vitamin A capsules (100,000 IU), and children aged 12-59 months given a one high dose of vitamin A capsule (200,000 IU) every 6 months. In some parts of the country, Vitamin A capsules are linked to immunization services (mainly during polio immunization days) and are given when the child has contact with these services after six months of age. It is also recommended that mothers take a Vitamin A supplement within eight weeks of giving birth due to increased Vitamin A requirements during pregnancy and lactation.

Within the six months prior to SHHS2, 4 percent of children aged 6-59 months received a high dose Vitamin A supplement (Table NU.10). Vitamin A supplementation coverage is lower in Warap, Jonglei and Unity than in other States. Overall, percentages for most of the States are below 5 percent, except for Jonglei (8 percent) and Western Bahr El Ghazal (6 percent). Urban areas record 6 percent compared to 3 percent in rural areas. Besides, there is also marked difference across wealth index quintiles, as the proportion of children aged 6-59 months who received a high dose Vitamin A supplement in the poorest households (2 percent) is markedly lower than that in the richest households (8 percent).

The age pattern of Vitamin A supplementation shows that supplementation in the last six months rises from 2 percent among children aged 6-11 months to 16 percent among children

aged 12-23 months, and then declines sharply with age to 0 percent among the oldest children. Mother's level of education is also related to the likelihood of Vitamin A supplementation. The percentage receiving a supplement in the last six months increases from 3 percent among children whose mothers/caretakers have no education to 8 percent for children whose mothers/ caretakers have primary education, and to 10 percent among children whose mothers/caretakers have secondary or higher education.

Table NU.10: Children's vitamin A supplementation
Percent distribution of children age 6-59 months by receipt of a high dose vitamin A supplement in the last 6 months, South Sudan, 2010

	Percentage of children who received Vitamin A during the last 6 months [1]	Number of children age 6-59 months
Sex		
Male	4.0	3829
Female	3.9	3643
State		
Upper Nile	7.7	874
Jonglei	2.1	1141
Unity	2.1	574
Warap	1.1	1057
Northern Bahr El Ghazal	3.0	744
Western Bahr El Ghazal	5.8	284
Lakes	2.9	551
Western Equatoria	4.9	565
Central Equatoria	6.8	913
Eastern Equatoria	4.5	769
Residence		
Urban	5.9	1816
Rural	3.3	5656
Age		
6-11	2.3	864
12-23	15.9	1704
24-35	0.2	1958
36-47	0.0	1789
48-59	0.0	1156
Mother's education		
None	3.0	6295
Primary	8.4	940
Secondary +	9.9	234
Missing/DK	*	3
Wealth index quintiles		
Poorest	2.3	1544
Second	2.6	1472
Middle	3.0	1492
Fourth	4.4	1564
Richest	7.6	1400
Total	3.9	7472

[1] MICS indicator 2.17
(*): Based on unweighted cases < 25
Results are based on mother's report

VI. Child Health

Vaccinations

The Millennium Development Goal (MDG) 4 is to reduce child mortality by two thirds between 1990 and 2015. Immunization plays a key part in this goal. Immunizations have saved the lives of millions of children in the three decades since the launch of the Expanded Programme on Immunization (EPI) in 1974. Worldwide there are still 27 million children overlooked by routine immunization and as a result, vaccine-preventable diseases cause more than 2 million deaths every year.

A World Fit for Children goal is to ensure full immunization of children under one year of age at 90 percent nationally, with at least 80 percent coverage in every district or equivalent administrative unit.

According to UNICEF and WHO guidelines, a child should receive a BCG vaccination to protect against tuberculosis, three doses of DPT to protect against diphtheria, pertussis, and tetanus, three doses of polio vaccine, and a measles vaccination by the age of 12 months.

Table CH.1: Vaccinations in first year of life
Percentage of children age 12-23 months immunized against childhood diseases at any time before the survey and before the first birthday, South Sudan, 2010

	Vaccinated at any time before the survey according to: Vaccination card	Vaccinated at any time before the survey according to: Mother's report	Vaccinated at any time before the survey according to: Either	Vaccinated by 12 months of age
BCG [1]	8.7	25.7	34.4	31.4
Polio 0	6.1	12.7	18.7	18.4
Polio 1	7.6	28.8	36.4	34.7
Polio 2	7.5	15.3	22.8	20.9
Polio 3 [2]	5.8	9.0	14.8	12.7
DPT/HepB/INFL1	7.2	20.9	28.1	24.9
DPT/HepB/INFL2	6.5	15.8	22.3	20.4
DPT/HepB/INFL3 [3]	5.4	9.7	15.1	13.1
Measles [4]	5.8	20.5	26.3	20.4
All vaccinations	4.3	2.0	6.3	6.0
No vaccinations	0.1	45.9	45.9	45.9
Number of children age 12-23 months	1704	1704	1704	1704

[1] MICS indicator 3.1
[2] MICS indicator 3.2
[3] MICS indicator 3.3
[4] MICS indicator 3.4; MDG indicator 4.3

The vaccination schedule followed by the South Sudan National Immunization Programme provides only BCG and DPT (against Diphtheria, tetanus and whooping cough). Oral polio vaccine and measles are used for routine infant immunization schedule. Taking into consideration this vaccination schedule, the estimates for full immunization coverage from the South Sudan Household Health Survey are based on children aged 12-23 months.

Information on vaccination coverage was collected for all children under five years of age. All mothers or caretakers were asked to provide vaccination cards. If the vaccination card for a child was available, interviewers copied vaccination information from the cards onto the SHHS II questionnaire. If no vaccination card was available for the child, the interviewer proceeded to ask the mother to recall whether or not the child had received each of the vaccinations, and for Polio and DPT, how many doses were received. The final vaccination coverage estimates are based on both information obtained from the vaccination card and the mother's report of vaccinations received by the child.

The percentage of children aged 12 to 23 months who have received each of the specific vaccinations by source of information (vaccination card and mother's recall) is shown in Table CH.1. The denominator for the table is the number of children aged 12-23 months so that only children who are old enough to be fully vaccinated are counted. In the first three columns of the table, the numerator includes all children who were vaccinated at any time before the survey according to the vaccination card or the mother's report. In the last column, only those children who were vaccinated before their first birthday, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given before the first birthday is assumed to be the same as for children with vaccination cards.

Approximately 31 percent of children aged 12-23 months received a BCG vaccination by the age of 12 months and the first dose of DPT was given to 25 percent. The percentage declines for subsequent doses of DPT to 20 percent for the second dose and the 13 percent for the third dose (Table CH.1 and Figure CH.1). Similarly, 35 percent of children received Polio 1 by age 12 months, and this declines to 13 percent for the third dose. The coverage for measles vaccine by 12 months is 20 percent. The proportion of children who received all vaccinations is very low at 6 percent, while those who didn't receive any vaccinations is 46 percent

Figure CH.1: Percentage of children aged 12-23 months who received the recommended vaccinations by 12 months, South Sudan, 2010

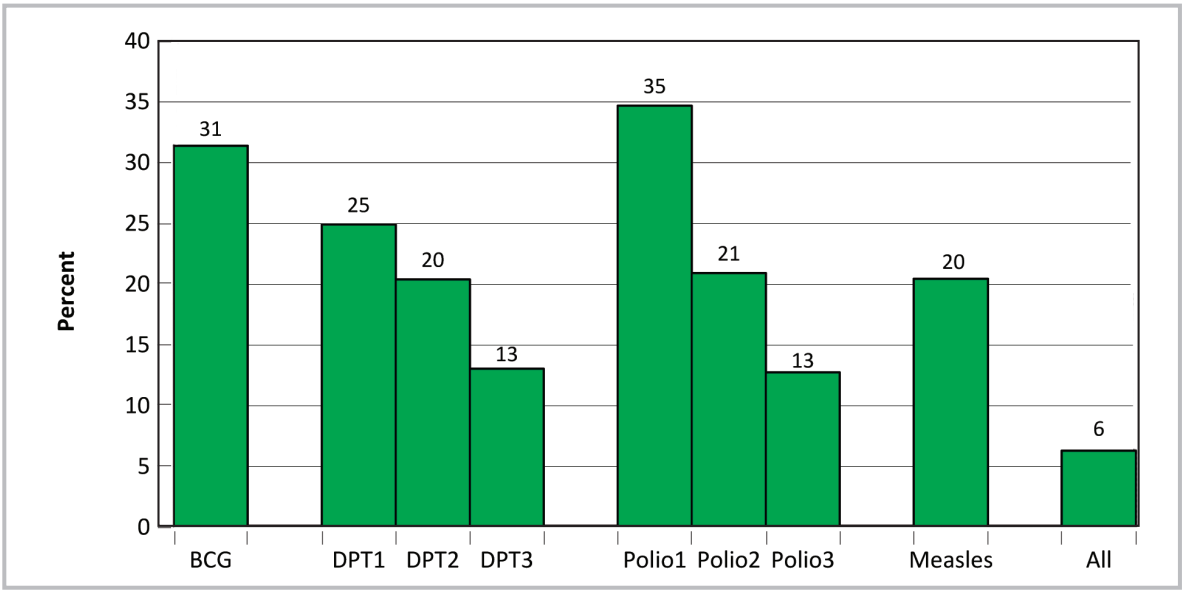


Table CH.2 presents vaccination coverage estimates among children aged 12-23 months by background characteristics. The results indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and mothers'/caretakers' reports. The proportion of vaccination cards that have been seen by the interviewer is only 10 percent of children. The proportion of children fully immunized for all antigens is 6 percent.

There is no significant difference in percentages of BCG vaccination coverage amongst male and female children aged 12-23 months; on average this proportion stands at 35 percent. Polio coverage was 36, 23 and 15 percent for the first, second and third doses, respectively. In like manner there are no notable differences across gender in the percentages pertaining to the coverage of measles and DPT. In addition, measles vaccination coverage was documented as 26 percent, although only 6 percent had their cards verified (Table CH.1).

There are differences in coverage of vaccination across States. The State with the highest percentage of children aged 12-23 months who received a BCG vaccination by the age of 12 months is Central Equatoria (58 percent). The lowest proportion of this vaccination was in Warap State, having BCG vaccination of only 16 percent. The coverage of Polio 3 vaccination is also highest in Central Equatoria, but lowest across Lakes, Warap, Unity, Northern Bahr El Ghazal and Jonglei States (6-7 percent). Similarly, the coverage for measles vaccine is equally highest in Central Equatoria (45 percent) and lowest in Warap (11 percent). Accordingly, the percentage of children fully immunized was highest in Central Equatoria (19 percent) and lowest across Northern Bahr El Ghazal, Jonglei and Warap states (below 2 percent in all three states).

There are urban-rural differences in vaccination coverage. Children residing in urban areas are more likely to be fully immunized (10 percent) compared with children in rural areas (5 percent). BCG coverage in urban areas (45 percent) is markedly higher than that in the rural areas (31 percent). Similarly, coverage of Polio 3 and DPT 3 in urban areas is twice that of rural areas. Measles coverage in urban areas is 36 percent compared to 23 percent in rural areas.

Table CH.2: Vaccinations by background characteristics

Percentage of children age 12-23 months currently vaccinated against childhood diseases, South Sudan, 2010

	Percentage of children who received											Percentage with vaccination card seen	Number of children age 12-23 months
	BCG	Polio at birth	Polio 1	Polio 2	Polio 3	DPT 1	DPT 2	DPT 3	Measles	None	All		
Sex													
Male	33.7	17.7	34.6	21.9	13.6	27.2	21.9	14.6	26.3	47.6	5.6	9.5	896
Female	35.2	19.9	38.4	23.7	16.1	29.1	22.8	15.6	26.3	44.1	7.0	10.4	808
State													
Upper Nile	42.4	21.3	42.8	35.0	21.0	29.7	20.7	14.9	32.8	41.6	6.7	8.6	242
Jonglei	27.3	11.8	32.4	15.0	7.1	22.0	18.4	14.9	22.3	53.5	1.8	2.3	248
Unity	23.4	12.0	22.5	11.5	7.0	17.3	13.9	9.7	19.8	61.7	3.5	7.8	107
Warap	16.4	6.9	24.1	9.8	5.9	9.3	4.9	3.2	11.1	62.8	1.4	4.2	208
Northern Bahr El Ghazal	20.9	13.0	30.7	9.9	6.1	13.9	6.9	2.5	16.4	55.8	1.3	4.3	136
Western Bahr El Ghazal	38.4	23.1	41.6	31.5	18.6	33.7	26.4	19.6	33.3	41.1	7.5	12.0	72
Lakes	23.3	13.9	25.5	12.0	7.3	20.6	16.0	8.1	17.1	58.3	2.9	5.6	132
Western Equatoria	41.2	27.1	42.9	29.0	16.9	31.9	27.6	18.1	32.6	41.0	8.7	9.3	118
Central Equatoria	58.0	28.9	55.6	43.3	33.1	56.2	47.8	31.9	45.1	14.8	19.2	26.0	258
Eastern Equatoria	39.5	28.6	34.4	17.2	13.2	33.2	29.0	19.2	24.7	46.0	5.5	13.9	182
Residence													
Urban	45.2	22.5	45.8	32.4	23.8	36.5	28.6	23.3	35.5	33.9	10.1	13.9	431
Rural	30.8	17.5	33.3	19.6	11.8	25.4	20.3	12.4	23.2	50.1	5.1	8.6	1273
Mother's education													
None	28.6	15.3	31.9	18.4	11.3	22.7	18.0	12.1	21.1	51.7	4.5	7.8	1374
Primary	57.9	33.8	54.9	40.2	28.5	50.1	40.0	27.2	46.8	24.7	13.6	17.8	260
Secondary +	61.6	30.0	58.1	47.7	34.5	53.2	43.3	30.8	55.0	21.9	15.7	22.1	69
Missing/DK	*	*	*	*	*	*	*	*	*	*	*	*	1
Wealth index quintiles													
Poorest	20.4	10.3	22.0	11.2	7.9	15.4	12.3	6.3	16.5	64.1	2.3	3.0	332
Second	23.9	15.1	29.3	14.2	9.0	19.3	13.6	10.0	16.6	56.3	3.2	5.7	310
Middle	32.7	16.8	35.8	19.3	9.7	27.2	20.8	13.7	21.6	46.5	5.1	9.7	330
Fourth	34.6	22.1	38.2	24.0	14.3	28.3	22.6	14.5	30.1	43.1	6.2	9.7	379
Richest	58.5	28.2	55.2	44.5	32.5	49.1	41.1	30.3	44.5	24.4	14.6	20.6	354
Total	34.4	18.7	36.4	22.8	14.8	28.1	22.3	15.1	26.3	45.9	6.3	9.9	1704

(*): Figures based on unweighted cases < 25

Vaccination levels are associated with the level of education of the mothers/caretakers of the children. Children of uneducated mothers/caretakers are relatively less likely to be fully immunized (5 percent) than those whose mothers/caretakers attained secondary or higher level education (16 percent). This is also true for BCG, Polio 3, DPT 3 and measles.

Vaccination coverage is also associated with the economic status of the households. Children aged 12-23 months from richest households are more (15 percent) likely to be fully vaccinated than those from poorest households (2 percent). And this pattern is particularly observed in the vaccination coverage for BCG, Polio 3, DPT 3 and measles.

Neonatal Tetanus Protection

One of the MDGs is to reduce by three quarters the maternal mortality ratio, with one strategy to eliminate maternal tetanus. In addition, another goal is to reduce the incidence of neonatal tetanus to less than 1 case of neonatal tetanus per 1000 live births in every district. A World Fit for Children goal is to eliminate maternal and neonatal tetanus by 2005.

The strategy for preventing maternal and neonatal tetanus is to assure all pregnant women receive at least two doses of tetanus toxoid vaccine. If a woman has not received at least two doses of tetanus toxoid during a particular pregnancy, she (and her newborn) are also considered to be protected against tetanus if the woman:

- Received at least two doses of tetanus toxoid vaccine, the last within the previous 3 years;
- Received at least 3 doses, the last within the previous 5 years;
- Received at least 4 doses, the last within the previous 10 years;
- Received 5 or more doses anytime during her life.

To assess the status of tetanus vaccination coverage, women who gave birth during the two years before the survey were asked if they had received tetanus toxoid injections during the pregnancy for their most recent birth, and if so, how many. Women who did not receive two or more tetanus toxoid vaccinations during this pregnancy were then asked about tetanus toxoid vaccinations they may have received prior to this pregnancy. Interviewers also asked women to present their vaccination card, on which dates of tetanus toxoid are recorded and referred to information from the cards when available.

Table CH.3 shows the protection status from tetanus of women who have had a live birth within the last 2 years. Figure CH.2 shows the protection of women against neonatal tetanus by major background characteristics. In South Sudan, 37 percent of women aged 15-49 who had a live birth in the two years preceding the study were protected against neonatal tetanus in 2010. Women residing in urban areas (51 percent) are more likely to be protected than their rural counterparts (32 percent).

Neonatal tetanus Protection varies across States, with Central Equatoria State posting the highest rates (71 percent) and Warap State the lowest (17 percent). Neonatal tetanus protection also varies with mother's education and economic status. Only 31 percent of uneducated mothers were vaccinated, compared to 68 percent of mothers who have secondary education or higher. Sixty percent of mothers from the richest households were protected against tetanus compared to 20 percent from the poorest households.

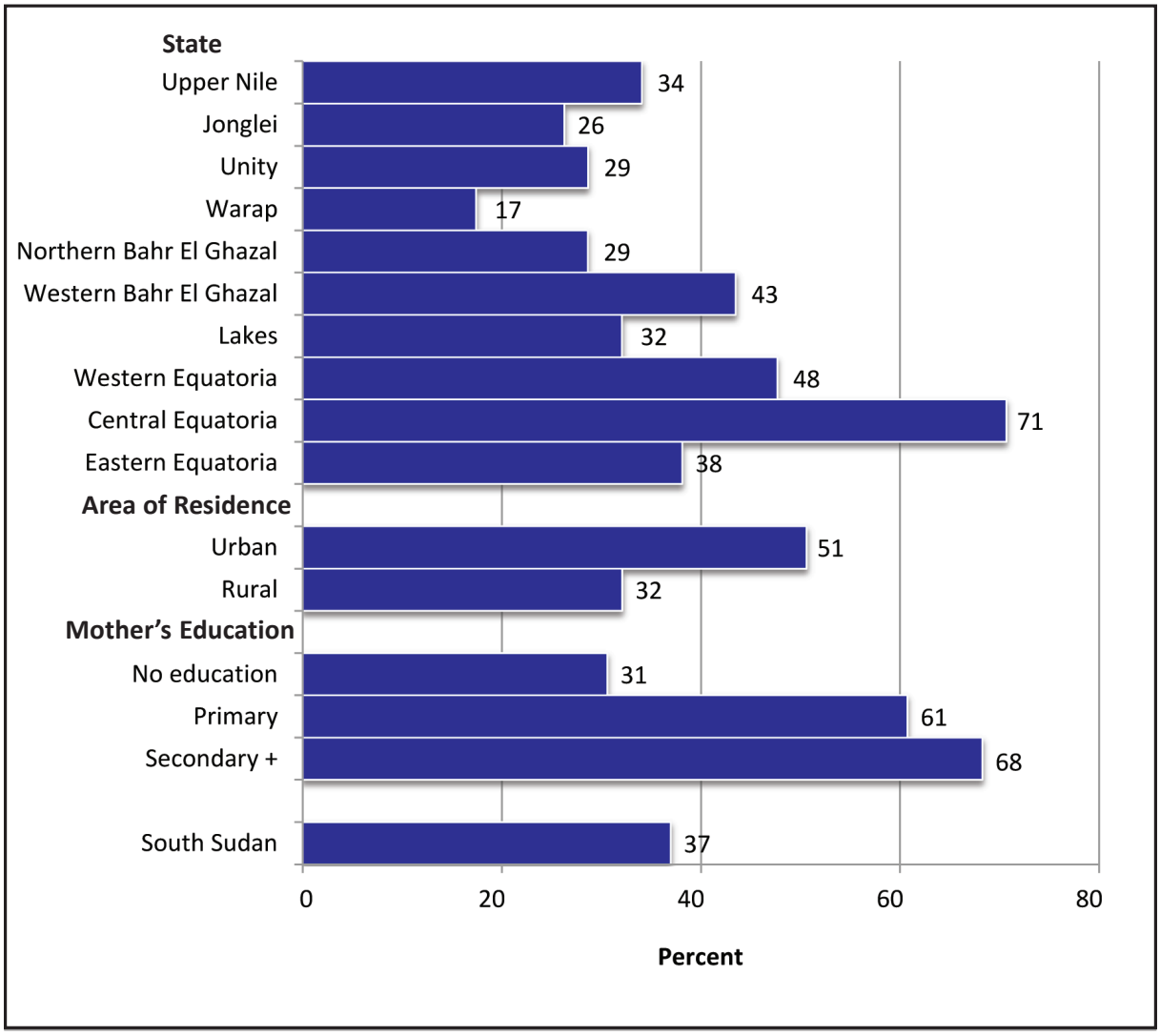
Table CH.3: Neonatal tetanus protection

Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, South Sudan, 2010

	Percentage of women who received at least 2 doses during last pregnancy	Percentage of women who did not receive two or more doses during last pregnancy but received:				Protected against tetanus [1]	Number of women with a live birth in the last 2 years
		2 doses, the last within prior 3 years	3 doses, the last within prior 5 years	4 doses, the last within prior 10 years	5 or more doses during lifetime		
Residence							
Urban	38.9	9.8	1.0	0.9	0.0	50.6	913
Rural	24.4	6.4	0.6	0.5	0.2	32.1	2566
State							
Upper Nile	22.9	9.6	1.3	0.2	0.0	34.0	436
Jonglei	18.4	7.6	0.3	0.0	0.0	26.3	459
Unity	22.7	5.0	0.7	0.3	0.0	28.6	215
Warap	14.3	3.1	0.0	0.0	0.0	17.4	485
Northern Bahr El Ghazal	22.8	5.5	0.3	0.0	0.0	28.6	299
Western Bahr El Ghazal	35.8	6.5	0.3	0.5	0.3	43.5	139
Lakes	27.2	4.6	0.3	0.0	0.0	32.1	275
Western Equatoria	39.6	7.3	0.4	0.4	0.0	47.7	270
Central Equatoria	50.4	14.2	2.0	3.3	0.9	70.7	503
Eastern Equatoria	31.8	5.4	0.9	0.0	0.0	38.1	398
Education							
None	22.8	6.7	0.6	0.4	0.1	30.6	2778
Primary	49.6	8.4	0.9	1.5	0.3	60.7	569
Secondary +	49.3	16.2	2.5	0.3	0.0	68.2	122
Adult education/Khalwa/ Sunday education	*	*	*	*	*	*	10
Wealth index quintiles							
Poorest	14.2	4.6	0.3	0.1	0.2	19.5	666
Second	24.2	4.1	0.4	0.0	0.1	28.8	679
Middle	24.0	7.8	0.6	0.2	0.0	32.5	686
Fourth	32.7	8.4	.8	0.0	0.0	41.9	726
Richest	44.4	11.1	1.4	2.5	0.4	59.9	722
Total	28.2	7.3	0.7	0.6	0.1	36.9	3479

[1] MICS indicator 3.7
(*): Figures based on unweighted cases < 25

Figure CH.2: Percentage of women with a live birth in the last 2 years who are protected against neonatal tetanus South Sudan, 2010



Oral Rehydration Treatment

Diarrhoea is the second leading cause of death among children under five worldwide. Most diarrhoea-related deaths in children are due to dehydration from loss of large quantities of water and electrolytes from the body in liquid stools. Management of diarrhoea – either through oral rehydration salts (ORS) or a recommended home fluid (RHF) - can prevent many of these deaths. Preventing dehydration and malnutrition by increasing fluid intake and continuing to feed the child are also important strategies for managing diarrhoea.

The goals are to: 1) reduce by one half death due to diarrhoea among children under five by 2010 compared to 2000 (A World Fit for Children); and 2) reduce by two thirds the mortality rate among children under five by 2015 compared to 1990 (Millennium Development Goals). In addition, the World Fit for Children calls for a reduction in the incidence of diarrhoea by 25 percent.

In SHHS 2, prevalence of diarrhoea was estimated by asking mothers or caretakers whether their child under age five years had an episode of diarrhoea in the two weeks prior to the survey. In cases where mothers reported that the child had diarrhoea, a series of questions were asked about the treatment of the illness, including what the child had to drink and eat during the episode and whether this was more or less than the child usually drinks and eats.

Overall, 34 percent of under-five children had diarrhoea in the two weeks preceding the survey (Table CH.4). Of these, 49 percent received the ORS or any recommended homemade fluid. The prevalence of diarrhoea in the two weeks preceding the survey ranges from 30 percent in Lakes to 44 percent in Eastern Equatoria. There are no significant differences across gender, residence, education and wealth index quintiles. The peak of diarrhoea prevalence occurs in the weaning period, among children age 12-23 months.

Table CH.4 also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Since children may have been given more than one type of liquid, the percentages do not necessarily add to 100. About 39 percent received fluids from ORS packets or pre-packaged ORS fluids and 25 percent received recommended homemade fluids.

In terms of ORS or any recommended homemade fluid (Table CH.4 and Figure CH.3), variations are noted across states with the highest proportion (73 percent) in Central Equatoria and the lowest are in in Lakes (33 percent) and Warap (35 percent). Slight differences are observed across gender and residence. However, for education and economic status, the differences are significant. For example, 77 percent of children whose mothers have secondary and higher education received ORS or any recommended homemade fluid, compared to 46 percent of those children whose mothers have no education; and 65 percent children for richest households received ORS or any recommended homemade fluid, while this proportion was 37 percent for children from the poorest households.

Table CH.4: Oral rehydration solutions and recommended homemade fluids

Percentage of children age 0-59 months with diarrhoea in the last two weeks, and treatment with oral rehydration solutions and recommended homemade fluids, South Sudan, 2010

	Had diarrhoea in last two weeks	Number of children age 0-59 months	Children with diarrhoea who received:		ORS or any recommended homemade fluid	Number of children aged 0-59 months with diarrhoea
			ORS (Fluid from ORS packet, ORADEX)	Any recommended homemade fluid		
Sex						
Male	34.9	4261	39.1	24.7	48.4	1488
Female	33.1	4077	38.0	25.9	50.0	1349
State						
Upper Nile	32.3	967	45.1	26.0	54.0	312
Jonglei	28.5	1254	38.0	22.5	49.1	357
Unity	38.9	635	37.4	10.4	43.2	247
Warap	32.3	1176	26.0	15.8	35.1	380
Northern Bahr El Ghazal	37.4	820	28.7	29.5	43.6	307
Western Bahr El Ghazal	42.2	326	36.7	32.4	55.8	137
Lakes	30.0	618	27.1	13.0	33.0	185
Western Equatoria	33.0	644	42.4	33.0	54.1	212
Central Equatoria	31.2	1036	58.3	44.2	73.0	323
Eastern Equatoria	43.7	862	42.7	25.9	50.0	376
Residence						
Urban	33.6	2042	44.4	29.0	55.3	686
Rural	34.2	6296	36.8	24.1	47.2	2152
Age-group						
0-11	33.8	1730	32.3	23.0	42.7	585
12-23	43.1	1704	43.2	28.4	53.5	735
24-35	35.0	1958	38.6	22.3	48.0	686
36-47	30.3	1789	37.1	25.9	48.8	542
48-59	25.1	1156	42.5	27.7	54.4	290
Mother's education						
None	33.9	6993	36.3	23.7	46.3	2371
Primary	36.8	1080	48.1	33.3	61.2	397
Secondary +	26.2	262	62.3	33.3	76.5	69
Missing/DK	*	3	-	-	-	0
Wealth index quintiles						
Poorest	35.9	1712	27.3	19.0	37.3	615
Second	33.9	1635	34.6	22.1	45.2	554
Middle	35.2	1653	35.0	24.7	45.3	581
Fourth	33.3	1753	46.0	28.1	55.9	584
Richest	31.7	1585	52.4	33.8	64.6	503
Total	34.0	8338	38.6	25.3	49.1	2838

(*): Figures based on unweighted cases < 25

Figure CH.3: Percentage of children under age 5 with diarrhoea who received ORS or recommended homemade fluids, South Sudan, 2010

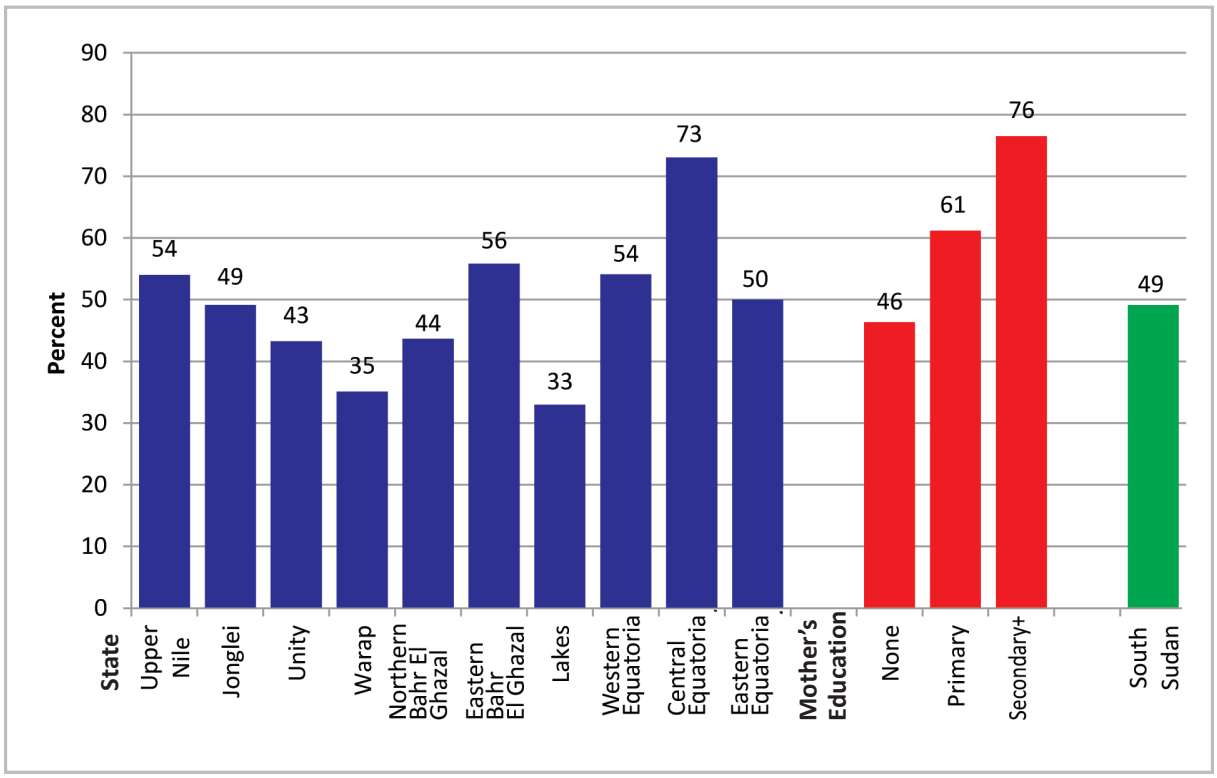


Table CH.5 shows percent distribution of children aged 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during episode of diarrhoea. Of importance in this table are the drinking and eating practices of these children during diarrhoeal episodes.

A quarter (25 percent) of under-five children with diarrhoea drank more than usual while 27 percent drank the same (Table CH.5). More than a quarter (27 percent) was given about the same to eat (continued feeding), but 11 percent stopped feeding.

There are no significant differences across gender, residence and wealth index quintiles in terms of feeding practices (both drinking and eating) of children during diarrhoeal episodes. There are however some differences across states and mother's education in terms of feeding practices of children during diarrhoeal episodes.

Table CH.5: Feeding practices during diarrhoea

Percent distribution of children age 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during episode of diarrhoea, South Sudan, 2010

	Had diarrhoea in last two weeks	Number of children age 0-59 months	Given less than usual to drink	Given about the same to drink	Given more than usual to drink	Given nothing to drink	Missing/ DK	Total	Given less than usual to eat	Given about the same to eat	Given more to eat	Stopped food	Exclusively breast fed	Missing/ DK	Total	Number of children aged 0-59 months with diarrhoea
Sex																
Male	34.9	4261	35.0	25.9	25.4	10.6	3.2	100.0	44.5	27.0	8.7	11.0	6.9	2.0	100.0	1488
Female	33.1	4077	34.3	27.1	25.2	9.9	3.5	100.0	42.4	27.6	9.0	11.2	7.5	2.2	100.0	1349
State																
Upper Nile	32.3	967	37.2	21.5	23.2	13.3	4.8	100.0	48.5	17.0	8.9	12.2	10.5	3.0	100.0	312
Jonglei	28.5	1254	34.4	27.0	21.1	13.4	4.0	100.0	36.3	34.4	6.8	13.0	7.8	1.8	100.0	357
Unity	38.9	635	48.3	13.1	26.2	6.7	5.7	100.0	48.1	14.0	19.0	8.8	5.0	5.2	100.0	247
Warap	32.3	1176	33.2	27.5	29.1	8.6	1.6	100.0	41.8	23.6	8.5	16.5	6.3	3.3	100.0	380
Northern Bahr El Ghazal	37.4	820	29.0	33.1	26.8	10.2	0.8	100.0	42.1	30.0	8.0	11.0	8.8	0.0	100.0	307
Western Bahr El Ghazal	42.2	326	41.4	26.2	17.4	9.8	5.2	100.0	49.8	24.8	5.2	8.1	9.3	2.9	100.0	137
Lakes	30.0	618	25.8	29.1	34.4	8.3	2.4	100.0	41.9	26.7	11.4	10.2	7.9	2.0	100.0	185
Western Equatoria	33.0	644	31.9	26.8	30.6	5.9	4.7	100.0	51.7	23.7	4.9	13.4	5.7	0.7	100.0	212
Central Equatoria	31.2	1036	33.8	31.1	27.0	7.0	1.0	100.0	50.0	32.1	5.4	8.8	3.3	0.5	100.0	323
Eastern Equatoria	43.7	862	34.1	26.8	19.3	15.1	4.7	100.0	34.5	38.3	10.5	6.9	7.8	2.1	100.0	376
Residence																
Urban	33.6	2042	32.4	26.6	28.9	9.7	2.4	100.0	48.8	28.1	6.5	7.9	7.3	1.4	100.0	686
Rural	34.2	6296	35.4	26.4	24.1	10.4	3.6	100.0	41.8	27.0	9.6	12.1	7.1	2.3	100.0	2152
Age-group																
0-11	33.8	1730	34.3	31.0	20.6	12.6	1.4	100.0	34.3	27.0	8.8	7.3	21.0	1.7	100.0	585
12-23	43.1	1704	34.7	24.0	28.9	8.7	3.8	100.0	45.8	23.6	10.1	12.0	6.2	2.2	100.0	735
24-35	35.0	1958	35.5	27.1	23.3	9.5	4.5	100.0	47.2	28.8	7.8	11.3	2.7	2.3	100.0	686
36-47	30.3	1789	32.4	24.9	27.5	11.8	3.4	100.0	45.9	28.3	8.1	13.1	2.1	2.5	100.0	542
48-59	25.1	1156	37.4	24.9	26.2	8.2	3.2	100.0	43.2	31.4	9.6	12.5	1.8	1.5	100.0	290
Mother's education																
None	33.9	6993	34.6	26.3	24.7	10.7	3.7	100.0	42.6	27.1	9.0	11.7	7.4	2.2	100.0	2371
Primary	36.8	1080	37.4	26.0	26.7	8.7	1.3	100.0	48.0	27.8	7.4	8.8	6.3	1.7	100.0	397
Secondary +	26.2	262	22.5	33.8	36.3	5.5	1.9	100.0	48.1	30.0	11.2	3.2	5.6	1.9	100.0	69
Wealth index quintiles																
Poorest	35.9	1712	35.4	27.3	24.1	10.4	2.9	100.0	39.6	31.7	9.6	11.2	6.1	1.8	100.0	615
Second	33.9	1635	35.0	26.6	23.5	12.2	2.7	100.0	40.2	25.7	9.5	12.9	9.2	2.5	100.0	554
Middle	35.2	1653	36.2	23.4	25.2	10.8	4.3	100.0	43.7	25.1	9.9	12.3	6.8	2.2	100.0	581
Fourth	33.3	1753	33.7	29.4	24.5	8.4	3.9	100.0	45.2	26.8	8.1	10.1	7.3	2.6	100.0	584
Richest	31.7	1585	32.8	25.4	29.7	9.4	2.8	100.0	49.8	26.7	6.8	9.0	6.5	1.3	100.0	503
Total	34.0	8338	34.7	26.5	25.3	10.3	3.3	100.0	43.5	27.3	8.8	11.1	7.2	2.1	100.0	2838

(*): Figures based on unweighted cases < 25

Table CH.6 provides the proportion of children aged 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding (Figure CH.3), and percentage of children with diarrhoea who received other treatments. Overall, 52 percent of children with diarrhoea received ORS or increased fluids, 60 percent received ORT (ORS or recommended homemade fluids or increased fluids) and 27 percent were not given any treatment or drug. Combining the information in Table CH.5 with those in Table CH.4 on oral rehydration therapy, it is observed that 23 percent of children either received ORT and, at the same time, feeding was continued, as is the recommendation. Across states, the proportions range from 15 percent in Western Equatoria to 31 percent in Central Equatoria.

There are no significant differences in terms of oral rehydration therapy with continued feeding in South Sudan across gender, residence and economic status. However, children whose mothers/caretakers have secondary and higher education are more (38 percent) likely to receive ORT with continued feeding compared to 23 percent for those children whose mothers/caretakers have no education or primary education. Also, the proportion for children aged 48-59 months who received ORT and continued feeding is 31 percent compared to 20-23 percent for other age-groups.

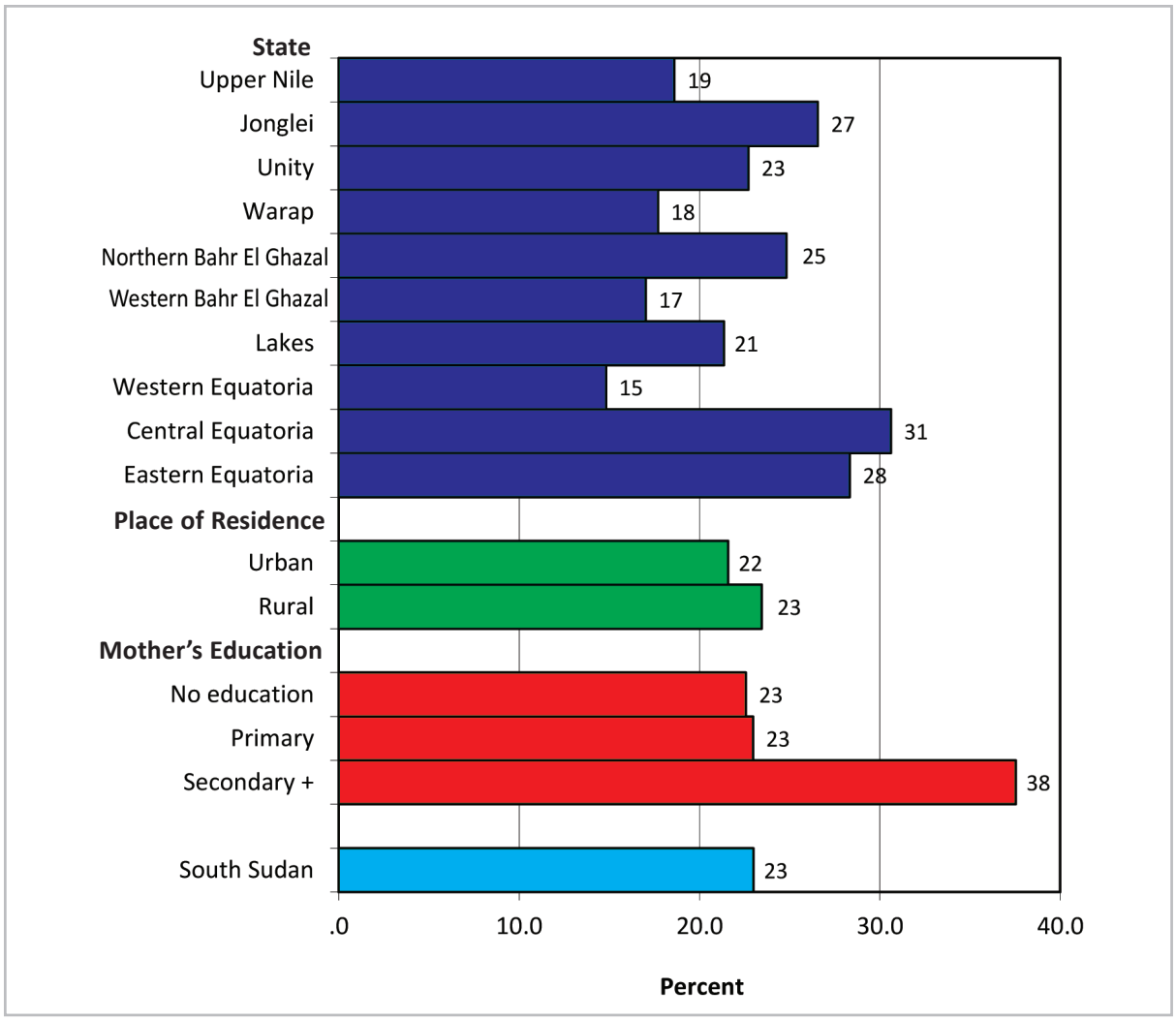
Table CH.6: Oral rehydration therapy with continued feeding and other treatments

Percentage of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and percentage of children with diarrhoea who received other treatments, South Sudan, 2010

	Children with diarrhoea who received:			Other treatment:											Not given any treat ment or drug	Number of children aged 0-59 months with diarr-hoea
	ORS or increased fluids	ORT (ORS or reco-mmended home made fluids or increa sed fluids)	ORT with continued feeding [1]	Pill or syrup: Antibiotic	Pill or syrup: Antim otility	Pill or syrup: Zinc	Pill or syrup: Other	Pill or syrup: Unknown	Injection: Anti biotic	Injec tion: Non-antibiotic	Injection: Unknown	Intrav-enous	Home remedy/ Herbal medicine	Other		
Sex																
Male	53.4	61.1	22.7	17.2	2.6	3.2	p.5	6.9	1.7	p.6	p.8	p.3	7.5	6.9	26.0	1488
Female	50.3	59.7	23.3	17.0	1.9	3.0	p.5	5.8	2.4	p.3	p.6	p.5	8.8	6.3	27.8	1349
State																
Upper Nile	56.4	63.4	18.6	20.6	0.9	0.4	0.0	3.0	1.8	1.5	0.8	0.0	0.4	3.3	28.7	312
Jonglei	48.8	57.7	26.6	18.6	3.6	6.2	0.8	4.1	2.1	0.0	.8	0.4	2.6	2.9	29.7	357
Unity	52.3	56.6	22.7	10.6	2.6	8.0	1.2	10.2	2.0	0.9	1.1	0.0	3.1	7.5	29.6	247
Warap	45.6	53.5	17.7	6.1	2.2	1.1	0.0	4.1	.8	0.0	0.3	0.0	9.5	5.9	38.0	380
Northern Bahr El Ghazal	44.8	56.6	24.8	8.9	1.1	2.2	0.0	6.6	.5	0.0	0.5	0.0	24.0	6.9	22.3	307
Western Bahr El Ghazal	45.9	61.9	17.0	23.6	1.7	.3	0.3	6.6	2.6	0.3	1.1	0.3	9.8	5.2	21.1	137
Lakes	49.6	52.7	21.4	18.4	2.0	2.1	0.4	4.6	2.0	1.1	0.4	0.0	2.5	4.3	33.3	185
Western Equatoria	55.3	64.9	14.8	24.2	5.2	6.0	0.5	6.7	4.2	0.7	1.8	0.3	10.2	7.1	19.8	212
Central Equatoria	68.0	80.2	30.6	25.8	2.5	1.8	0.4	11.3	3.5	0.0	0.0	1.3	8.2	13.2	8.8	323
Eastern Equatoria	50.6	56.9	28.3	20.4	1.6	2.8	1.0	7.1	1.9	0.7	0.7	1.1	9.7	8.8	31.5	376
Residence																
Urban	57.2	66.2	21.6	22.1	4.1	4.0	0.8	8.1	2.4	0.4	1.0	1.0	5.4	9.2	19.5	686
Rural	50.2	58.6	23.4	15.5	1.7	2.8	0.4	5.8	1.9	0.5	0.6	0.2	9.0	5.8	29.2	2152
Age-group																
0-11	43.6	52.8	20.0	19.7	2.8	1.9	0.4	8.0	1.8	0.6	0.3	0.6	6.6	6.6	29.2	585
12-23	56.4	64.8	22.7	18.1	3.1	2.4	0.6	5.9	2.0	0.3	0.7	0.7	8.6	7.8	24.6	735
24-35	50.6	58.4	22.7	14.4	2.1	4.3	0.5	5.7	2.7	.06	0.8	0.0	6.9	5.5	29.4	686
36-47	54.0	62.1	22.7	16.5	1.8	3.4	0.2	6.1	1.3	0.5	0.7	0.4	7.6	5.9	27.5	542
48-59	56.6	66.5	30.8	16.9	.5	3.9	0.5	5.9	2.4	.0	1.2	0.0	13.7	7.9	20.3	290
Mother's education																
None	50.2	58.4	22.6	15.7	2.2	3.4	0.4	5.7	1.9	0.5	0.7	0.2	8.9	5.7	28.8	2371
Primary	59.0	69.3	23.0	23.2	2.7	1.3	0.6	9.1	2.6	0.4	0.4	0.9	4.8	11.3	18.3	397
Secondary +	68.2	80.9	37.5	30.6	3.4	2.5	1.1	13.1	2.0	0.0	4.0	3.0	2.0	10.6	8.8	69
Wealth index quintiles																
Poorest	41.9	50.2	22.6	10.2	2.0	2.8	0.5	5.6	0.2	0.7	.6	0.0	10.4	4.9	36.3	615
Second	48.9	57.5	21.3	12.9	1.1	4.3	0.5	4.4	0.9	0.0	.6	0.4	10.8	5.1	28.2	554
Middle	50.5	59.0	23.1	14.1	1.2	2.8	0.4	6.6	2.4	0.4	.0	0.3	7.4	7.2	30.2	581
Fourth	57.3	65.4	23.4	22.0	3.6	1.9	0.5	6.0	3.6	0.8	1.3	0.5	6.2	6.4	21.8	584
Richest	62.8	72.1	24.7	28.0	3.8	4.0	0.5	9.5	3.2	0.4	1.1	0.8	5.4	10.2	15.6	503
Total	51.9	60.4	23.0	17.1	2.3	3.1	0.5	6.3	2.0	0.5	0.7	0.4	8.1	6.6	26.8	2838

[1] MICS indicator 3.8

Figure CH.3: Precentage of children under age 5 with diarrhoea who received ORT or increased fluids, AND continued feeding South Sudan, 2010



Care Seeking and Antibiotic Treatment of Pneumonia

Pneumonia is the leading cause of death in children and the use of antibiotics in under-5s with suspected pneumonia is a key intervention. A World Fit for Children goal is to reduce by one-third the deaths due to acute respiratory infections.

In the South Sudan Household Health Survey, the prevalence of suspected pneumonia was estimated by asking mothers or caretakers whether their child under age five had an illness with a cough accompanied by rapid or difficult breathing, and whose symptoms were due to a problem in the chest or both a problem in the chest and a blocked nose.

Table CH.7 presents the prevalence of suspected pneumonia and, if care was sought outside the home, the site of care. Overall, 19percent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Of these children, 48 percent were taken to an appropriate provider. There is no gender difference in the proportions of children aged 0-59 months reported to have had symptoms of pneumonia and were taken to an appropriate provider. However, 59 percent of urban children with suspected pneumonia were taken to an appropriate provider compared to 44 percent for rural children. The State with the highest proportion of children aged 0-59 months reported to have had symptoms of pneumonia during the two weeks preceding the survey and were taken to an appropriate provider is Central Equatoria (64 percent). The lowest proportions are in Lakes State (28 percent), Warap (28 percent) and Northern Bahr El Ghazal (32 percent).

The proportion of children aged 0-59 months reported to have had symptoms of pneumonia during the two weeks preceding the survey and taken to an appropriate provider amongst the richest is twice that of the poorest, reported at 66 and 33 percent, respectively. This pattern is also observed across educational level of the mothers/caretakers of these children, with those with no education having lower proportion (45 percent) compared to that (64 percent) of mothers with secondary or higher educational levels. The providers most visited are from government hospitals and health centres, and private hospitals/clinics and pharmacy clinics.

Table CH.7 also presents the use of antibiotics for the treatment of suspected pneumonia in under-5s by sex, age, state, residence, age, and socioeconomic status. In South Sudan, 33 percent of under-5 children with suspected pneumonia had received an antibiotic during the two weeks prior to the survey. The percentage was considerably higher in Western Bahr El Ghazal (53 percent), compared to only 17 percent in Warap State. Similarly, the proportion is higher in urban areas (43 percent) than in rural areas (29 percent). Table CH.7 also shows that antibiotic treatment of suspected pneumonia is very low among the poorest households and among children whose mothers/caretakers have no education. The use of antibiotics doesn't vary much across age-groups.

Table CH.7: Care seeking for suspected pneumonia and antibiotic use during suspected pneumonia

Percentage of children age 0-59 months with suspected pneumonia in the last two weeks who were taken to a health provider and percentage of children who were given antibiotics, South Sudan, 2010

	Had suspected pneumonia in the last two weeks	Number of children age 0-59 months	Children with suspected pneumonia who were taken to																Any appro priate provider [1]	Percentage of children with suspected pneumonia who received antibiotics in the last two weeks [2]	Number of children age 0-59 months with suspected pneumonia in the last two weeks
			Public Sector						Private Sector						Other						
			Hospital	Health center	Health unit	Village health worker	Mobile/Outreach clinic	Other	Hospital/ clinic	Physician	Other medical	Pharmacy	Mobile clinic	Other medical	Religious healer	Traditional healer	Relative or friend	Other			
Sex																					
Male	19.1	4261	12.8	14.1	11.3	4.2	1.3	0.4	7.2	1.3	0.8	7.0	0.3	0.8	0.6	1.8	0.1	1.4	48.0	32.4	816
Female	18.8	4077	13.6	12.3	10.1	3.6	2.0	0.3	7.7	0.7	0.4	6.9	0.9	0.4	0.1	1.2	0.4	0.9	47.2	33.3	766
State																					
Upper Nile	15.9	967	16.5	16.9	11.9	2.2	2.3	2.3	3.9	1.7	2.2	2.3	1.6	2.2	0.0	0.0	0.0	2.3	58.4	37.0	154
Jonglei	13.5	1254	8.6	10.7	14.0	9.7	.0	0.0	7.5	0.9	0.0	6.9	0.8	0.0	0.0	0.0	0.0	0.0	52.2	33.7	170
Unity	18.0	635	15.7	9.8	5.5	12.9	6.1	0.6	6.3	1.2	3.1	7.4	0.6	3.1	0.0	0.0	0.6	2.5	52.1	30.0	114
Warap	17.6	1176	6.2	13.3	13.1	1.7	1.7	0.0	5.4	1.3	0.0	4.4	1.3	0.0	0.0	3.1	0.0	2.5	28.1	16.9	206
Northern Bahr El Ghazal	27.0	820	8.8	8.1	4.2	5.4	1.2	0.0	4.2	0.8	0.0	5.4	0.0	0.0	0.4	1.9	0.0	0.4	31.5	23.8	221
Western Bahr El Ghazal	19.5	326	15.6	6.9	14.4	2.5	2.5	0.0	12.5	4.3	0.6	3.7	0.0	0.6	1.3	1.2	0.6	0.0	58.1	53.1	63
Lakes	15.0	618	7.7	7.6	7.7	1.5	.8	0.8	2.3	0.0	0.0	11.9	0.0	0.0	0.0	2.1	0.0	1.7	27.8	31.0	92
Western Equatoria	18.1	644	28.0	16.2	7.5	5.9	1.5	0.6	8.2	.0	1.5	15.3	0.6	1.5	1.2	3.9	0.9	0.6	56.9	37.0	116
Central Equatoria	22.6	1036	17.2	18.5	12.9	0.7	0.7	0.0	15.7	0.6	0.0	7.8	0.0	0.0	0.0	0.7	0.0	0.0	63.9	47.1	234
Eastern Equatoria	24.4	862	13.6	16.6	14.2	0.3	1.6	0.0	7.0	0.6	0.0	7.6	0.3	0.0	1.3	2.2	0.6	1.6	52.1	32.4	210
Residence																					
Urban	20.0	2042	19.7	13.2	8.7	3.1	1.1	0.3	13.6	2.3	0.3	9.5	1.2	0.3	0.0	1.5	0.2	1.1	59.0	43.2	409
Rural	18.6	6296	10.9	13.2	11.4	4.2	1.8	0.4	5.2	0.5	0.6	6.1	0.3	0.6	0.5	1.5	0.2	1.2	43.7	29.3	1173
Age-group																					
0-11	19.5	1730	8.6	13.2	12.5	3.3	2.4	0.0	8.4	0.7	.0	7.6	0.4	0.0	0.2	1.0	0.0	0.6	45.2	34.3	337
12-23	20.3	1704	15.8	13.7	10.0	2.9	1.5	1.1	10.2	1.1	1.3	8.7	0.3	1.3	0.9	0.9	0.0	1.1	54.5	36.2	346
24-35	18.6	1958	16.5	15.0	9.4	3.3	0.7	0.0	6.2	0.6	0.8	6.6	0.2	.8	0.5	1.8	0.4	1.6	47.1	34.6	364
36-47	19.3	1789	12.7	12.9	13.5	6.2	2.3	0.2	5.9	1.1	0.0	6.4	1.1	0.0	0.0	1.9	0.3	1.6	48.6	27.2	345
48-59	16.4	1156	11.0	9.7	6.3	4.0	1.0	0.6	5.4	1.9	0.9	4.4	1.0	0.9	0.0	2.4	0.5	0.4	38.6	31.2	190
Wealth index quintiles																					
None	18.3	6993	11.5	13.0	9.8	4.6	1.7	0.4	6.4	0.8	0.5	6.1	0.4	0.5	0.3	1.8	0.2	1.1	44.6	29.0	1278
Primary	23.0	1080	19.2	14.9	16.7	.4	.6	0.3	11.2	1.7	1.0	10.1	1.3	1.0	0.8	0.4	0.4	1.3	59.5	48.2	248
Secondary +	21.4	262	24.0	10.5	5.5	4.6	4.0	0.0	13.8	2.4	0.7	13.0	0.0	0.7	0.0	0.0	0.0	1.2	63.5	53.0	56
Wealth index quintiles																					
Poorest	18.6	1712	8.3	10.8	7.1	3.6	1.3	0.4	4.3	1.0	1.6	3.6	.04	1.6	.4	3.1	0.0	1.0	33.2	17.5	318
Second	18.6	1635	12.7	14.0	10.1	4.4	1.6	0.8	7.5	.5	0.0	7.8	0.0	0.0	0.0	2.2	0.1	1.6	45.6	28.9	305
Middle	21.0	1653	7.9	13.1	9.7	3.9	3.2	0.4	5.7	1.0	0.3	5.1	0.5	0.3	0.8	0.7	0.0	1.4	42.9	25.3	347
Fourth	18.2	1753	11.1	15.4	15.3	4.6	.4	0.2	9.6	.0	0.2	9.1	0.0	0.2	0.3	1.1	0.0	1.4	52.6	41.3	319
Richest	18.5	1585	27.5	12.8	11.5	3.1	1.4	0.0	10.4	2.6	0.7	9.6	1.8	0.7	0.2	0.5	1.0	0.2	65.5	53.3	294
Total	19.0	8338	13.2	13.2	10.7	3.9	1.6	0.4	7.4	1.0	0.6	7.0	0.5	0.6	0.4	1.5	0.2	1.1	47.6	32.9	1582

[1] MICS indicator 3.9
[2] MICS indicator 3.10

Solid Fuel Use

More than 3 billion people around the world rely on solid fuels for their basic energy needs, including cooking and heating. Solid fuels include biomass fuels, such as wood, charcoal, crops or other agricultural waste, dung, shrubs and straw, and coal. Cooking and heating with solid fuels leads to high levels of indoor smoke which contains a complex mix of health-damaging pollutants. The main problem with the use of solid fuels is their incomplete combustion, which produces toxic elements such as carbon monoxide, polyaromatic hydrocarbons, and sulphur dioxide (SO2), among others. Use of solid fuels increases the risks of incurring acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, and possibly tuberculosis, asthma, or cataracts, and may contribute to low birth weight of babies born to pregnant women exposed to smoke. The primary indicator for monitoring use of solid fuels is the proportion of the population using solid fuels as the primary source of domestic energy for cooking, shown in Table CH.8.

Almost all households (99 percent) in South Sudan use Solid fuels for cooking, with wood and charcoal being used by 81 and 14 percent of all households respectively. Furthermore, there is little or no difference across the different background characteristics.

Solid fuel use by place of cooking is depicted in Table CH.9. The presence and extent of indoor pollution are dependent on cooking practices, places used for cooking, as well as types of fuel used. According to SHHS 2 data, 30 percent of households cook in a separate room used as a kitchen, 19 percent elsewhere in the house, 9 percent in a separate building and 41 percent outdoors. The percentage of households that cook elsewhere in the house is slightly lower in urban areas (15 percent) than in rural areas (20 percent). The percentages for this same category of households range from 8 percent in Western Equatoria and Central Equatoria to 30 percent in Warap.

Furthermore, there is significant difference across educational level of the head of the household. The percentage of households whose household head is uneducated and that cook elsewhere in the house is nearly twice (21 percent) that of the households headed by educated persons (11 percent). A slight variation also exists by wealth status with 21 percent of the poorest households cooking elsewhere in the house compared to 13 percent for the richest households.

Table CH.8: Solid fuel use

Percent distribution of household members according to type of cooking fuel used by the household, and percentage of household members living in households using solid fuels for cooking, South Sudan, 2010

	Percentage of household members in households using													Solid fuels for cooking [1]	Number of house hold mem bers
	Electricity	Gas	Biogas	Kerosene	Charcoal	Wood	Straw/ Shrubs/ Grass	Animal dung	Agricul- tural crop residue	No food cooked in house hold	Other	Missing	Total		
State															
Upper Nile	0.1	1.1	0.4	0.0	26.7	63.5	6.2	0.0	0.4	0.1	0.7	0.9	100.0	96.8	6763
Jonglei	0.1	0.0	0.0	0.0	4.4	91.6	3.2	0.0	0.2	0.0	0.0	0.5	100.0	99.5	8172
Unity	0.1	0.3	0.1	0.0	10.8	78.0	9.4	0.3	0.7	0.2	0.0	0.2	100.0	99.2	3969
Warap	0.0	0.1	0.0	0.0	2.3	92.8	1.7	1.3	1.4	0.1	0.0	0.2	100.0	99.5	7587
Northern Bahr El Ghazal	0.0	0.0	0.0	0.0	1.9	87.6	6.4	0.3	3.3	0.4	0.1	0.0	100.0	99.5	5210
Western Bahr El Ghazal	0.0	0.4	0.0	0.1	37.8	61.2	0.2	0.0	0.0	0.4	0.0	0.0	100.0	99.1	2117
Lakes	0.0	0.0	0.1	0.0	6.6	92.5	0.5	0.0	0.0	0.0	0.0	0.4	100.0	99.6	4435
Western Equatoria	0.0	0.3	0.0	0.5	11.2	87.8	0.1	0.0	0.0	0.0	0.1	0.0	100.0	99.1	4355
Central Equatoria	0.0	0.3	0.2	0.0	37.0	61.8	0.0	0.0	0.2	0.2	0.1	0.0	100.0	99.1	7336
Eastern Equatoria	0.0	0.0	0.0	0.7	10.7	88.3	0.1	0.0	0.0	0.1	0.0	0.2	100.0	99.1	6056
Residence															
Urban	0.0	0.8	0.3	0.2	34.4	61.6	1.9	0.1	0.2	0.2	0.0	0.1	100.0	98.2	13951
Rural	0.0	0.1	0.0	0.1	7.2	88.0	3.1	0.3	0.8	.1	0.1	0.3	100.0	99.3	42050
Education of household head															
None	0.0	0.2	0.1	0.1	9.6	85.2	3.3	0.3	0.7	0.1	0.1	0.3	100.0	99.0	43919
Primary	0.0	0.0	0.0	0.1	21.3	76.6	1.3	0.2	0.2	0.1	0.1	0.2	100.0	99.5	6526
Secondary +	0.0	1.0	0.3	0.3	39.7	57.2	0.6	0.0	0.5	0.3	0.0	0.0	100.0	98.0	5508
Missing/DK	0.0	0.0	0.0	0.0	(68.7)	(31.3)	0.0	0.0	0.0	0.0	0.0	0.0	(100.0)	(100.0)	48
Wealth index quintiles															
Poorest	0.0	0.0	0.0	0.0	0.0	99.9	0.1	0.0	0.0	0.0	0.0	0.0	100.0	100.0	11203
Second	0.0	0.0	0.0	0.0	0.0	97.5	1.6	0.3	0.6	0.0	0.0	0.0	100.0	100.0	11198
Middle	0.0	0.0	0.0	0.0	0.0	91.4	6.1	0.5	1.4	0.0	0.1	0.6	100.0	99.3	11202
Fourth	0.1	0.0	0.0	0.1	6.2	86.1	5.1	0.4	0.8	0.3	0.4	0.6	100.0	98.5	11200
Richest	0.1	1.2	0.5	0.5	63.6	32.1	1.0	0.0	0.5	0.4	0.0	0.2	100.0	97.2	11198
Total	0.0	0.2	0.1	0.1	14.0	81.4	2.8	0.2	0.6	0.1	0.1	0.3	100.0	99.0	56001

[1] MICS indicator 3.11

( ): Figures based on 25-49 unweighted cases

Table CH.9: Solid fuel use by place of cooking

Percent distribution of household members in households using solid fuels by place of cooking, South Sudan, 2010

	Place of cooking:							Number of household members in households using solid fuels for cooking
	In a separate room used as kitchen	Elsewhere in the house	In a separate building	Outdoors	Other	Missing	Total	
State								
Upper Nile	37.9	18.0	3.4	37.5	1.6	1.6	100.0	6544
Jonglei	24.4	9.5	7.9	57.8	0.0	0.4	100.0	8128
Unity	16.6	29.0	8.6	44.8	0.7	0.3	100.0	3938
Warap	20.4	30.0	14.3	34.0	0.3	1.1	100.0	7547
Northern Bahr El Ghazal	25.3	28.7	11.2	34.2	0.2	0.3	100.0	5183
Western Bahr El Ghazal	35.9	14.1	3.7	44.5	1.7	0.1	100.0	2098
Lakes	16.1	27.5	6.2	48.3	0.3	1.6	100.0	4417
Western Equatoria	62.2	8.0	8.1	20.9	0.8	0.0	100.0	4317
Central Equatoria	43.1	7.8	8.8	39.9	0.4	0.0	100.0	7271
Eastern Equatoria	26.5	16.2	12.2	39.9	5.0	0.2	100.0	6001
Residence								
Urban	45.0	14.9	8.0	30.5	0.9	0.6	100.0	13704
Rural	25.6	19.7	9.2	43.9	1.1	0.6	100.0	41740
Education of household head								
None	25.4	20.5	8.8	43.4	1.1	0.7	100.0	43502
Primary	47.7	10.8	8.6	32.2	0.7	0.0	100.0	6494
Secondary +	49.0	11.4	10.2	28.1	0.9	0.4	100.0	5400
Missing/DK	(62.9)	(0.0)	(3.3)	(33.8)	(0.0)	(0.0)	(100.0)	48
Wealth index quintiles								
Poorest	15.4	21.2	10.4	50.0	2.1	0.8	100.0	11203
Second	18.2	23.2	7.0	50.2	1.1	0.3	100.0	11196
Middle	24.0	19.9	9.0	45.5	0.6	0.8	100.0	11124
Fourth	40.7	14.5	9.9	33.7	0.8	0.4	100.0	11036
Richest	54.4	13.3	8.2	23.0	0.5	0.6	100.0	10885
Total	30.4	18.5	8.9	40.6	1.0	0.6	100.0	55444

( ): Figures based on 25-49 unweighted cases

Malaria

Malaria is a leading cause of death of children under age five in South Sudan. It also contributes to anaemia in children and is a common cause of school absenteeism. Preventive measures can dramatically reduce malaria mortality rates among children.

In areas where malaria is common, the WHO recommends Indoor Residual Spraying (IRS), use of insecticide treated bednets (ITNs) and prompt treatment of confirmed cases with recommended anti-malarial drugs. International recommendations also suggest treating any fever in children as if it were malaria and immediately giving the child a full course of recommended anti-malarial tablets. Children with severe malaria symptoms, such as fever or convulsions, should be taken to a health facility. Also, children recovering from malaria should be given extra liquids and food and, for younger children, should continue breastfeeding.

Insecticide-treated mosquito nets, or ITNs, if used properly, are very effective in offering protection against mosquitos and other insects. The use of ITNs is one of the main health interventions applied to reduce malaria transmission in South Sudan. The questionnaire incorporates questions on the availability and use of bed nets, both at household level and among children under five years of age and pregnant women. In addition, all households in the SHHS II were asked whether the interior dwelling walls were sprayed with an insecticide to kill mosquitoes that spread malaria during the 12 months preceding the survey.

Malaria is the leading cause of morbidity and Mortality in South Sudan. Pregnant women and children under 5 years are the most vulnerable groups.

A key objective of the South Sudan Malaria Strategic Plan 2006-2013 is to strengthen the Malaria Control Programme within the Ministry of Health of the Government of South Sudan to be able to lead in integrated efforts aimed at the control of malaria. The goal of malaria prevention and control in South Sudan is to reduce malaria related morbidity and mortality through rapidly increase coverage/scale-up of cost effective malaria prevention and curative interventions at least 60 percent of the target populations. The target is to ensure that at least 80 percent of those at risk of, or suffering from malaria, benefit from major preventive and curative interventions. Key elements of the control strategy include:

- **Malaria Prevention**: universal population coverage with an integrated vector control package that includes use of long-lasting insecticidal nets (LLINs), indoor residual spraying and environmental management where applicable.
- **Malaria Diagnosis and Treatment:** increase access to appropriate diagnosis and effective antimalarial medicines (artemisinin-based combination therapies – ACTs) with mixed approached that included both public and private sectors and at community level.
- **Control of Malaria in Pregnancy:** provide a package consisting of LLINs, Intermittent Preventive Treatment (IPT) and effective malaria treatment to pregnant women as part of ante-natal care services.
- **Control of Epidemics and Outbreaks:** detect early and respond rapidly to malaria epidemics and outbreaks as part of the overall MOH disease surveillance, epidemic preparedness and response programs.

The survey results indicate that 34 percent of households have at least one long-lasting treated net (Table CH.10). Across the states, this proportion is highest in Western Equatoria (58 percent) and lowest in Warap (17 percent), Unity (20 percent) and Upper Nile (22 percent). This proportion is higher in urban areas (44 percent) than in rural areas (31 percent). About one third of households (31 percent) with an uneducated head has at least one long-lasting treated net, compared to 46 percent for households where the head has secondary education or higher. Differentials are also significant across wealth index quintiles, as the proportion of poorest households with at least one long-lasting treated net is lower (27 percent) than that of households from the richest households, standing at 45 percent.

The widely used types of mosquito nets in South Sudan include: a) mosquito nets which are not treated with insecticide; b) the insecticide treated net (ITN), which need to be retreated after every 6 months; and c) the Long-Lasting Insecticide Treated Net (LLINs), which are durable for the period of 5 years.

Providers of nets in South Sudan include: a) Global Fund for Tuberculosis, AIDS and Malaria (GFTAM), provided through the primary recipient Population Services International (PSI) and implementing partners mainly NGOs; b) UN agencies: mainly WHO and UNICEF; NGOs, provided through emergency humanitarian funding; and d) The Private sector.

Questions on the prevalence and treatment of fever were asked for all children under age five. Roughly one in three (32 percent) of under five children was ill with fever in the two weeks prior to the survey (Table CH.11). State level differences in fever prevalence are large, ranging from 25 percent in Unity to 46 percent in Eastern Equatoria. No significant variations noted across all other background characteristics.

Mothers were asked to report all of the medicines given to a child to treat the fever, including both medicines given at home and medicines given or prescribed at a health facility. Overall, 51 percent of children with fever in the last two weeks were treated with an anti-malarial drug and 27 percent received anti-malarial drugs either on the same day or day after the onset of symptoms.

Anti-malarial drugs include chloroquine, SP (sulfadoxine-pyrimethamine), artimisine combination drugs, etc. In South Sudan, 12 percent of children with fever were given chloroquine tablets, 6 percent chloroquine injection, 18 percent chloroquine syrup, 11 percent were given SP and 9 percent were given amodiaquine tablet. Only 4 percent received artemisinin combination therapy.

Table CH.11 shows variations in terms of administration of any anti-malarial drug. The proportions range from 34 percent in Warap to 64 percent in Western Equatoria. Urban children are more likely than rural children to receive any anti-malaria drug as well as the children whose mothers/caretakers with primary or higher education, and children from the fourth and richest households. Little difference was noted between boys and girls receiving anti-malarial drugs.

Regarding the children who received anti-malarial drugs either on the same day or day after the onset of symptoms, the proportion was higher in Western Equatoria (44 percent), where malaria is known to be most prevalent, while the lowest was in Warap State (11 percent). Urban children are more likely than rural children to be treated as they are the children whose mothers/caretakers with primary or higher education, and children from the fourth and richest households. Little difference was noted between boys and girls receiving anti-malarial drugs.

Table CH.10: Household availability of treated nets

Percentage of households with at least one mosquito net and percentage of households with at least one long-lasting treated net, South Sudan, 2010

	Percentage of households with at least one mosquito net	Percentage of households with at least one long-lasting treated net	Number of households
State			
Upper Nile	47.3	21.7	998
Jonglei	43.9	32.8	1432
Unity	38.0	20.0	608
Warap	27.9	16.8	1205
Northern Bahr El Ghazal	56.9	42.6	930
Western Bahr El Ghazal	45.3	34.4	387
Lakes	54.5	30.9	676
Western Equatoria	71.3	57.5	770
Central Equatoria	64.7	38.4	1249
Eastern Equatoria	71.7	48.0	1114
Residence			
Urban	64.0	43.6	2161
Rural	48.7	31.4	7208
Education of household head			
None	48.4	31.3	7446
Primary	65.2	45.0	1120
Secondary +	70.0	46.3	797
Missing/DK	*	*	6
Wealth index quintiles			
Poorest	45.9	27.1	1879
Second	41.7	26.6	1995
Middle	47.2	31.3	2004
Fourth	61.4	43.3	1913
Richest	68.6	45.0	1578
Total	52.3	34.2	9369

Country specific question
(*): Figures based on unweighted cases < 25

Table CH.11: Anti-malarial treatment of children with anti-malarial drugs

Percentage of children age 0-59 months who had fever in the last two weeks who received anti-malarial drugs, South Sudan, 2010

	Had a fever in last two weeks	Number of children age 0-59 months	Anti-Malarials										Other medications						Percentage who took an anti-malarial drug same or next day [2]	Number of children with fever in last two weeks
			SP/Fansidar tablet	Chloroquine tablet	Chloroquine injection	Chloroquine syrup	Amodiaquine tablet	Metacalfin tablet	Quinine pills	Quinine injection	Artemisinin-based combinations	Any anti-malarial drug [1]	Paracetamol/Panadol /Acetaminophan	Antibiotic Injection	Aspirin	Ibuprofen	Other medications	Don't know		
Sex																				
Male	33.1	4261	11.8	12.4	5.3	19.6	9.0	0.5	3.1	2.9	4.4	53.4	14.7	1.6	6.5	2.2	5.2	3.1	29.2	1411
Female	31.7	4077	10.5	12.4	6.2	15.3	9.5	0.9	3.2	3.8	4.0	48.7	14.2	1.3	6.4	2.1	5.6	3.9	24.8	1291
State																				
Upper Nile	27.6	967	17.3	15.7	7.7	13.9	5.9	0.9	1.7	1.3	5.5	56.7	8.6	0.5	2.6	0.4	1.8	3.4	27.7	267
Jonglei	28.7	1254	17.9	15.6	5.3	23.6	10.1	0.4	0.4	1.6	2.1	48.4	11.6	1.8	5.1	2.5	2.9	2.0	20.1	360
Unity	25.4	635	17.1	14.9	8.3	12.3	6.9	3.5	2.6	4.4	1.3	55.4	11.8	3.1	7.4	3.5	2.6	7.4	22.4	161
Warap	27.4	1176	9.5	11.9	7.0	16.4	4.5	0.4	0.9	1.5	0.7	34.2	6.1	0.7	5.9	0.7	2.6	2.3	11.4	322
Northern Bahr El Ghazal	30.7	820	4.4	12.1	3.1	14.5	8.4	0.0	1.0	1.3	2.0	39.8	6.4	1.0	5.1	0.7	1.0	4.0	16.2	252
Western Bahr El Ghazal	27.6	326	14.1	12.3	10.5	29.8	3.5	0.4	0.4	1.3	4.9	63.7	12.3	2.6	1.8	1.3	7.9	3.5	39.0	90
Lakes	35.4	618	5.3	8.1	3.7	18.5	5.5	0.6	4.7	1.9	2.6	38.1	15.2	0.3	4.7	0.7	6.5	1.7	14.1	219
Western Equatoria	35.9	644	10.0	16.9	6.6	24.9	7.7	0.3	3.1	6.5	5.9	64.1	18.3	1.6	7.3	0.7	6.5	4.8	38.5	231
Central Equatoria	39.1	1036	6.8	10.2	6.1	18.9	12.9	0.8	5.0	6.9	7.3	62.7	27.7	2.6	10.2	2.4	13.1	3.0	43.8	405
Eastern Equatoria	45.8	862	11.8	8.7	3.4	10.3	16.7	0.5	8.0	4.4	7.0	54.2	18.2	1.2	8.8	6.2	6.6	4.5	35.3	395
Residence																				
Urban	33.0	2042	11.9	10.3	8.5	23.4	9.9	0.6	3.5	5.0	5.6	61.8	16.7	2.3	6.1	1.9	7.1	3.3	38.2	674
Rural	32.2	6296	10.9	13.1	4.8	15.6	9.0	0.7	3.0	2.8	3.7	47.6	13.7	1.2	6.6	2.2	4.8	3.6	23.4	2028
Age-group																				
0-11	27.2	1730	10.3	10.3	4.3	26.5	7.2	0.5	3.3	2.7	3.8	51.1	13.2	1.4	5.5	1.9	5.9	2.4	23.7	470
12-23	35.3	1704	11.2	11.0	5.5	20.1	8.6	0.5	3.2	4.4	3.1	52.1	15.5	1.5	6.2	3.2	5.9	3.5	28.0	601
24-35	33.2	1958	11.3	14.3	6.4	15.6	10.6	0.8	3.1	2.2	4.3	51.9	14.9	2.2	6.7	2.3	4.6	4.8	28.0	650
36-47	34.7	1789	10.8	13.1	5.4	12.1	9.5	1.0	3.1	2.8	4.9	48.0	13.7	1.0	6.9	1.7	5.1	2.9	26.3	621
48-59	31.2	1156	12.5	12.6	7.1	14.4	10.2	0.6	3.1	5.3	5.0	53.9	14.5	0.9	6.9	1.3	5.8	3.5	29.8	361
Mother's education																				
None	31.8	6993	11.0	12.5	5.3	16.9	8.3	0.7	2.6	2.5	3.4	48.2	13.4	1.4	6.2	2.0	4.1	3.3	23.8	2222
Primary	36.6	1080	12.6	12.7	7.4	21.2	14.5	0.3	5.1	7.9	6.6	64.5	18.5	1.3	6.8	2.8	12.1	3.9	41.6	395
Secondary +	32.2	262	8.7	8.5	7.5	17.7	9.7	1.5	8.0	5.3	12.0	66.5	23.3	2.9	11.1	4.2	9.4	6.1	44.7	85
Missing/DK	*	3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1
Wealth index quintiles																				
Poorest	31.2	1712	8.7	10.8	4.6	12.1	6.6	0.1	1.2	2.1	2.4	36.2	8.3	0.5	5.4	1.1	2.3	3.2	16.3	534
Second	32.5	1635	11.7	12.7	3.1	12.5	10.1	0.8	2.6	1.2	3.9	43.6	9.5	0.9	5.0	1.8	3.9	4.1	20.1	532
Middle	34.3	1653	11.7	13.5	5.5	16.0	9.7	1.0	2.2	1.8	3.3	46.8	15.5	1.8	7.7	2.7	3.7	3.0	21.7	568
Fourth	33.1	1753	13.7	15.8	7.9	23.1	10.8	0.5	4.7	4.0	3.2	62.4	17.2	2.0	7.2	2.6	7.0	3.6	36.5	580
Richest	30.9	1585	9.7	8.4	7.4	24.1	8.8	0.9	5.2	8.1	8.5	67.3	21.9	2.1	6.9	2.5	10.5	3.5	41.5	489
Total	32.4	8338	11.2	12.4	5.7	17.5	9.3	0.7	3.2	3.3	4.2	51.2	14.4	1.5	6.4	2.2	5.4	3.5	27.1	2703

[1] MICS indicator 3.18; MDG indicator 6.8

[2] MICS indicator 3.17

(*): Figures based on unweighted cases < 25

Table CH.12 provides the proportion of children aged 0-59 months who had a fever in the last two weeks and who had a finger or heel stick for malaria testing. Overall, 28 percent of children with a fever in the last two weeks had a finger or heel stick. While there are no significant differences between boys and girls and age-groups, across states, the proportions range from 7 percent in Warap to 46 percent in Western Bahr El Ghazal.

Significant variations are noted across residence, education and economic status. Children living in urban areas are more (41 percent) likely to have finger or heel stick than that (24 percent) in the rural areas. The proportion amongst children whose mothers/caretakers have no education (24 percent) is less than half of that (56 percent) of children whose mothers/caretakers have a secondary or higher education. Similarly, the proportion of children from the richest households (57 percent) is nearly four times that of children from poorest households, standing at 15 percent.

Pregnant women living in places where malaria is highly prevalent are four times more likely than other adults to get malaria and twice as likely to die of the disease. Once infected, pregnant women risk anemia, premature delivery and stillbirth. Their babies are likely to be of low birth weight, which makes them unlikely to survive their first year of life. For this reason, steps are taken to protect pregnant women by distributing insecticide-treated mosquito nets and treatment during antenatal check-ups with drugs that prevent malaria infection (Intermittent preventive treatment or IPT). In SHHS2, women were asked of the medicines they had received in their last pregnancy during the 2 years preceding the survey. Women are considered to have received intermittent preventive therapy if they have received at least 2 doses of SP/Fansidar during the pregnancy.

Intermittent preventive treatment for malaria in pregnant women who gave birth in the two years preceding the survey is presented in Table CH.13. Overall, 42 percent of women aged 15-49 years who had a live birth during the two years preceding the survey received antenatal care (ANC). Of these, only 19 percent of these women received SP/Fansidar two or more times during their antenatal visit; the proportion of this group of women is highest in Eastern Equatoria (37 percent), and lowest in Upper Nile State (3 percent). There are no marked differences across residence, educational levels and economic status.

Table CH.12: Malaria diagnostics usage

Percentage of children age 0-59 months who had a fever in the last two weeks and who had a finger or heel stick for malaria testing, South Sudan, 2010

	Had a finger or heel stick [1]	Number of children age 0-59 months with fever in the last two weeks
Sex		
Male	28.1	1411
Female	28.0	1291
State		
Upper Nile	39.8	267
Jonglei	24.2	360
Unity	40.1	161
Warap	7.3	322
Northern Bahr El Ghazal	14.8	252
Western Bahr El Ghazal	45.7	90
Lakes	7.8	219
Western Equatoria	38.9	231
Central Equatoria	41.8	405
Eastern Equatoria	30.8	395
Residence		
Urban	40.9	674
Rural	23.7	2028
Age-group		
0-11	23.5	470
12-23	33.6	601
24-35	27.9	650
36-47	26.3	621
48-59	28.0	361
Mother's education		
None	24.2	2222
Primary	43.2	395
Secondary +	55.8	85
Missing/DK	*	1
Wealth index quintiles		
Poorest	15.2	534
Second	17.6	532
Middle	23.6	568
Fourth	29.5	580
Richest	56.8	489
Total	28.0	2703

[1] MICS indicator 3.16
(*): Figures based on unweighted cases < 25

Table CH.13: Intermittent preventive treatment for malaria

Percentage of women age 15-49 years who had a live birth during the two years preceding the survey and who received intermittent preventive treatment (IPT) for malaria during pregnancy at any antenatal care visit, South Sudan, 2010

	Percentage of women who received antenatal care (ANC)	Number of women who gave birth in the preceding two years	Percentage of pregnant women who took			Number of women who had a live birth in the last two years and who received antenatal care
			Any medicine to prevent malaria at any ANC visit during pregnancy	SP/Fansidar at least once	SP/Fansidar two or more times [1]	
State						
Upper Nile	40.8	436	42.6	10.5	3.1	178
Jonglei	24.3	459	50.9	34.1	24.3	111
Unity	32.2	215	48.2	23.0	14.3	69
Warap	19.3	485	38.9	29.5	18.8	93
Northern Bahr El Ghazal	41.2	299	39.9	18.0	9.3	123
Western Bahr El Ghazal	51.2	139	46.1	18.9	12.4	71
Lakes	39.0	275	42.5	28.8	18.5	107
Western Equatoria	64.6	270	59.0	35.6	21.8	175
Central Equatoria	72.2	503	54.1	30.5	21.5	363
Eastern Equatoria	40.8	398	65.3	47.1	37.3	162
Residence						
Urban	59.3	913	51.3	29.2	18.3	541
Rural	35.6	2566	50.1	28.3	19.5	913
Education						
None	34.4	2778	45.9	25.0	16.3	954
Primary	71.4	569	58.4	36.9	25.2	406
Secondary +	72.6	122	67.7	32.1	20.8	88
Adult education/Khalwa/Sunday	*	10	*	*	*	5
Wealth index quintiles						
Poorest	22.0	666	41.2	25.8	13.7	147
Second	30.5	679	49.0	31.6	18.9	207
Middle	35.1	686	47.2	24.5	18.8	241
Fourth	48.9	726	50.8	33.9	22.7	355
Richest	69.9	722	55.3	26.5	18.2	504
Total	41.8	3479	50.6	28.6	19.0	1454

[1] MICS indicator 3.20

(*): Figure based on unweighted cases < 25

VII. Water and Sanitation

Safe drinking water is a basic necessity for good health. Unsafe drinking water can be a significant carrier of diseases such as trachoma, cholera, typhoid, and schistosomiasis. Drinking water can also be tainted with chemical, physical and radiological contaminants with harmful effects on human health. In addition to its association with disease, access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying water, often for long distances.

The MDG goal (7, C) is to reduce by half, between 1990 and 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. The World Fit for Children goal calls for a reduction in the proportion of households without access to hygienic sanitation facilities and affordable and safe drinking water by at least one-third.

The list of indicators used in SHHS 2 is as follows:

Water
- Use of improved drinking water sources
- Use of adequate water treatment method
- Time to source of drinking water
- Person collecting drinking water

Sanitation
- Use of improved sanitation facilities
- Sanitary disposal of child's faeces

Use of Improved Water Sources

The distribution of the population by main source of drinking water is shown in Tables WS.1A, WS.1 and Figure WS.1. In South Sudan, the household population using improved sources of drinking water are those using any of the following types of supply: piped water (into dwelling, compound, yard or plot, to neighbour, public tap/standpipe), tube well/borehole, protected well, protected spring, bottled water and water transported by tankers/carts from improved. Bottled water is considered as an improved water source only if the household is using an improved water source for handwashing and cooking.

Overall (Table WS.1A), 72 percent of the population is using an improved source of drinking water – 81 percent in urban areas and 69 percent in rural areas. The highest proportion is reported in Lakes state (92 percent), while the lowest percentages are in Western Equatoria and Warap States with 61 percent each. The proportion of household members using improved drinking water sources increases with the level of education of the household head. About 81 percent of population in households where the head has secondary education or higher have improved sources of drinking water compared to 69 percent in households where the head has primary school and 71 percent for those in households with an uneducated head. Similarly, 84 percent of population from the richest households use an improved source of drinking water compared to 68 percent in the poorest households.

Only 2 percent of households have water piped into their dwelling or into their yard or plot. The improved sources of drinking water varie across states (Table WS.1A). The Upper Nile State reporting the highest percentage (10 percent), compared to 0 percent in Jonglei, Warap, Northern Bahr EL Ghazal and Eastern Equatoria states. And across all background, Table WS.1A shows that Water yard/hand pump is main improved source of drinking water with 49 percent. Huge variations are especially noted at state level with the highest proportion (88 percent) in Lakes and the lowest (16 percent) in Upper Nile. Also, the poorest households have the highest proportion (60 percent) compared to 37 percent for the richest households. No significant differences observed across residence and educational levels of household head.

Table WS.1A: Use of improved water sources (country specific table)

Percent distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, South Sudan, 2010

	Main source of drinking water																Total	Percentage using improved sources of drinking water [1]	Number of household members
	Improved sources									Unimproved sources									
	Piped into dwelling	Piped into compound, yard or plot	Public tap / stand pipe	Water yard/hand pump	Protected/covered well	Protected spring	Filtered (river, stream, dam, hafir, lake, pond, canal or rain water	Water transported by tankers/ carts from improved source	Bottled water	Unprotected well	Unprotected spring	Unfiltered (river, stream, dam, hafir, lake, pond, canal or rain) water	Water transported by tankers/carts from unimproved source	Bottled water	Other	Missing			
State																			
Upper Nile	3.6	6.8	12.8	15.5	0.8	0.1	22.3	3.7	0.0	6.8	2.0	24.5	0.7	0.0	0.4	0.1	100.0	65.5	6763
Jonglei	0.0	0.1	16.6	50.2	1.8	0.1	9.1	0.8	0.0	4.5	0.2	16.6	0.0	0.0	0.0	0.2	100.0	78.6	8172
Unity	0.7	0.8	9.7	37.7	4.1	0.6	9.1	5.2	0.0	16.3	1.3	11.5	2.9	0.0	0.0	0.2	100.0	67.8	3969
Warap	0.1	0.2	2.3	54.2	2.5	0.3	1.0	0.0	0.0	31.5	1.4	6.3	0.0	0.0	0.0	0.0	100.0	60.7	7587
Northern Bahr El Ghazal	0.0	0.0	1.5	60.4	2.8	0.0	4.2	0.0	0.0	17.9	2.7	10.1	0.0	0.0	0.3	0.0	100.0	68.9	5210
Western Bahr El Ghazal	1.2	1.9	2.1	33.0	9.9	.3	3.6	13.0	.4	21.7	3.6	7.8	1.4	0.0	0.2	0.0	100.0	65.4	2117
Lakes	0.1	0.4	1.6	87.8	1.6	0.4	0.2	0.3	0.0	3.2	0.7	1.4	0.5	0.0	1.1	0.9	100.0	92.3	4435
Western Equatoria	0.7	0.3	4.2	42.6	6.6	2.7	4.3	0.0	0.0	24.3	7.4	7.0	0.0	0.0	0.0	0.0	100.0	61.3	4355
Central Equatoria	2.4	1.0	9.3	39.3	2.8	0.5	3.5	11.2	0.0	12.3	3.8	12.4	1.1	.2	.3	.1	100.0	69.9	7336
Eastern Equatoria	0.1	0.0	.8	70.8	7.3	0.3	4.7	0.2	0.0	3.1	2.1	10.8	0.0	0.0	0.0	0.0	100.0	84.1	6056
Residence																			
Urban	2.8	3.3	10.4	47.2	3.3	1.0	5.2	7.7	0.0	8.9	1.9	7.5	0.6	0.1	0.0	0.2	100.0	80.9	13951
Rural	0.3	0.5	5.8	49.8	3.5	0.3	7.1	1.3	0.0	15.0	2.4	13.2	0.5	0.0	0.3	0.1	100.0	68.6	42050
Education of household head																			
None	0.6	.9	6.7	50.5	3.0	0.3	6.8	2.1	0.0	13.9	1.7	12.8	0.4	0.0	0.2	0.1	100.0	70.9	43919
Primary	1.6	1.3	5.9	45.2	4.8	1.0	4.7	4.4	0.0	15.3	4.7	9.8	0.7	0.0	0.4	0.0	100.0	69.0	6526
Secondary +	2.8	3.6	9.5	43.1	5.1	1.0	7.6	7.9	0.0	8.0	4.0	5.8	1.1	0.2	0.3	0.1	100.0	80.5	5508
Missing/DK	(0.0)	(0.0)	(26.5)	(59.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(5.8)	(7.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(86.3)	48
Wealth index quintiles																			
Poorest	0.0	0.0	2.9	60.3	1.3	0.1	3.0	0.0	0.0	18.0	0.7	13.2	0.4	0.0	0.0	0.1	100.0	67.6	11203
Second	0.00	0.00	5.5	50.7	2.8	0.1	7.2	0.0	0.0	16.0	2.2	15.1	0.3	0.00	0.1	0.0	100.0	66.3	11198
Middle	0.0	0.0	7.0	48.1	3.1	0.2	7.9	0.3	0.0	13.9	3.2	15.2	0.6	0.0	0.3	0.2	100.0	66.6	11202
Fourth	0.4	0.5	8.1	49.8	4.8	0.6	8.4	1.4	0.0	11.9	3.5	10.0	0.2	0.0	0.3	0.2	100.0	73.9	11200
Richest	43	5.4	11.2	36.8	5.1	1.2	6.7	13.0	0.1	7.6	1.9	5.3	1.1	0.1	0.3	0.1	100.0	83.7	11198
Total	0.9	1.2	6.9	49.1	3.4	0.4	6.6	2.9	.0	13.5	2.3	11.7	0.5	0.0	0.2	0.1	100.0	71.6	56001

[1] MICS indicator 4.1; MDG indicator 7.8

( ): Figures based on 25-49 unweighted cases

For purposes of regional and international comparisons, Table WS.1 is provided below, presenting similar variables and the corresponding statistics shown in Table WS.1A. The main difference between the two tables (Tables WS.1A WS.1) is that the Table WS.1 is based on MICS4 standards, while this is not the case for country specific table (Table WS.1A).

The national proportion of the population using improved source of drinking water in Table WS.1 and Figure WS.1 is 69 percent, compared to 72 percent shown in the country specific table (Table WS.1A). The urban and rural areas percentages are respectively 73 and 67. However, the State with the highest proportion remained unchanged, that is Lakes State (92 percent) while the lowest proportion is now in the Western Bahr El Ghazal (52 percent). There are no significant variations across education and wealth groups.

The national averages for both improved and unimproved sources remained similar to those in the country specific table, as are most of the statistics contained in Table WS.1A.

Use of household water treatment is presented in Tables WS.2A and WS.2. Households were asked of ways they may be treating water at home to make it safer to drink. Boiling water, adding bleach or chlorine, using a water filter, and using solar disinfection are considered as proper treatment of drinking water. The table shows water treatment by all households and the percentage of household members living in households using unimproved water sources but using appropriate water treatment methods.

Using the country specific table WS2A, the percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method is only 6 percent. This percentage is highest in Central Equatoria (17 percent) and below 8 percent in the nine remaining nine States. Besides, the urban percentage doubles that of the rural areas, reported at 10 and 5 percent, respectively. Besides, the urban percentage doubles that of the rural areas, reported at 10 and 5 percent, respectively. The proportion of using an appropriate water treatment method is 18 percent in households headed by a person with secondary and higher education, and only 4 percent for the households headed by a person with no education. Similarly, the reported percentage for the richest households is 21 percent compared to 1 percent for the poorest households.

Table WS.1B: Use of improved water sources

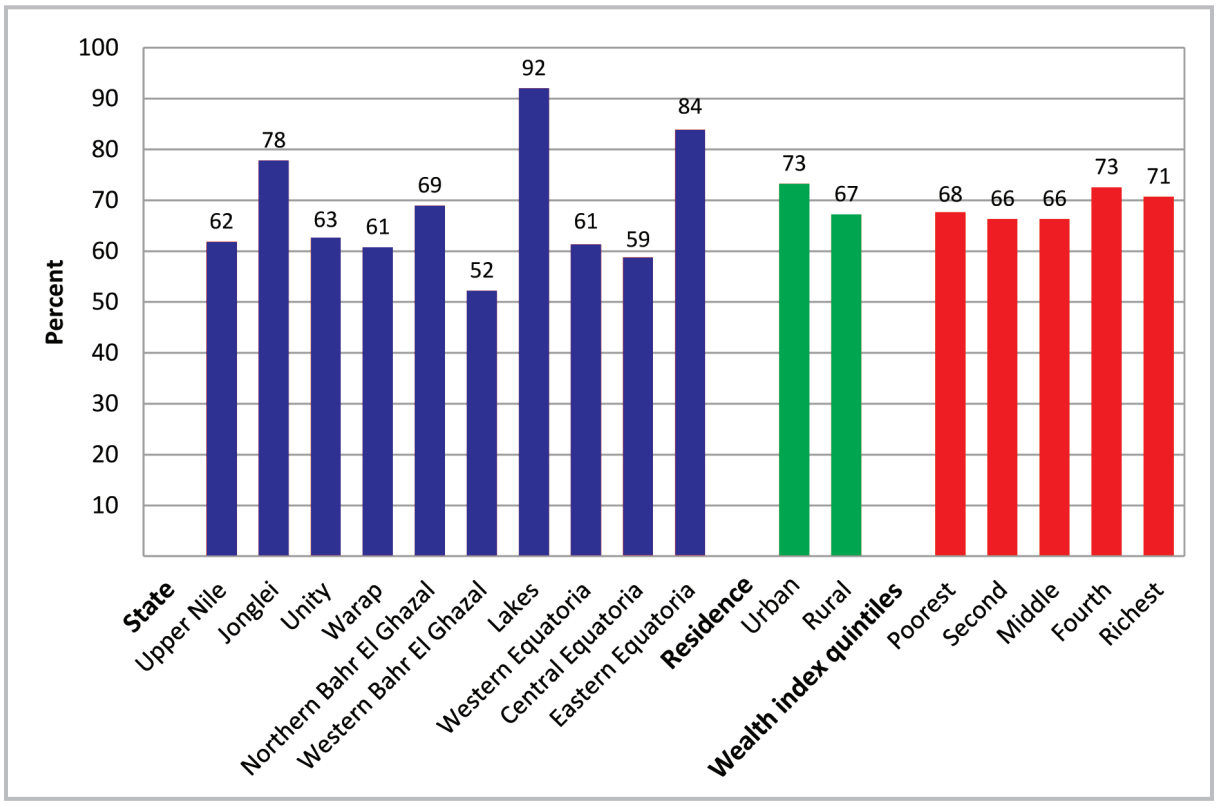
Percent distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, South Sudan, 2010

	Main source of drinking water																Total	Percentage using improved sources of drinking water [1]	Number of house hold members
	Improved sources									Unimproved sources									
	Piped into dwelling	Piped into compo und, yard or plot	Public tap / standpipe	Water yard/hand pump	Protected/covered well	Protected spring	Filtered (river, stream, dam, hafir, lake,	Bottled water	Unprotected well	Unprotected spring	Unfiltered (river, stream, dam, hafir, lake, pond, canal or rain) water	Water transported by tankers/carts from improved source	Water transported by tankers/carts from unimproved source	Bottled water	Other	Missing			
State																			
Upper Nile	3.6	6.8	12.8	15.5	0.8	0.1	22.3	0.0	6.8	2.0	24.5	3.7	0.7	0.0	0.4	0.1	100	61.8	6763
Jonglei	0.0	0.1	16.6	50.2	1.8	0.1	9.1	0.0	4.5	.2	16.6	0.8	0.0	0.0	0.0	0.2	100	77.8	8172
Unity	0.7	0.8	9.7	37.7	4.1	0.6	9.1	0.0	16.3	1.3	11.5	5.2	2.9	0.0	0.0	0.2	100	62.7	3969
Warap	0.1	0.2	2.3	54.2	2.5	0.3	1.0	0.0	31.5	1.4	6.3	0.0	0.0	0.0	0.0	0.0	100	60.7	7587
Northern Bahr El Ghazal	0.0	0.0	1.5	60.4	2.8	0.0	4.2	0.0	17.9	2.7	10.1	0.0	0.0	0.0	0.3	0.0	100	68.9	5210
Western Bahr El Ghazal	1.2	1.9	2.1	33.0	9.9	0.3	3.6	.4	21.7	3.6	7.8	13.0	1.4	0.2	0.2	0.0	100	52.2	2117
Lakes	0.1	0.4	1.6	87.8	1.6	0.4	.2	0.0	3.2	0.7	1.4	0.3	0.5	0.0	1.1	0.9	100	92.0	4435
Western Equatoria	0.7	0.3	4.2	42.6	6.6	2.7	4.3	0.0	24.3	7.4	7.0	0.0	0.0	0.0	0.0	0.0	100	61.3	4355
Central Equatoria	2.4	1.0	9.3	39.3	2.8	0.5	3.5	0.0	12.3	3.8	12.4	11.2	1.1	0.2	0.3	.1	100	58.8	7336
Eastern Equatoria	0.1	0.0	0.8	70.8	7.3	0.3	4.7	0.0	3.1	2.1	10.8	0.2	0.0	0.0	0.0	0.0	100	83.9	6056
Residence																			
Urban	2.8	3.3	10.4	47.2	3.3	1.0	5.2	0.0	8.9	1.9	7.5	7.7	.6	0.1	0.0	0.2	100	73.2	13951
Rural	0.3	0.5	5.8	49.8	3.5	0.3	7.1	0.0	15.0	2.4	13.2	1.3	.5	0.0	0.3	0.1	100	67.2	42050
Education of household head																			
None	0.6	0.9	6.7	50.5	3.0	0.3	6.8	0.0	13.9	1.7	12.8	2.1	0.4	0.0	0.2	0.1	100	68.8	43919
Primary	1.6	1.3	5.9	45.2	4.8	1.0	4.7	.0	15.3	4.7	9.8	4.4	0.7	0.0	0.4	0.0	100	64.5	6526
Secondary +	2.8	3.6	9.5	43.1	5.1	1.0	7.6	0.0	8.0	4.0	5.8	7.9	1.1	0.2	0.3	0.1	100	72.6	5508
Missing/DK	(0.0)	(0.0)	(26.5)	(59.9)	(0.0)	(0.0)	(0.0)	(0.0)	(5.8)	(7.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	100	(86.3)	48
Wealth index quintiles																			
Poorest	0.0	0.0	2.9	60.3	1.3	0.1	3.0	0.0	18.0	0.7	13.2	0.0	0.4	0.0	0.0	0.1	100	67.6	11203
Second	0.0	0.0	5.5	50.7	2.8	0.1	7.2	0.0	16.0	2.2	15.1	0.0	0.3	0.0	0.1	0.0	100	66.3	11198
Middle	0.0	0.0	7.0	48.1	3.1	0.2	7.9	0.0	13.9	3.2	15.2	0.3	0.6	0.0	0.3	0.2	100	66.3	11202
Fourth	0.4	0.5	8.1	49.8	4.8	0.6	8.4	0.0	11.9	3.5	10.0	1.4	0.2	0.0	0.3	0.2	100	72.5	11200
Richest	4.3	5.4	11.2	36.8	5.1	1.2	6.7	0.0	7.6	1.9	5.3	13.0	1.1	0.2	0.3	0.1	100	70.7	11198
Total	0.9	1.2	6.9	49.1	3.4	0.4	6.6	0.0	13.5	2.3	11.7	2.9	0.5	0.0	0.2	0.1	100	68.7	56001

[1] MICS indicator 4.1; MDG indicator 7.8

( ): Figures based on 25-49 unweighted cases

Figure WS.1: Precentage of population using improved sources of drinking water by state, residence and wealth quintile, South Sudan, 2010



For purposes of regional and international comparisons, Table WS.2 is provided below, presenting similar variables and related statistics shown in WS.2A.

Based on the standard table WS2, the national percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method is 9 percent, compared to 6 percent in the country specific table. The proportion remained highest in Central Equatoria (30 percent) while Western Bahr EL Ghazal has now 12 percent. The proportions of the remaining 8 states are still below 8 percent. As with the country specific table WS2A, the percentage of household members using unimproved drinking water sources and using an appropriate water treatment increases with the educational level of the household head and the household wealth status.

Table WS.2A: Household water treatment (country specific table)

Percentage of household population by drinking water treatment method used in the household, and for household members living in households where an unimproved drinking water source is used, the percentage who are using an appropriate treatment method, South Sudan, 2010

	Water treatment method used in the household										Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method [1]	Number of household members in households using unimproved drinking water sources
	None	Boil	Add bleach/ chlorine	Strain through acloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Don't know	Number of household members		
State												
Upper Nile	87.2	0.4	7.1	1.7	2.1	0.1	1.8	0.4	0.0	6763	4.5	2335
Jonglei	92.1	0.5	3.9	1.2	1.8	0.0	1.4	0.3	0.0	8172	3.0	1752
Unity	91.9	0.4	2.4	1.3	1.1	0.2	2.5	0.3	0.4	3969	3.1	1277
Warap	96.9	0.1	0.5	1.1	1.1	0.2	0.5	0.0	0.1	7587	2.5	2978
Northern Bahr El Ghazal	97.1	0.2	0.7	1.3	0.9	0.0	0.0	0.1	0.0	5210	2.2	1620
Western Bahr El Ghazal	77.3	1.7	6.0	8.6	6.9	0.0	0.6	0.7	0.1	2117	4.9	732
Lakes	93.7	0.6	1.0	2.2	1.7	0.0	0.5	0.0	0.3	4435	2.0	343
Western Equatoria	87.4	2.0	9.0	1.5	0.7	0.0	0.8	0.0	0.6	4355	7.6	1686
Central Equatoria	71.5	2.9	25.5	1.4	0.3	0.1	2.0	0.6	0.0	7336	17.0	2205
Eastern Equatoria	91.5	1.4	5.5	0.9	0.4	0.0	1.1	0.7	0.0	6056	4.6	965
Residence												
Urban	80.3	1.3	15.1	2.0	1.3	0.0	0.6	0.6	0.1	13951	10.0	2668
Rural	91.9	0.9	3.9	1.5	1.4	0.1	1.4	0.2	0.1	42050	4.8	13224
Education of household head												
None	91.6	0.6	4.3	1.5	1.3	0.1	1.1	0.2	0.1	43919	3.7	12786
Primary	84.9	2.5	9.8	1.7	1.5	0.0	1.7	0.2	0.1	6526	11.1	2025
Secondary +	73.8	2.5	21.4	2.3	1.4	0.1	0.9	1.1	0.0	5508	17.8	1075
Missing/DK	(97.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.5)	(0.0)	(0.0)	48	*	7
Wealth index quintiles												
Poorest	97.4	0.1	0.9	0.7	0.2	0.0	0.8	0.2	0.1	11203	0.8	3625
Second	95.5	0.2	1.3	0.8	1.3	0.1	1.2	0.2	0.0	11198	2.4	3773
Middle	93.6	0.6	2.2	1.5	1.4	0.1	0.9	0.2	0.1	11202	3.7	3743
Fourth	87.9	1.7	6.6	2.1	1.9	0.0	1.4	0.1	0.3	11200	8.8	2923
Richest	70.9	2.3	22.3	3.0	2.0	0.1	1.4	0.8	0.2	11198	20.8	1829
Total	89.0	1.0	6.7	1.6	1.3	0.1	1.2	0.3	0.1	56001	5.6	15893

[1] MICS indicator 4.2
(*): Figures based on unweighted cases < 25
( ): Figures based on 25-49 unweighted cases

Table WS.2B: Household water treatment

Percentage of household population by drinking water treatment method used in the household, and for household members living in households where an unimproved drinking water source is used, the percentage who are using an appropriate treatment method, South Sudan, 2010

	Water treatment method used in the household									Number of house hold members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method [1]	Number of household members in households using unimproved drinking water sources
	None	Boil	Add bleach / chlorine	Strain through a cloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Don't know			
State												
Upper Nile	87.2	0.4	7.1	1.7	2.1	0.1	1.8	0.4	0.0	6763	5.0	2582
Jonglei	92.1	0.5	3.9	1.2	1.8	0.0	1.4	0.3	0.0	8172	2.9	1815
Unity	91.9	0.4	2.4	1.3	1.1	0.2	2.5	0.3	0.4	3969	4.0	1482
Warap	96.9	0.1	0.5	1.1	1.1	0.2	0.5	0.0	0.1	7587	2.5	2978
Northern Bahr El Ghazal	97.1	0.2	0.7	1.3	0.9	0.0	0.0	0.1	0.0	5210	2.2	1620
Western Bahr El Ghazal	77.3	1.7	6.0	8.6	6.9	0.0	0.6	0.7	0.1	2117	11.6	1012
Lakes	93.7	0.6	1.0	2.2	1.7	0.0	0.5	0.0	0.3	4435	3.1	356
Western Equatoria	87.4	2.0	9.0	1.5	0.7	0.0	0.8	0.0	0.6	4355	7.6	1686
Central Equatoria	71.5	2.9	25.5	1.4	0.3	0.1	2.0	0.6	0.0	7336	30.4	3024
Eastern Equatoria	91.5	1.4	5.5	0.9	0.4	0.0	1.1	0.7	0.0	6056	4.6	976
Residence												
Urban	80.3	1.3	15.1	2.0	1.3	0.0	0.6	0.6	0.1	13951	20.3	3737
Rural	91.9	0.9	3.9	1.5	1.4	0.1	1.4	0.2	0.1	42050	5.9	13794
Education of household head												
None	91.6	0.6	4.3	1.5	1.3	0.1	1.1	0.2	0.1	43919	5.8	13702
Primary	84.9	2.5	9.8	1.7	1.5	0.0	1.7	0.2	0.1	6526	16.1	2315
Secondary +	73.8	2.5	21.4	2.3	1.4	0.1	0.9	1.1	0.0	5508	26.7	1507
Missing/DK	(97.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.5)	(0.0)	(0.0)	48	(*)	7
Wealth index quintiles												
Poorest	97.4	0.1	0.9	0.7	0.2	0.0	0.8	0.2	0.1	11203	0.8	3625
Second	95.5	0.2	1.3	0.8	1.3	0.1	1.2	0.2	0.0	11198	2.4	3773
Middle	93.6	0.6	2.2	1.5	1.4	0.1	0.9	0.2	0.1	11202	3.7	3774
Fourth	87.9	1.7	6.6	2.1	1.9	0.0	1.4	0.1	0.3	11200	8.7	3075
Richest	70.9	2.3	22.3	3.0	2.0	0.1	1.4	0.8	0.2	11198	31.8	3284
Total	89.0	1.0	6.7	1.6	1.3	0.1	1.2	0.3	0.1	56001	9.0	17531

[1] MICS indicator 4.2
(*): Figures based on unweighted cases < 25
( ): Figures based on 25-49 unweighted cases

The amount of time it takes to obtain water is presented in Tables WS.3A and WS.3 and the person who usually collected the water in Table WS.4. Note that these results refer to one round-trip from home to drinking water source. Information on the number of trips made in one day was not collected.

Table WS.3A shows that for only 2 percent of households, the improved drinking water source is on the premises. Among users of improved water sources, 33 percent of all household members take less than 30 minutes to get to the water source and bring water, while 34 percent of household population spend 30 minutes or more for this purpose. There are no significant differences across residence, education and wealth index quintiles. One striking finding is the high percentage of households spending 30 minutes or more to go to improved source of drinking water in Lakes State (50 percent), compared to 16 percent in Western Bahr El Ghazal and 19 percent in Upper Nile.

Among the users of unimproved drinking water sources, 12 percent of household population take less than 30 minutes to go to the water source and bring water and 16 percent take 30 minutes or more. About 20 percent of household members in Upper Nile and Warap take less than 30 minutes to go to source of drinking water, compared to only 3 percent in Lakes use. Nearly 29 percent of household members in Western Equatoria spend 30 minutes or more to go source of drinking water and bring water and only 4 in Lakes.

For purposes of international comparisons, Table WS.3 is provided below, presenting similar variables and related statistics shown in WS.3A.

Table WS.3 also shows that only 2 percent of households have improved drinking water on the premises. The time spent to collect water is about the same as in the country specific table.

Overall (Table WS.4), 95 percent of households are without drinking water on premises or delivered by tankers/carts. This proportion is about 100 percent in 6 states, except Western Bahr Ghazal (83 percent), Central Equatoria (85 percent), Upper Nile (89 percent) and Unity (92 percent). Variations are noted across residence, education and economic status. For example, 98 percent of households in rural are without drinking water on premises or delivered by tankers/carts and 88 percent in urban areas; this proportion is 97 percent for households headed by a person with no education compared 85 percent for those headed by a person with secondary and higher education; and 100 percent for the poorest households while it is 77 percent for the richest households.

Table WS.3A: Time to source of drinking water (country specific table)

Percent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, South Sudan, 2010

	Time to source of drinking water									Total	Number of household members
	Users of improved drinking water sources					Users of unimproved drinking water sources					
	Water on premises	Transported water by tankers/carts	Less than 30 minutes	30 minutes or more	Missing/DK	Transported water by tankers/carts	Less than 30 minutes	30 minutes or more	Missing/DK		
State											
Upper Nile	10.3	3.7	32.8	18.5	0.1	0.7	20.2	13.6	0.1	100.0	6763
Jonglei	0.1	0.8	35.5	42.2	0.0	0.1	10.1	11.3	0.0	100.0	8172
Unity	1.5	5.2	31.6	28.8	0.8	2.9	8.2	20.9	0.2	100.0	3969
Warap	0.3	0.0	29.1	30.7	0.6	0.0	20.0	19.2	0.1	100.0	7587
Northern Bahr El Ghazal	0.0	0.0	38.1	30.8	0.0	0.0	14.1	17.0	0.0	100.0	5210
Western Bahr El Ghazal	3.1	13.2	33.3	15.8	0.0	1.4	13.7	19.5	0.0	100.0	2117
Lakes	0.5	0.3	41.2	50.1	0.2	0.5	2.9	4.3	0.0	100.0	4435
Western Equatoria	1.0	0.0	28.2	30.8	1.4	0.0	9.2	28.7	0.8	100.0	4355
Central Equatoria	3.4	11.2	19.8	35.6	0.0	1.1	6.4	22.5	0.0	100.0	7336
Eastern Equatoria	0.1	0.2	42.8	41.0	0.0	0.0	6.3	9.7	0.0	100.0	6056
Residence											
Urban	6.1	7.7	33.3	33.3	0.5	0.6	6.7	11.6	0.2	100.0	13951
Rural	0.8	1.4	32.6	33.6	0.2	0.5	13.1	17.8	0.1	100.0	42050
Education of household head											
None	1.5	2.1	32.7	34.4	0.2	0.4	12.0	16.6	0.1	100.0	43919
Primary	2.9	4.4	32.2	29.2	0.2	0.7	11.1	19.1	0.1	100.0	6526
Secondary +	6.4	7.9	34.1	31.4	0.8	1.1	7.7	10.3	0.4	100.0	5508
Missing/DK	(0.0)	(0.0)	(59.9)	(26.5)	(0.0)	(0.0)	(10.4)	(3.3)	(.00)	(100.0)	48
Wealth index quintiles											
Poorest	0.0	0.0	30.6	36.7	0.3	0.4	13.8	18.2	0.0	100.0	11203
Second	0.0	0.0	30.0	36.2	0.1	0.3	12.9	20.3	0.1	100.0	11198
Middle	0.0	0.3	31.4	34.6	0.3	0.6	13.2	19.6	0.0	100.0	11202
Fourth	0.9	1.4	37.6	33.9	0.1	0.2	10.5	15.3	0.1	100.0	11200
Richest	9.7	13.0	34.4	26.1	0.5	1.1	7.0	8.0	0.2	100.0	11198
Total	2.1	2.9	32.8	33.5	0.3	0.5	11.5	16.3	0.1	100.0	56001

( ): Figures based on 25-49 unweighted cases

Table WS.3B: Time to source of drinking water

Percent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, South Sudan, 2010

	Time to source of drinking water								Total	Number of household members
	Users of improved drinking water sources				Users of unimproved drinking water sources					
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Transp orted water by tankers/carts	Less than 30 minutes	30 minutes or more	Missing/DK		
State										
Upper Nile	10.3	32.8	18.5	0.1	4.4	20.2	13.6	0.1	100.0	6763
Jonglei	0.1	35.5	42.2	0.0	0.8	10.1	11.3	0.0	100.0	8172
Unity	1.5	31.6	28.8	0.8	8.1	8.2	20.9	0.2	100.0	3969
Warap	0.3	29.1	30.7	0.6	0.0	20.0	19.2	0.1	100.0	7587
Northern Bahr El Ghazal	0.0	38.1	30.8	0.0	0.0	14.1	17.0	0.0	100.0	5210
Western Bahr El Ghazal	3.1	33.3	15.8	0.0	14.6	13.7	19.5	0.0	100.0	2117
Lakes	0.5	41.2	50.1	0.2	0.8	2.9	4.3	0.0	100.0	4435
Western Equatoria	1.0	28.2	30.8	1.4	0.0	9.2	28.7	0.8	100.0	4355
Central Equatoria	3.4	19.8	35.6	0.0	12.3	6.4	22.5	0.0	100.0	7336
Eastern Equatoria	0.1	42.8	41.0	0.0	0.2	6.3	9.7	0.0	100.0	6056
Residence										
Urban	6.1	33.3	33.3	0.5	8.3	6.7	11.6	0.2	100.0	13951
Rural	0.8	32.6	33.6	0.2	1.9	13.1	17.8	0.1	100.0	42050
Education of household head										
None	1.5	32.7	34.4	0.2	2.5	12.0	16.6	0.1	100.0	43919
Primary	2.9	32.2	29.2	0.2	5.2	11.1	19.1	0.1	100.0	6526
Secondary +	6.4	34.1	31.4	0.8	8.9	7.7	10.3	0.4	100.0	5508
Missing/DK	(0.0)	(59.9)	(26.5)	(0.0)	(0.0)	(10.4)	(3.3)	(0.0)	100.0	48
Wealth index quintiles										
Poorest	0.0	30.6	36.7	0.3	0.4	13.8	18.2	0.0	100.0	11203
Second	0.0	30.0	36.2	0.1	0.3	12.9	20.3	0.1	100.0	11198
Middle	0.0	31.4	34.6	0.3	0.9	13.2	19.6	0.0	100.0	11202
Fourth	0.9	37.6	33.9	0.1	1.6	10.5	15.3	0.1	100.0	11200
Richest	9.7	34.4	26.1	0.5	14.1	7.0	8.0	0.2	100.0	11198
Total	2.1	32.8	33.5	0.3	3.5	11.5	16.3	0.1	100.0	56001

( ): Figures based on 25-49 unweighted cases

Table WS.4 also shows that for the majority (86 percent) of households, an adult female is usually the person collecting the water, when the source of drinking water is not on the premises. Adult men collect water in only 5 percent of cases; while for the rest of the households, female children under age 15 collect water for 9 percent and male children under age 15 collect water for only 1 percent. The findings suggest that water collection for households is often carried out by adult women age (15+ years), adult men age (15+ years) and female children under age 15 years and this is the case across all background characteristics.

Table WS.4: Person collecting water

Percentage of households without drinking water on premises, and percent distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, South Sudan, 2010

	Percentage of households without drinking water on premises or delivered by tankers/carts	Number of households	Person usually collecting drinking water							Number of households without drinking water on premises
			Adult woman (age 15+ years)	Adult man (age 15+ years)	Female child (under 15)	Male child (under 15)	DK	Missing	Total	
State										
Upper Nile	89.1	998	90.3	4.0	3.7	0.7	0.6	0.7	100.0	890
Jonglei	99.1	1432	90.4	2.8	5.7	0.8	0.0	0.3	100.0	1419
Unity	92.4	608	84.8	3.0	11.2	0.0	0.1	0.8	100.0	562
Warap	99.7	1205	83.2	2.4	13.3	0.6	0.0	0.4	100.0	1201
Northern Bahr El Ghazal	100.0	930	82.9	3.1	13.2	0.7	0.1	0.0	100.0	930
Western Bahr El Ghazal	83.3	387	77.7	10.9	9.5	1.7	0.2	0.0	100.0	322
Lakes	98.6	676	82.0	3.6	13.4	0.1	0.2	0.6	100.0	666
Western Equatoria	99.2	770	79.9	10.2	8.1	1.8	0.0	0.0	100.0	764
Central Equatoria	85.4	1249	89.2	6.6	3.6	0.5	0.0	0.1	100.0	1066
Eastern Equatoria	99.7	1114	87.0	4.4	8.1	0.5	0.0	0.0	100.0	1111
Residence										
Urban	87.5	2161	84.9	5.9	8.2	0.5	0.2	0.3	100.0	1891
Rural	97.7	7208	85.9	4.2	8.7	0.7	0.1	0.3	100.0	7041
Education of household head										
None	96.7	7446	85.9	3.8	9.2	0.7	0.1	0.3	100.0	7198
Primary	93.6	1120	85.6	8.4	5.4	0.6	0.0	0.0	100.0	1048
Secondary +	85.2	797	84.5	7.0	7.3	0.9	0.2	0.2	100.0	680
Missing/DK	*	6	*	*	*	*	*	*	*	6
Wealth index quintiles										
Poorest	99.7	1879	87.3	2.5	9.9	0.2	0.1	0.0	100.0	1873
Second	99.7	1995	86.4	3.7	8.8	0.7	0.0	0.4	100.0	1990
Middle	99.1	2004	86.4	4.3	8.0	0.9	0.1	0.3	100.0	1985
Fourth	97.5	1913	84.7	5.6	8.2	0.9	0.1	0.4	100.0	1865
Richest	77.2	1578	82.6	7.9	7.9	0.8	0.4	0.4	100.0	1219
Total	95.3	9369	85.7	4.6	8.6	0.7	0.1	0.3	100.0	8931

(*): Figures based on unweighted cases < 25

Use of Improved Sanitation Facilities

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoeal diseases and polio. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation can reduce diarrheal disease by more than a third, and can significantly lessen the adverse health impacts of other disorders responsible for death and disease among millions of children in developing countries. Improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet.

Table WS.5 shows that 64 percent of the household members are using open defecation (no facility, bush, field). This is followed by unimproved pit latrine without slab / Open pit (11 percent), improved pit latrine with slab (8 percent) and improved toilet facility with flush to somewhere else (7 percent).

The proportions for no toilet facility range from 15 percent in Western Equatoria to 76 percent in Warap. Also, significant variations are observed across residence, education and wealth index quintiles. In urban areas, 46 percent of household population are using opened defecation compared 70 percent in rural areas. Households whose head has no education are more (70 percent) likely than households whose head has at least secondary education (38 percent) to have no toilet facility. Similarly, 95 percent of the household population in the poorest have no toilet facility in comparison with 31 percent in the richest households.

Table WS.5: Types of sanitation facilities

Percent distribution of household population according to type of toilet facility used by the household, South Sudan, 2010

	Type of toilet facility used by household														Total	Number of household members
	Improved sanitation facility							Unimproved sanitation facility								
	Flush to piped sewer system	Flush to septic tank	Flush to pit (latrine)	Flush to unknown place/Not sure/ DK where	Ventilated Improved Pit latrine (VIP)	Pit latrine with slab	Composting toilet	Flush to somewhere else	Pit latrine without slab/ Open pit	Bucket	Hanging toilet, Hanging latrine	Other	Missing	No facility, Bush, Field		
State																
Upper Nile	0.0	.1	4.5	9.3	5.5	2.3	9.1	10.4	3.6	.0	0.4	1.0	0.3	71.5	100.0	6763
Jonglei	0.4	.0	2.6	1.0	1.0	5.5	9.5	3.5	10.8	.2	0.0	3.7	0.0	70.7	100.0	8172
Unity	0.1	0.2	2.6	5.9	0.0	4.5	1.1	9.5	2.7	0.5	0.1	1.0	0.4	71.3	100.0	3969
Warap	0.0	0.0	0.6	0.6	0.0	1.2	0.0	6.9	3.3	0.0	0.0	11.4	0.2	75.9	100.0	7587
Northern Bahr El Ghazal	0.0	0.0	0.7	0.4	0.4	1.0	.3	16.4	2.1	0.0	0.1	6.3	0.0	72.4	100.0	5210
Western Bahr El Ghazal	0.0	0.3	3.0	0.2	4.4	11.2	0.3	0.7	8.5	0.0	0.2	3.2	0.1	67.8	100.0	2117
Lakes	0.0	0.1	1.8	4.5	0.6	1.7	0.2	23.6	2.0	0.0	0.5	4.1	0.3	60.8	100.0	4435
Western Equatoria	0.0	0.2	3.6	0.5	4.5	24.3	0.5	0.9	50.2	0.0	0.0	0.0	0.0	15.3	100.0	4355
Central Equatoria	0.0	1.2	4.0	0.0	3.3	20.2	0.4	0.5	19.3	0.0	0.5	1.3	0.1	49.2	100.0	7336
Eastern Equatoria	0.0	0.1	1.3	0.7	2.8	9.4	0.2	1.5	9.0	0.0	0.0	0.4	0.0	74.7	100.0	6056
Residence																
Urban	0.1	0.8	5.0	1.1	5.2	16.7	0.5	5.3	17.8	0.1	0.3	1.4	0.1	45.7	100.0	13951
Rural	0.1	0.0	1.6	1.2	1.1	4.8	0.3	7.7	8.4	0.1	0.1	4.2	0.2	70.2	100.0	42050
Education of household head																
None	0.1	0.2	1.8	1.3	1.6	4.9	0.3	8.0	7.6	0.1	0.2	4.2	0.2	69.6	100.0	43919
Primary	0.0	0.3	3.4	1.1	3.0	15.3	0.3	3.9	22.2	0.0	0.0	1.1	0.2	49.2	100.0	6526
Secondary +	0.0	0.6	6.7	.1	5.3	21.0	0.2	3.7	22.5	0.0	0.5	1.1	0.0	38.3	100.0	5508
Missing/DK	(0.0)	(3.3)	(0.0)	0(.0)	(28.9)	(36.5)	(0.0)	(.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(31.3)	(100.0)	48
Wealth index quintiles																
Poorest	.0	0.0	0.0	.6	0.0	.0	0.0	3.0	0.0	0.0	0.0	1.5	0.1	94.7	100.0	11203
Second	0.0	0.0	0.0	1.2	0.0	.1	0.0	8.8	1.7	0.0	0.0	5.2	0.2	82.8	100.0	11198
Middle	0.1	0.0	0.5	2.3	0.0	1.9	0.1	12.5	12.2	0.1	0.0	6.5	0.1	63.7	100.0	11202
Fourth	0.2	0.1	3.4	1.1	1.1	11.0	0.7	8.3	22.2	0.2	0.4	2.8	0.2	48.1	100.0	11200
Richest	0.0	1.0	8.2	0.7	9.6	25.8	0.8	2.9	17.5	0.0	0.4	1.6	0.1	31.3	100.0	11198
Total	0.1	0.2	2.4	1.2	2.1	7.8	0.3	7.1	10.7	0.1	0.2	3.5	0.1	64.1	100.0	56001

( ): Figures based on 25-49 unweighted cases

The MDGs and the WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation classify households as using an unimproved sanitation facility if they are using otherwise acceptable sanitation facilities but sharing a facility between two or more households or using a public toilet facility.

As shown in Table WS.6, only 7 percent of the household population are using an improved sanitation facility that is not shared. The State with the highest proportion of household population using improved sanitation facility that is not shared is Western Equatoria (23 percent) and the ones with the lowest percentages are Warap State (1 percent) and Northern Bahr El Ghazal (2 percent). The proportion of improved and not shared sanitation facility is much higher in urban areas than rural areas: 16 percent and 5 percent, respectively. Household headed by a person with secondary and higher education have the highest proportion (17 percent) compared those headed by a person with no education (6 percent). The richest households have a better access (24 percent) to improved and not shared sanitation facility in comparison with the poorest households (less than 1 percent).

Table WS.6: Use and sharing of sanitation facilities

Percent distribution of household population by use of private and public sanitation facilities and use of shared facilities, by users of improved and unimproved sanitation facilities, South Sudan, 2010

	Users of improved sanitation facilities				Users of unimproved sanitation facilities				Open defecation (no facility, bush field)	Total	Number of household members
	Not shared [1]	Public facility	Shared by other households (not public)	Missing/DK	Not shared	Public facility	Shared by other households (not public)	Missing/DK			
State											
Upper Nile	7.8	0.5	3.8	0.6	12.8	1.5	1.1	0.3	71.5	100.0	6763
Jonglei	6.2	1.6	3.3	0.0	15.4	0.9	1.6	0.2	70.7	100.0	8172
Unity	9.8	2.6	1.9	0.1	7.6	3.0	3.0	0.8	71.3	100.0	3969
Warap	1.0	1.1	0.2	0.0	6.3	13.9	1.6	0.1	75.9	100.0	7587
Northern Bahr El Ghazal	1.5	0.3	0.9	0.0	12.1	12.2	0.6	0.0	72.4	100.0	5210
Western Bahr El Ghazal	9.6	2.8	6.7	0.3	5.7	3.5	3.6	0.0	67.8	100.0	2117
Lakes	4.0	3.2	1.7	0.0	11.3	17.4	1.7	0.0	60.8	100.0	4435
Western Equatoria	22.5	2.1	8.9	0.0	37.5	3.9	9.7	0.0	15.3	100.0	4355
Central Equatoria	12.7	1.8	14.4	0.2	12.3	.8	8.2	0.5	49.2	100.0	7336
Eastern Equatoria	4.5	0.8	9.1	0.0	4.9	1.7	4.1	0.0	74.7	100.0	6056
Residence											
Urban	15.5	2.4	11.0	0.3	14.9	4.1	5.6	0.4	45.7	100.0	13951
Rural	4.7	1.2	3.2	0.0	11.7	6.2	2.7	0.1	70.2	100.0	42050
Education of household head											
None	5.6	1.2	3.4	0.1	11.3	6.3	2.4	0.1	69.6	100.0	43919
Primary	11.1	3.0	9.1	0.2	17.1	3.2	6.7	0.3	49.2	100.0	6526
Secondary +	17.3	2.5	14.2	0.0	16.3	3.1	7.5	0.8	38.3	100.0	5508
Missing/DK	(28.9)	(0.0)	(39.8)	(.0)	(0.0)	(0.0)	(0.0)	(0.0)	(31.3)	(100.0)	48
Wealth index quintiles											
Poorest	0.4	0.1	0.0	0.0	2.2	2.4	0.2	0.0	94.7	100.0	11203
Second	0.6	0.7	0.1	0.0	7.5	7.0	1.3	0.1	82.8	100.0	11198
Middle	2.5	1.2	1.3	0.0	17.8	9.2	4.2	0.2	63.7	100.0	11202
Fourth	9.8	2.8	5.1	0.0	21.6	7.3	4.8	0.4	48.1	100.0	11200
Richest	23.8	2.7	19.2	0.5	13.4	2.4	6.4	0.3	31.3	100.0	11198
Total	7.4	1.5	5.1	0.1	12.5	5.6	3.4	0.2	64.1	100.0	56001

[1] MICS indicator 4.3; MDG indicator 7.9

( ): Figures based on 25-49 unweighted cases

Safe disposal of a child's faeces is disposing of the stool, by the child using a toilet or by rinsing the stool into a toilet or latrine. Disposal of faeces of children 0-2 years of age is presented in Table WS.7.

The survey showed that only 16 percent of children 0-2 years of age had their stools disposed of safely. There are significant differences across wealth groups, as the proportion of these children amongst the richest (41 Percent) is nearly ten times that amongst the poorest (4 percent). Similar pattern is observed across the educational levels of mothers/caretakers of the children, with children whose mothers/caretakers having secondary or higher education reporting considerably higher percentage (47 percent) than those with no education (11 percent).The urban-rural difference is also significant, as the proportion in the urban areas (31 percent) is three times that of the rural areas (11 percent). The State with the highest percentage of children aged 0-2 years who had their stools disposed off safely are in Western Equatoria (50 percent) and Central Equatoria (37 percent), while the lowest proportions are found in Jonglei, Unity, Warap, Northern Bahr El Ghazal, and Lakes States, ranging between 1 and 9 percents.

Table WS.7: Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, South Sudan, 2010

	Place of disposal of child's faeces									Total	Percentage of children whose stools were disposed of safely [1]	Number of children age 0-2 years
	Child used toilet / latrine	Put / Rinsed into toilet or latrine	Put / Rinsed into toilet or latrine	Thrown into garbage (waste)	Buried	Left in the open	Other	DK	Missing			
Type of sanitation facility in dwelling												
Improved	7.0	37.9	4.9	15.5	16.3	8.6	1.7	2.3	5.8	100.0	44.8	691
Unimproved	4.7	22.7	2.2	24.4	18.9	15.0	3.3	2.3	6.5	100.0	27.4	1095
Open defecation	1.5	4.1	2.9	32.7	21.0	26.2	2.9	2.1	6.6	100.0	5.6	3237
State												
Upper Nile	3.9	16.2	4.6	20.3	7.3	36.8	3.3	4.8	2.9	100.0	20.1	576
Jonglei	1.3	7.1	2.2	31.4	23.2	22.0	3.6	1.5	7.8	100.0	8.4	719
Unity	2.5	2.6	1.5	29.8	15.8	37.2	1.5	2.9	6.1	100.0	5.1	383
Warap	0.5	1.2	1.8	48.1	11.1	24.1	3.3	2.2	7.7	100.0	1.7	693
Northern Bahr El Ghazal	0.4	2.9	2.0	42.1	16.1	26.7	3.2	1.3	5.4	100.0	3.2	470
Western Bahr El Ghazal	5.0	16.1	2.5	19.6	28.4	20.8	3.1	1.2	3.1	100.0	21.2	203
Lakes	0.4	2.4	0.4	39.8	8.2	26.7	5.1	2.4	14.7	100.0	2.7	373
Western Equatoria	11.9	37.9	3.5	22.2	18.6	0.7	0.4	2.0	2.8	100.0	49.8	407
Central Equatoria	5.0	31.5	2.1	12.9	35.1	3.4	2.9	1.4	5.8	100.0	36.5	680
Eastern Equatoria	1.6	10.8	9.5	15.3	34.2	18.7	1.2	1.4	7.4	100.0	12.4	519
Residence												
Urban	5.6	24.9	2.7	22.1	19.5	14.8	1.6	2.5	6.3	100.0	30.5	1289
Rural	2.1	8.6	3.2	30.8	20.1	23.6	3.2	2.0	6.5	100.0	10.7	3734
Mother's education												
None	2.5	8.1	2.6	31.7	19.2	24.1	2.9	2.1	6.8	100.0	10.6	4111
Primary	4.4	32.2	5.4	15.4	23.4	9.5	2.8	1.8	5.1	100.0	36.7	736
Secondary +	6.5	40.4	4.0	10.7	23.0	6.1	2.1	3.4	3.8	100.0	46.9	176
Missing/DK	*	*	*	*	*	*	*	*	*	*	*	1
Wealth index quintiles												
Poorest	1.5	2.8	2.2	36.7	17.9	27.6	3.6	2.0	5.8	100.0	4.3	995
Second	0.4	2.5	2.3	35.4	19.2	26.8	3.8	2.1	7.6	100.0	2.9	953
Middle	2.2	5.5	3.5	33.0	20.9	22.8	2.4	2.2	7.4	100.0	7.7	992
Fourth	4.5	16.6	4.6	22.7	21.6	18.5	1.6	2.7	7.1	100.0	21.2	1060
Richest	5.9	35.1	2.6	16.0	20.0	11.5	2.7	1.7	4.6	100.0	41.0	1024
Total	3.0	12.8	3.1	28.5	19.9	21.3	2.8	2.1	6.5	100.0	15.7	5024

[1] MICS indicator 4.4

( ): Figures based on unweighted cases < 25

In its 2008 report[6], the JMP developed a new way of presenting the access figures, by disaggregating and refining the data on drinking-water and sanitation and reflecting them in "ladder" format. This ladder allows a disaggregated analysis of trends in a three rung ladder for drinking-water and a four-rung ladder for sanitation. For sanitation, this gives an understanding of the proportion of population with no sanitation facilities at all, of those reliant on technologies defined by JMP as "unimproved," of those sharing sanitation facilities of otherwise acceptable technology, and those using "improved" sanitation facilities. Tables WS.8A and WS.8 presents the percentages of household population by drinking water and sanitation ladders. The tables also show the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal.

In South Sudan (Table WS.8A), the proportion of household population using improved drinking water that is piped into dwelling, plot or yard is 2 percent. The proportion is highest in Upper Nile (10 percent), but exceedingly low across the remaining States (less than 4 percent). There are urban-rural variations, as the urban proportion (6 percent) is relatively higher than that in the rural area (1 percent). Besides, there are some differences across education and wealth index quintiles with respect to this source. The proportion amongst the richest households is 10 percent compared to 0 percent in the poorest, second and middle wealth quintiles households. The proportion of household population using improved drinking water that is piped into dwelling, plot or yard for the households whose heads have secondary or higher education is 6 percent, while it is 2 percent for the households with an uneducated head.

In contrast, the proportion for the other source of improved drinking water stands at 70 percent. The States with the highest proportions are Lakes (92 percent) and Eastern Equatoria (84 percent) and the lowest proportions are in Upper Nile States (55 percent), Warap (60 percent), Western Equatoria (60 percent) and Western Bahr EL Ghazal (62 percent). There are no significant differentials across residence, education and economic status.

Table WS.8A also presents the proportion of household population using improved sanitation. Overall, the nationwide proportion for the indicator is 7 percent. The State with the highest proportion is Western Equatoria (23 percent), and those with lower percentages are Warap, Northern Bahr El Ghazal, Lakes and Eastern Equatoria, respectively with 1, 2, 4 and 5 percent. The urban-rural proportions are 16 and 5 percent, respectively. There are also significant differentials across education and wealth index quintiles. The proportion amongst the population with a household head who has secondary and higher education is 17 percent compared to 6 percent for those with an uneducated household head. This proportion is also higher amongst the richest (24 percent) and is almost nil amongst the poorest (less than 1 percent).

Overall, findings show that 6 percent of household population have both improved water sources and sanitation facilities. Differentials are notable across all background characteristics. The state with highest proportion is Western Equatoria (13 percent), while the lowest proportions are in Warap and Northern Bahr El Ghazal, with 1 percent each. About 13 percent of urban residents have both improved drinking water sources and improved sanitation, compared to 4 percent of their counterparts in rural areas. Only 5 percent of members from households headed by a person without education have improved drinking water sources and improved sanitation, while the proportion is 14 percent for members from households headed by a person with secondary or higher education. While 20 percent of the population in the richest households have improved drinking water sources and improved sanitation, the percentage is below 1 percent for those in the poorest households.

[6] WHO/UNICEF JMP (2008), MDG assessment report
http://www.wssinfo.org/fileadmin/user_upload/resources/1251794333-JMP_08_en.pdf

Table WS.8: Drinking water and sanitation ladders

Percentage of household population by drinking water and sanitation ladders, South Sudan, 2010

	Percentage of household population using:										
	Improved drinking water [1]		Unimproved drinking water	Total	Improved sanitation [2]	Unimproved sanitation			Total	Improved drinking water sources and improved sanitation	Number of household members
	Piped into dwelling, plot or yard	Other improved				Shared improved facilities	Unimproved facilities	Open defecation			
State											
Upper Nile	10.3	55.1	34.5	100.0	7.8	4.9	15.7	71.5	100.0	7.4	6763
Jonglei	0.1	78.4	21.4	100.0	6.2	4.9	18.2	70.7	100.0	5.8	8172
Unity	1.5	66.3	32.2	100.0	9.8	4.6	14.3	71.3	100.0	7.9	3969
Warap	0.3	60.4	39.3	100.0	1.0	1.3	21.8	75.9	100.0	1.0	7587
Northern Bahr El Ghazal	0.0	68.9	31.1	100.0	1.5	1.2	24.9	72.4	100.0	1.3	5210
Western Bahr El Ghazal	3.1	62.3	34.6	100.0	9.6	9.8	12.8	67.8	100.0	9.1	2117
Lakes	0.5	91.8	7.7	100.0	4.0	4.9	30.4	60.8	100.0	3.8	4435
Western Equatoria	1.0	60.3	38.7	100.0	22.5	11.0	51.2	15.3	100.0	12.6	4355
Central Equatoria	3.4	66.5	30.1	100.0	12.7	16.4	21.7	49.2	100.0	9.9	7336
Eastern Equatoria	0.1	84.0	15.9	100.0	4.5	10.0	10.8	74.7	100.0	4.3	6056
Residence											
Urban	6.1	74.7	19.1	100.0	15.5	13.8	25.0	45.7	100.0	13.3	13951
Rural	0.8	67.8	31.4	100.0	4.7	4.4	20.6	70.2	100.0	3.5	42050
Education of household head											
None	1.5	69.4	29.1	100.0	5.6	4.7	20.2	69.6	100.0	4.8	43919
Primary	2.9	66.0	31.0	100.0	11.1	12.4	27.4	49.2	100.0	7.0	6526
Secondary +	6.4	74.1	19.5	100.0	17.3	16.7	27.7	38.3	100.0	13.6	5508
Missing/DK	(.0)	(86.3)	(13.7)	100.0	(28.9)	(39.8)	(.0)	(31.3)	100.0	(26.5)	48
Wealth index quintiles											
Poorest	0.0	67.6	32.4	100.0	0.4	0.2	4.7	94.7	100.0	0.4	11203
Second	0.0	66.3	33.7	100.0	0.6	0.8	15.9	82.8	100.0	0.5	11198
Middle	0.0	66.6	33.4	100.0	2.5	2.5	31.3	63.7	100.0	2.0	11202
Fourth	0.9	73.0	26.1	100.0	9.8	8.0	34.2	48.1	100.0	6.7	11200
Richest	9.7	74.0	16.3	100.0	23.8	22.4	22.5	31.3	100.0	20.2	11198
Total	2.1	69.5	28.4	100.0	7.4	6.8	21.7	64.1	100.0	6.0	56001

[1] MICS indicator 4.1, MDG indicator 7.8

[2] MICS indicator 4.3, MDG indicator 7.9

( ): Figures based on 25-49 unweighted cases

For purposes of international comparisons, Table WS.8 is provided below, presenting similar indicators and respective statistics shown in Table WS.8A.

Based on the standard Table WS.8, the national average for the proportion of households with improved drinking water remained the same (69 percent). The proportion is still highest in Lakes State (92 percent) while the lowest proportions are now in Western Bahr El Ghazal (49 percent), Upper Nile (52 percent) and Central Equatoria (55 percent). No significant differences observed across residence and education. However an erratic pattern is noted across the economic status. The proportion of households with improved drinking water is 61 percent in the richest household, 68 percent in the poorest households, 66 percent in both second and middle quintiles and 72 percent in the fourth quintile.

Table WS.8 also shows that the proportion of households with improved sanitation remained the same (7 percent). The statistics pertained to the variations across states, residence, educational levels of the household head and wealth index quintiles are also similar.

Overall, proportion of households with improved drinking water sources and improved sanitation also remained the same (6 percent); and the variations across states, residence, educational levels of the household head and wealth index quintiles show similar pattern.

Table WS.8A: Drinking water and sanitation ladders

Percentage of household population by drinking water and sanitation ladders, South Sudan, 2010

	Percentage of household population using:										Number of household members
	Improved drinking water [1]		Unimproved drinking water	Total	Improved sanitation [2]	Unimproved sanitation			Total	Improved drinking water sources and improved sanitation	
	Piped into dwelling, plot or yard	Other improved				Shared improved facilities	Unimproved facilities	Open defecation			
State											
Upper Nile	10.3	51.5	38.2	100.0	7.8	4.9	15.7	71.5	100.0	7.2	6763
Jonglei	0.1	77.6	22.2	100.0	6.2	4.9	18.2	70.7	100.0	5.8	8172
Unity	1.5	61.1	37.3	100.0	9.8	4.6	14.3	71.3	100.0	7.0	3969
Warap	0.3	60.4	39.3	100.0	1.0	1.3	21.8	75.9	100.0	1.0	7587
Northern Bahr Ghazal	0.0	68.9	31.1	100.0	1.5	1.2	24.9	72.4	100.0	1.3	5210
Western Bahr Ghazal	3.1	49.1	47.8	100.0	9.6	9.8	12.8	67.8	100.0	7.0	2117
Lakes	0.5	91.5	8.0	100.0	4.0	4.9	30.4	60.8	100.0	3.8	4435
Western Equatoria	1.0	60.3	38.7	100.0	22.5	11.0	51.2	15.3	100.0	12.6	4355
Central Equatoria	3.4	55.3	41.2	100.0	12.7	16.4	21.7	49.2	100.0	8.2	7336
Eastern Equatoria	0.1	83.8	16.1	100.0	4.5	10.0	10.8	74.7	100.0	4.3	6056
Residence											
Urban	6.1	67.1	26.8	100.0	15.5	13.8	25.0	45.7	100.0	11.8	13951
Rural	0.8	66.4	32.8	100.0	4.7	4.4	20.6	70.2	100.0	3.5	42050
Education of household head											
None	1.5	67.3	31.2	100.0	5.6	4.7	20.2	69.6	100.0	4.5	43919
Primary	2.9	61.6	35.5	100.0	11.1	12.4	27.4	49.2	100.0	6.5	6526
Secondary +	6.4	66.2	27.4	100.0	17.3	16.7	27.7	38.3	100.0	12.3	5508
Missing/DK	(0.0)	(86.3)	(13.7)	100.0	(28.9)	(39.8)	(0.0)	(31.3)	100.0	(26.5)	48
Wealth index quintiles											
Poorest	0.0	67.6	32.4	100.0	0.4	0.2	4.7	94.7	100.0	0.4	11203
Second	0.0	66.3	33.7	100.0	0.6	0.8	15.9	82.8	100.0	0.5	11198
Middle	0.0	66.3	33.7	100.0	2.5	2.5	31.3	63.7	100.0	2.0	11202
Fourth	0.9	71.7	27.5	100.0	9.8	8.0	34.2	48.1	100.0	6.7	11200
Richest	9.7	61.0	29.3	100.0	23.8	22.4	22.5	31.3	100.0	18.3	11198
Total	2.1	66.6	31.3	100.0	7.4	6.8	21.7	64.1	100.0	5.6	56001

[1] MICS indicator 4.1; MDG indicator 7.8
[2] MICS indicator 4.3; MDG indicator 7.9
( ): Figures based on 25-49 unweighted cases

VIII. Reproductive Health

Fertility

In SHHS2, adolescent birth rates and total fertility rates are calculated using information from the birth history (the number of live births, birth date, sex of each child, the condition of survival at the time of interview and the age at death of deceased children) of each of the women aged 15-49 years interviewed.

Table RH.1 shows adolescent birth rates and total fertility rate for the three years preceding the survey. The adolescent birth rate (age-specific fertility rate for women aged 15-19 years) is defined as the number of births to women aged 15-19 years during the three year period preceding the survey, divided by the average number of women aged 15-19 years (number of women-years lived between ages 15 through 19 years, inclusive) during the same period, expressed per 1000 women. The total fertility rate (TFR) is calculated by summing the age-specific fertility rates calculated for each of the 5-year age-groups of women, from age 15 through age 49 years. The TFR denotes the average number of children to which a woman will have given birth by the end of her reproductive years if current fertility rates prevailed.

Overall, the adolescent birth rate is 158 per 1000 women in South Sudan. However, huge variations are observed across the states and mother's education. For example, the lowest rates are found in Warap (130 births per 1000 women), Upper Nile(137 births per 1000 women) and Northern Bahr El Ghazal(139 births per 1000 women) while Western Equatoria has the highest with 217 births per 1000 women, Women with secondary and higher education have the lowest rate (82 births per 1000 women) compared to 174 births per 1000 women for those with no education. No significant difference observed across the residence. However, for wealth index quintiles, one can notice that second, middle and fourth wealth quintiles have high rates, while the low rates are in the richest and poorest quintiles.

Table RH.1 also shows that the TFR for South Sudan is 7.5 children per woman, with no urban-rural difference. At the state level, the Upper Nile, Northern Bahr El Ghazal and Western Bahr El Ghazal States have the highest TFR with 8.1 children per woman, and they are followed by Unity state with 7.8 children per woman. The remaining states have an average of 7 children per woman. And as can be expected, the lowest TFR is observed among women with secondary or higher education (5.3 children per woman) and in the richest quintile (6.9 children per woman).

Table RH.1: Adolescent birth rate and total fertility rate Adolescent birth rates and total fertility rates, South Sudan, 2010		
	Adolescent birth rate[1] (Age-specific fertility rate for women age 15-19)	Total fertility rate
State		
Upper Nile	137	8.1
Jonglei	175	7.0
Unity	197	7.8
Warap	130	7.1
Northern Bahr El Ghazal	139	8.1
Western Bahr El Ghazal	183	8.1
Lakes	153	7.1
Western Equatoria	217	6.6
Central Equatoria	154	7.3
Eastern Equatoria	146	8.0
Residence		
Urban	165	7.4
Rural	155	7.5
Women's education		
None	174	7.6
Primary	140	6.8
Secondary +	82	5.3
Adult Education/Khalwa/ Sunday Education	248	9.8
Wealth index quintile		
Poorest	149	7.9
Second	173	7.5
Middle	167	7.5
Fourth	167	7.4
Richest	141	6.9
Total	158	7.5
1 MICS indicator 5.1; MDG indicator 5.4		

Sexual activity and childbearing early in life carry significant risks for young people all around the world. Table RH.2 presents some early childbearing indicators for women aged 15-19 and aged 20-24 while Table RH.3 presents the trends for early childbearing.

Overall, 26 percent of women aged 15-19 have already had a birth, 5 percent are pregnant with their first child, 31 percent have begun childbearing and 3 percent have had a live birth before age 15. Regarding this latter indicator, Western Equatoria has the highest rate with 7 percent compared to 1 percent for Northern Bahr El Ghazal. No significant differences observed for residence, education and wealth index quintiles.

Table RH.2 also shows that 28 percent of women aged 20-24 years had a live birth before age 18.Unity state has the highest proportion with 48 percent, while Eastern Equatoria (18 percent) and Warap (20 percent) have the lowest proportions. Women with secondary and higher education have the lowest proportion with 12 percent compared to 29 percent for women with no education. No significant differentials across residence and economic status.

Table RH.2: Early childbearing

Percentage of women age 15-19 who have had a live birth or who are pregnant with the first child, percentage of women age 15-19 who have begun childbearing before age 15, and the percentage of women age 20-24 who have had a live birth before age 18, South Sudan, 2010

	Percentage of women age 15-19				Number of women age 15-19	Percentage of women age 20-24 who have had a live birth before age 18 [1]	Number of women age 20-24
	Have had a live birth	Are pregnant with first child	Have begun childbearing	Have had a live birth before age 15			
State							
Upper Nile	18.3	3.2	21.4	3.2	172	28.7	184
Jonglei	41.9	4.8	46.7	4.6	133	29.4	173
Unity	34.2	6.9	41.1	5.1	88	48.0	107
Warap	22.0	4.1	26.2	2.8	212	20.0	204
Northern Bahr El Ghazal	17.0	6.4	23.4	0.7	117	22.8	139
Western Bahr El Ghazal	30.5	4.4	34.9	3.7	53	28.7	59
Lakes	18.0	6.7	24.7	2.4	93	30.6	128
Western Equatoria	47.1	5.3	52.4	6.5	116	33.5	150
Central Equatoria	21.5	3.4	24.8	1.3	211	29.3	259
Eastern Equatoria	21.3	4.8	26.2	2.9	149	18.4	186
Residence							
Urban	28.6	4.4	33.0	3.0	370	30.1	455
Rural	24.9	4.8	29.7	3.1	974	27.0	1134
Education							
None	31.2	5.5	36.7	4.0	743	28.5	1150
Primary	20.2	3.5	23.6	2.2	536	31.3	326
Secondary +	13.0	5.8	18.8	0.0	65	12.2	108
Adult Education/Khalwa/ Sunday education	-	-	-	-	0	*	5
Wealth index quintiles							
Poorest	26.0	5.1	31.1	2.3	211	24.3	249
Second	29.2	4.6	33.8	3.9	242	26.9	260
Middle	24.8	4.1	28.9	3.3	263	25.4	319
Fourth	26.5	5.7	32.2	2.9	251	30.1	353
Richest	24.1	4.3	28.4	3.0	377	30.9	408
Total	25.9	4.7	30.6	3.1	1344	27.9	1589

[1] MICS indicator 5.2
(*): Figures based on unweighted cases < 25

Table RH.3 shows that for each age-group the percentages of women with a live birth before age 15 and age 18 are slightly higher in urban areas compared to rural areas, except for age-group 15-19 years where the proportions are equal (3 percent). In urban areas, there is no linear association between age-group and early childbearing. However, for women aged 20-49 years who have had a live birth before age 18, early childbearing declines with age-group: From 27 percent in age-group 20-24 years to 6 percent for those aged 45-49 years in rural areas; and from 28 percent in age-group 20-24 years to 7 percent in age-group 45-49 years for All.

Table RH.3: Trends in early childbearing
Percentage of women who have had a live birth by age 15 and 18, by age groups, South Sudan, 2010

	Urban				Rural				All			
	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women
Age-group												
15-19	3.0	370	na	na	3.1	974	na	na	3.1	1344	na	na
20-24	8.2	455	30.1	455	6.5	1134	27.0	1134	7.0	1589	27.9	1589
25-29	7.8	496	25.5	496	5.3	1571	19.9	1571	5.9	2067	21.2	2067
30-34	6.8	381	21.6	381	4.6	1109	17.6	1109	5.1	1490	18.6	1490
35-39	7.1	333	17.6	333	3.0	1062	9.6	1062	4.0	1396	11.5	1396
40-44	8.0	157	21.4	157	2.2	471	7.1	471	3.6	627	10.7	627
45-49	3.5	130	9.8	130	1.9	425	5.8	425	2.3	555	6.8	555
Total	6.6	2321	23.1	1951	4.3	6748	16.9	5773	4.9	9069	18.4	7725

Contraception

Appropriate family planning is important to the health of women and children by: 1) preventing pregnancies that are too early or too late; 2) extending the period between births; and 3) limiting the number of children. Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many is critical.

Table RH.4 shows that 96 percent of women aged 15-49 years currently married/ or in union in South Sudan do not use any contraceptive method. Among the remaining using contraception, 1 percent uses any modern method and 3 percent use any traditional method. The highest proportion of use of any method is reported in Central Equatoria (13 percent), while the lowest proportions are found in Lakes, Unity and Warap with around 1 percent. Similarly, women with secondary and higher education are more (14 percent) likely to use any method than those with no education (3 percent).

Differences in contraceptives usage across residence, age-groups and economic status appear to be insignificant probably indicative of cultural uniformity in public views regarding modern family planning.

Table RH.4: Use of contraception

Percentage of women age 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method, South Sudan, 2010

	Percent of women (currently married or in union) who are using:														Any modern method	Any traditional method	Any method [1]	Number of women currently married or in union
	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm / foam / jelly	Lactational amenorrhoea method (LAM)	Periodic abstinence /Rhythm	With drawal	Other				
State																		
Upper Nile	97.4	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1	2.0	0.0	0.0	0.5	2.1	2.6	866
Jonglei	97.9	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.4	0.6	0.7	0.1	0.3	1.8	2.1	1132
Unity	98.7	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.3	1.0	1.3	511
Warap	98.6	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.0	0.0	0.3	1.1	1.4	1029
Northern Bahr El Ghazal	93.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	2.2	3.5	0.6	0.3	0.2	6.5	6.8	667
Western Behr El Ghazal	96.0	0.0	0.1	0.0	0.6	0.0	0.8	0.0	0.0	0.0	0.3	1.7	0.1	0.3	1.5	2.5	4.0	251
Lakes	99.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.1	0.0	0.1	0.3	0.5	.8	553
Western Equatoria	97.6	0.1	0.0	0.0	0.5	0.0	0.2	1.0	0.0	0.0	0.0	0.3	0.0	0.2	1.9	0.5	2.4	563
Central Equatoria	87.4	0.2	0.0	0.0	1.7	0.0	1.1	1.2	0.2	0.0	1.3	5.5	0.6	.9	4.3	8.2	12.6	947
Eastern Equatoria	95.8	0.0	0.0	0.0	0.4	0.2	0.5	1.1	0.0	0.0	0.2	1.1	0.0	0.6	2.3	1.9	4.2	829
Residence																		
Urban	95.1	0.0	0.0	0.1	1.1	0.1	0.5	0.6	0.0	0.0	0.4	1.4	0.1	0.5	2.4	2.4	4.9	1812
Rural	96.3	0.1	0.0	0.0	0.2	0.0	0.2	0.3	0.0	0.0	0.6	1.8	0.3	0.2	0.8	2.9	3.7	5538
Age-group																		
15-19	97.7	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.0	0.0	0.0	0.8	0.3	0.3	1.0	1.3	2.3	540
20-24	96.7	0.0	0.0	0.0	0.4	0.0	0.2	0.6	0.0	0.0	0.3	1.2	0.4	0.2	1.2	2.1	3.3	1361
25-29	95.4	0.1	0.0	0.1	0.6	0.0	0.5	0.5	0.1	0.0	0.9	1.6	0.1	0.2	1.8	2.9	4.6	1906
30-34	95.6	0.1	0.0	0.0	0.4	0.0	0.2	0.3	0.0	0.0	0.7	2.1	0.4	0.2	0.9	3.5	4.4	1363
35-39	95.7	0.1	0.0	0.0	0.5	0.0	0.1	0.4	0.0	0.0	0.4	2.4	0.1	0.4	1.1	3.3	4.3	1214

Table RH.4: Use of contraception cont…

	Percent of women (currently married or in union) who are using:														Any modern method	Any traditional method	Any method [1]	Number of women currently married or in union
	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm / foam / jelly	Lactational amenorrhoea method (LAM)	Periodic abstinence /Rhythm	With drawal	Other				
40-44	96.1	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.4	1.8	.5	0.2	1.0	2.9	3.9	527
45-49	96.3	0.0	0.0	0.0	0.4	0.4	0.0	0.2	0.0	0.0	0.3	1.8	0.2	0.5	0.9	2.8	3.7	439
Number of living children																		
0	98.8	0.1	0.0	0.0	0.2	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.2	1.0	0.2	1.2	704
1	96.1	0.0	0.0	0.0	0.5	0.0	0.5	.5	0.1	0.0	0.2	1.3	0.2	0.6	1.6	2.3	3.9	1022
2	95.5	0.1	0.0	0.0	0.7	0.0	0.1	0.9	0.0	0.0	0.1	2.3	0.4	0.0	1.8	2.8	4.5	1206
3	96.2	0.1	0.0	0.1	0.4	.0	0.4	0.2	0.0	0.0	0.7	1.3	0.5	0.2	1.2	2.6	3.8	1333
4+	95.4	0.0	0.0	0.0	0.4	0.0	0.2	0.3	0.0	0.0	0.9	2.2	0.2	0.3	1.0	3.6	4.6	3086
Education																		
None	97.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2	0.0	0.0	0.5	1.5	0.3	0.2	0.5	2.5	3.0	6122
Primary	92.1	0.2	0.0	0.1	1.3	0.0	1.1	1.3	0.0	0.0	0.6	2.3	0.4	0.5	4.0	3.9	7.9	991
Secondary +	86.4	0.0	0.0	0.0	3.5	0.0	1.9	2.2	0.7	0.0	0.0	3.6	0.0	1.7	8.3	5.3	13.6	219
Adult Education Khalwa / Sunday Education	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	19
Wealth index quintiles																		
Poorest	96.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	1.2	2.2	0.2	0.1	0.2	3.6	3.8	1439
Second	96.9	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.0	0.0	0.4	1.2	0.6	0.3	0.6	2.5	3.1	1448
Middle	97.4	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.4	1.2	0.3	0.3	0.3	2.3	2.6	1496
Fourth	96.4	0.1	0.0	0.0	0.5	0.1	0.3	0.5	0.0	0.0	0.3	1.8	0.0	0.1	1.4	2.2	3.6	1511
Richest	93.0	0.2	0.0	0.1	1.2	0.0	0.8	1.3	0.1	0.0	0.4	2.3	0.2	0.5	3.6	3.4	7.0	1456
Total	96.0	0.1	0.0	0.0	0.4	0.0	0.3	0.4	0.0	0.0	0.5	1.7	0.3	0.3	1.2	2.8	4.0	7350

[1] MICS indicator 5.3; MDG indicator 5.3
(*): Figures based on unweighted cases < 25

Unmet Need

Unmet need for contraception refers to fecund women who are not using any method of contraception, but who wish to postpone the next birth (spacing) or who wish to stop childbearing altogether (limiting). Unmet need is identified in SHHS2 by using a set of questions eliciting current behaviours and preferences pertaining to contraceptive use, fecundity, and fertility preferences.

Table RH.5 shows the levels of met need for contraception, unmet need, and the demand for contraception satisfied.

Unmet need for spacing is defined as the percentage of women who are not using a method of contraception AND

- are not pregnant and not postpartum amenorrheic[7] and are fecund[8] and say they want to wait two or more years for their next birth OR
- are not pregnant and not postpartum amenorrheic and are fecund and unsure whether they want another child OR
- are pregnant and say that pregnancy was mistimed: would have wanted to wait OR
- are postpartum amenorrheic and say that the birth was mistimed: would have wanted to wait

Unmet need for limiting is defined as percentage of women who are not using a method of contraception AND

- are not pregnant and not postpartum amenorrheic and are fecund and say they do not want any more children OR
- are pregnant and say they do not want to have a child OR
- are postpartum amenorrheic and say that they did not want the birth

Total unmet need for contraception is the sum of unmet need for spacing and unmet need for limiting.

Overall, Table RH.5 shows that, for women aged 15-49 years, married or in-union, the total unmet need for contraception in South Sudan is 26 percent, with 19 percent of unmet for spacing and 7 percent of unmet for limiting. Differentials are notable across the states, and the proportions range from 19 percent in Warap to 33 percent to Central Equatoria. However, there are no significant differences across residence, age-groups, education and wealth index quintiles.

[7]A women is postpartum amenorrheic if she had a birth in last two years and is not currently pregnant, and her menstrual period has not returned since the birth of the last child

[8]A women is considered infecund if she is neither pregnant nor postpartum amenorrheic, and
(1a) has not had menstruation for at least six months, or (1b) never menstruated, or (1c) her last menstruation occurred before her last birth, or (1d) in menopause/has had hysterectomy OR
(2) She declares that she has had hysterectomy, or that she has never menstruated or that she is menopausal, or that she has been trying to get pregnant for 2 or more years without result in response to questions on why she thinks she is not physically able to get pregnant at the time of survey OR
(3) She declares she cannot get pregnant when asked about desire for future birth OR
(4) She has not had a birth in the preceding 5 years, is currently not using contraception and is currently married and was continuously married during the last 5 years preceding the survey

Met need for limiting includes women who are using (or whose partner is using) a contraceptive method and who want no more children, are using male or female sterilization or declare themselves as infecund. Met need for spacing includes women who are using (or whose partner is using) a contraceptive method and who want to have another child or are undecided whether to have another child. The total of met need for spacing and limiting is simply the total met need for contraception.

Overall, the total met need for contraception stands at 10 percent, with 9 percent for spacing and 1 percent for limiting. The States with highest proportions of women with met need are Central Equatoria (16 percent) and Jonglei (15 percent), while those with the lowest percentages include Western Equatoria (5 percent), Unity and Upper Nile with 6 percent each. Within the age-groups, the proportions range from 7 percent for women aged 15-19 years to 13 percent for those aged 45-49 years. Women with secondary and higher education are more (17 percent) likely to have met need for contraception than those with no education (10 percent). There are no significant variations across residence and wealth index quintiles.

Using information on contraception and unmet need, the percentage of demand for contraception satisfied is also estimated from the SHHS2 data. The percentage of demand satisfied is defined as the proportion of women currently married or in a marital union who are currently using contraception, of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception.

Twenty-eight percent of women consider their demand for contraception as satisfied. Lakes state has the highest demand for contraception satisfied (41 percent) while Western Equatoria presents the lowest proportion with only 13 percent. No significant variations are observed across residence and educational levels.

Table RH.5: Unmet need for contraception

Percentage of women aged 15-49 years currently married or in union with an unmet need for family planning and percentage of demand for contraception satisfied, South Sudan, 2010

	Met need to contraception			Unmet need for contraception			Number of women currently married or in union	Percentage of demand for contraception satisfied	Number of women currently married or in union with need for contraception
	For Spacing	For Limiting	Total	For Spacing	For Limiting	Total[1]			
State									
Upper Nile	5.8	0.3	6.1	18.4	5.3	23.7	866	20.4	257
Jonglei	14.8	0.1	15.0	20.7	8.3	28.9	1132	34.1	497
Unity	5.3	0.6	5.9	17.4	5.8	23.2	511	20.3	149
Warap	10.1	0.4	10.5	13.0	5.7	18.7	1029	36.0	300
Northern Bahr El Ghazal	7.3	1.1	8.4	21.5	9.2	30.7	667	21.5	261
Western Bahr El Ghazal	10.7	1.2	11.9	20.7	9.0	29.8	251	28.6	105
Lakes	12.7	0.4	13.0	13.5	5.2	18.7	553	41.0	176
Western Equatoria	4.0	0.5	4.5	21.1	8.3	29.4	563	13.3	191
Central Equatoria	12.8	3.0	15.8	25.2	7.7	32.9	947	32.4	461
Eastern Equatoria	5.4	1.0	6.4	19.5	8.3	27.7	829	18.7	283
Residence									
Urban	9.1	1.6	10.7	20.1	8.0	28.2	1812	27.6	705
Rural	9.4	0.6	10.0	18.8	6.9	25.7	5538	27.9	1975
Age-group									
15-19	7.1	0.1	7.3	20.2	5.7	25.9	540	21.9	179
20-24	8.3	0.2	8.5	20.5	4.3	24.9	1361	25.4	454
25-29	10.1	0.9	11.0	20.2	4.0	24.1	1906	31.3	669
30-34	9.2	0.3	9.5	20.9	6.4	27.3	1363	25.8	502
35-39	10.8	1.1	11.9	19.3	9.4	28.7	1214	29.3	493
40-44	8.0	1.9	9.9	14.5	16.5	31.0	527	24.2	216
45-49	9.3	3.3	12.7	8.2	17.2	25.4	439	33.3	167
Education									
None	8.9	0.6	9.5	18.2	7.3	25.5	6122	27.3	2145
Primary	10.6	1.7	12.3	23.5	6.8	30.3	991	28.9	422
Secondary +	13.1	3.3	16.5	25.3	6.8	32.0	219	33.9	106
Adult Education/ Khalwa/Sunday Education	*	*	*	*	*	*	19	*	7
Wealth index quintiles									
Poorest	9.0	0.7	9.7	16.1	6.1	22.2	1439	30.5	459
Second	9.4	0.4	9.8	18.3	7.7	26.1	1448	27.4	520
Middle	10.1	0.6	10.7	18.3	7.0	25.3	1496	29.7	537
Fourth	7.6	0.8	8.4	22.2	6.9	29.0	1511	22.5	566
Richest	10.3	1.8	12.1	20.6	8.3	28.9	1456	29.6	597
Total	9.3	0.9	10.2	19.1	7.2	26.3	7350	27.8	2680

[1] MICS indicator 5.4; MDG indicator 5.6

(*): Figures based on unweighted cases < 25

Antenatal Care

The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well-being and that of their infants. Better understanding of foetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and newborn health. For example, if the antenatal period is used to inform women and families about the danger signs and symptoms and about the risks of labour and delivery, it may provide the route for ensuring that pregnant women do, in practice, deliver with the assistance of a skilled health care provider. The antenatal period also provides an opportunity to supply information on birth spacing, which is recognized as an important factor in improving infant survival. Tetanus immunization during pregnancy can be life-saving for both the mother and infant. The prevention and treatment of malaria among pregnant women, management of anaemia during pregnancy and treatment of STIs can significantly improve foetal outcomes and improve maternal health. Adverse outcomes such as low birth weight can be reduced through a combination of interventions to improve women's nutritional status and prevent infections (e.g., malaria and STIs) during pregnancy. More recently, the potential of the antenatal period as an entry point for HIV prevention and care, in particular for the prevention of HIV transmission from mother to child, has led to renewed interest in access to and use of antenatal services.

WHO recommends a minimum of four antenatal visits based on a review of the effectiveness of different models of antenatal care. WHO guidelines are specific on the content on antenatal care visits, which include:

- Blood pressure measurement
- Urine testing for bateriuria and proteinuria
- Blood testing to detect syphilis and severe anaemia
- Weight/height measurement (optional)

The type of personnel providing antenatal care to women aged 15-49 years who gave birth in the two years preceding is presented in Table RH.6. The results show that 58 percent of women did not receive antenatal care. For women (42 percent) who received ANC, 18 percent were seen by a nurse/midwife, 12 percent by a doctor, 10 percent by a midwife and 2 percent by a health visitor.

About 40 percent of the women who gave birth in the two years prior to the survey were attended to by at least one skilled personnel. This proportion is highest in Central Equatoria State (72 percent), and lowest in Warap (18 percent) and Jonglei (22 percent). Residence differentials are also significant, as the proportions are 58 and 34 percent in urban and rural areas, respectively. The proportion among uneducated women (33 percent) is significantly lower than that for women who attained secondary or higher educational level (72 percent). The proportion for women from the poorest households is significantly lower than that from richest households, standing at 21 and 68 percent, respectively.

Table RH.6: Antenatal care provider

Percent distribution of women aged 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, South Sudan, 2010

	Person providing antenatal care						Total	At least once by skilled personnel [1]	Number of women who gave birth in the preceding two years
	Doctor	Nurse / Midwife	Health Visitor	Midwife	Other/ missing	No antenatal care received			
State									
Upper Nile	19.2	9.3	3.0	9.3	0.0	59.2	100	37.8	436
Jonglei	5.5	11.4	2.4	4.9	0.0	75.7	100	21.8	459
Unity	15.7	9.7	0.7	6.1	0.0	67.8	100	31.5	215
Warap	5.7	9.6	1.1	2.9	0.0	80.7	100	18.1	485
Northern Bahr El Ghazal	18.0	17.5	0.3	5.5	0.3	58.5	100	41.0	299
Western Bahr El Ghazal	9.6	21.3	0.8	19.5	0.0	48.8	100	50.4	139
Lakes	9.2	16.7	0.5	12.7	0.0	61.0	100	38.5	275
Western Equatoria	12.8	29.6	3.0	19.2	0.0	35.4	100	61.6	270
Central Equatoria	16.4	38.2	0.5	17.1	0.0	27.8	100	71.7	503
Eastern Equatoria	7.1	19.9	1.3	12.5	0.0	59.2	100	39.6	398
Residence									
Urban	17.6	24.7	1.7	15.3	0.0	40.7	100	57.6	913
Rural	9.6	16.1	1.4	8.4	0.0	64.4	100	34.2	2566
Mother's age at birth									
Less than 20	12.4	18.9	1.4	14.4	0.0	52.9	100	45.7	420
20-34	12.9	19.0	1.3	10.2	0.0	56.7	100	42.0	2198
35-49	7.6	16.4	2.5	8.5	0.2	64.8	100	32.5	446
Missing	9.4	16.9	1.0	8.2	0.0	64.5	100	34.5	415
Education									
None	10.7	14.6	1.3	7.7	0.0	65.6	100	33.0	2778
Primary	14.0	34.5	2.2	20.6	0.0	28.6	100	69.1	569
Secondary +	25.0	27.0	0.3	20.3	0.0	27.4	100	72.2	122
Adult Education/ Khalwa / Sunday Education	*	*	*	*	*	*	*	*	10
Wealth index quintiles									
Poorest	6.4	10.4	0.7	4.6	0.0	78.0	100	21.3	666
Second	11.0	11.0	1.3	7.2	0.0	69.5	100	29.2	679
Middle	9.1	16.6	1.4	8.0	0.1	64.8	100	33.7	686
Fourth	11.4	22.5	2.1	12.8	0.0	51.1	100	46.8	726
Richest	20.1	30.1	1.7	17.9	0.0	30.1	100	68.2	722
Total	11.7	18.4	1.5	10.2	0.0	58.2	100	40.3	3479

[1] MICS indicator 5.5a; MDG indicator 5.5

(*): Figures based on unweighted cases < 25

UNICEF and WHO recommend a minimum of four antenatal care visits during pregnancy. Table RH.7 shows number of antenatal care visits during the last pregnancy during the two years preceding the survey, regardless of provider by selected characteristics.

Overall, 17 percent of women had 4 or more antenatal care visits in the course of their pregnancy. Table RH.7 shows that 54 percent of women had no antenatal care visits, 5 percent have had only 1 visit, 8 percent have had 2 visits and 11 percent have had 3 visits.

The results show marked differences across states, residence, educational levels and economic status. Central Equatoria has the highest proportion (35 percent) of women who had 4 or more antenatal care visits in the course of their pregnancy and the lowest proportions are in Warap and Jonglei States with 6 and 8 percent, respectively.The proportion of women who had 4 or more antenatal care visits in urban areas is 26 percent, compared to 14 percent in rural areas

Mothers from the poorest households and those with no education are less likely to receive ANC four or more times. For example, 5 percent of the women living in the poorest households reported four or more antenatal care visits compared with 35 percent among those living in the richest households. Only 13 percent of women with no education have had 4 or more visits, compared to 47 percent of those with secondary and higher education.

The types of services pregnant women received during antenatal care are shown in table RH.8. Among those women who had a live birth during the two years preceding the survey, 23 percent reported that a blood sample was taken during antenatal care visits, 23 percent reported that their blood pressure was checked, and 19 percent that urine specimen was taken.

Only 13 percent of women who had a live birth during the two years preceding the survey had their blood pressure measured, and urine specimen and blood test taken. There are differentials across states, residence, educational levels and economic status. The State with the highest proportion of women who had a live birth during the two years preceding the survey and who had their blood pressure measured, and urine specimen and blood test taken, is Central Equatoria (26 percent); and the states with the least proportions include Warap, Jonglei, and Lakes, with proportions standing at 4, 7 and 7 percent, respectively.

Women living in urban areas are twice (21 percent) likely to have their blood pressure measured, urine specimen and blood test taken than those living in rural areas (10 percent). Also 38 percent of women with secondary and higher education have had their blood pressure measured, urine specimen and blood test taken, compared to only 10 percent for those with no education.

The study has also shown that 5 percent of the women living in poorest households had their blood pressure measured, and urine specimen and blood test taken, compared to 29 percent among those living in richest households.

Table RH.7: Number of antenatal care visits

Percentage of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, South Sudan, 2010

	Percent of women who had:						Total	Number of women who gave birth in the preceding two years
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits [1]	Missing/DK		
State								
Upper Nile	54.9	3.5	7.3	10.8	19.8	3.6	100	436
Jonglei	72.2	4.8	5.9	7.1	7.5	2.5	100	459
Unity	62.9	4.9	5.3	9.2	12.1	5.7	100	215
Warap	76.8	5.5	5.9	5.4	5.9	.5	100	485
Northern Bahr El Ghazal	54.6	7.5	11.3	9.8	12.9	3.8	100	299
Western Bahr El Ghazal	46.2	3.9	8.0	9.3	27.6	4.9	100	139
Lakes	55.7	7.9	9.2	11.1	13.0	3.2	100	275
Western Equatoria	28.1	6.2	8.6	15.1	26.3	15.7	100	270
Central Equatoria	24.2	3.8	9.4	20.6	35.0	6.9	100	503
Eastern Equatoria	55.4	3.8	10.0	10.2	16.6	4.0	100	398
Residence								
Urban	36.8	5.1	9.3	16.8	25.6	6.5	100	913
Rural	60.0	5.0	7.6	9.0	14.4	4.0	100	2566
Mother's age at birth								
Less than 20	49.1	5.7	8.1	12.6	20.6	4.0	100	420
20-34	52.2	4.9	8.1	11.2	19.1	4.6	100	2198
35-49	61.1	4.7	7.2	10.5	12.6	4.0	100	446
Missing	60.5	5.8	8.4	9.3	9.3	6.6	100	415
Education								
None	61.1	5.5	7.9	8.5	12.5	4.4	100	2778
Primary	25.6	3.7	9.2	21.1	34.0	6.3	100	569
Secondary +	22.2	1.3	5.5	21.2	47.4	2.5	100	122
Adult Education / Khalwa/Sunday Education	*	*	*	*	*	*	*	10
Wealth index quintiles								
Poorest	72.6	6.5	7.1	7.0	4.7	2.1	100	666
Second	65.8	4.8	7.3	7.3	11.4	3.5	100	679
Middle	59.8	6.2	8.6	9.7	12.5	3.2	100	686
Fourth	46.3	4.3	8.9	13.0	21.1	6.4	100	726
Richest	27.7	3.6	8.2	17.6	35.2	7.7	100	722
Total	53.9	5.0	8.0	11.0	17.3	4.7	100	3479

[1] MICS indicator 5.5b; MDG indicator 5.5

(*): Figures based on unweighted cases < 25

Table RH.8: Content of antenatal care

Percentage of women age 15-49 years who had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, South Sudan, 2010

	Percent of pregnant women who had:			Blood pressure measured, urine specimen and blood test taken [1]	Number of women who gave birth in two years preceding survey
	Blood pressure measured	Urine specimen taken	Blood test taken		
State					
Upper Nile	24.5	22.1	22.6	15.8	436
Jonglei	10.8	11.4	10.5	6.6	459
Unity	22.0	18.1	19.8	12.1	215
Warap	10.2	6.3	7.5	4.0	485
Northern Bahr El Ghazal	21.7	20.0	20.8	13.4	299
Western Bahr El Ghazal	29.5	26.3	33.2	18.6	139
Lakes	19.2	12.5	17.2	7.0	275
Western Equatoria	27.6	23.5	31.4	13.3	270
Central Equatoria	44.5	35.7	46.1	25.8	503
Eastern Equatoria	19.6	18.5	25.0	12.3	398
Residence					
Urban	34.5	30.8	34.8	20.6	913
Rural	18.5	15.0	18.7	10.0	2566
Mother's age at birth					
Less than 20	24.5	18.6	26.7	14.2	420
20-34	24.7	21.3	24.2	14.1	2198
35-49	17.2	13.7	17.1	8.7	446
Missing	15.8	14.0	18.7	8.5	415
Education					
None	17.9	14.4	17.7	9.6	2778
Primary	39.3	35.3	42.3	23.1	569
Secondary +	54.3	51.8	51.6	37.7	122
Adult Education / Khalwa / Sunday Education	*	*	*	*	10
Wealth index quintiles					
Poorest	10.1	8.2	9.5	4.8	666
Second	14.9	11.8	14.2	7.2	679
Middle	17.8	14.2	18.8	9.4	686
Fourth	24.5	19.4	23.1	12.3	726
Richest	44.3	40.5	47.3	29.0	722
Total	22.7	19.1	22.9	12.8	3479

[1] MICS indicator 5.6

(*): Figures based on unweighted cases < 25

Assistance at Delivery

Three quarters of all maternal deaths occur during delivery and the immediate post-partum period. The single most critical intervention for safe motherhood is to ensure a competent health worker with midwifery skills is present at every birth, and transport is available to a referral facility for obstetric care in case of emergency. A World Fit for Children goal is to ensure that women have ready and affordable access to skilled attendance at delivery. The indicators are the proportion of births with a skilled attendant and proportion of institutional deliveries. The skilled attendant at delivery indicator is also used to track progress toward the Millennium Development target of reducing the maternal mortality ratio by three quarters between 1990 and 2015.

The SHHS2 included a number of questions to assess the proportion of births attended by a skilled attendant. A skilled attendant includes a doctor, nurse, midwife or auxiliary midwife. About 19 percent of births occurring in the two years preceding the SHHS2 survey were assisted at delivery by skilled personnel (Table RH.9). The percentages range from 9 percent in Warap to 39 percent in Central Equatoria. Differentials exist across residence, education and economic status. Women living in urban areas were more assisted during the delivery; 31 percent compared to 15 percent for their counterparts in rural areas. Nearly 53 percent of women with secondary and higher education delivered with the assistance of a skilled attendant, compared to 14 percent for women with no education. And 41 percent of women from the richest households received assistance while this proportion was only 8 percent for women from the poorest households.

For deliveries taking place in hospitals, 89 percent of women are assisted by any skilled personnel; while for the deliveries in PHCF (Primary Health Care Facility), 65 percent of women are assisted by any skilled personnel. Only 12 percent of deliveries taking place home are assisted by any skilled personnel.

Table RH.9 also shows that only 1 percent of women aged 15-49 years who had a live birth in the two years preceding the survey delivered by C-section[9]. The proportion of delivery by C-section among women with secondary and higher education is 6 percent. This low level of delivery by C-section - compared to the WHO "ideal rate" of 15 percent - underscores the challenges that women face in accessing life-saving obstetric cares in South Sudan, and the urgent need for making these services more widely available to achieve the goal of reducing maternal mortality in the country.

[9] The World Health Organization has determined an "ideal rate" of all cesarean deliveries at 15 percent for a population, given that about 15 percent of women who give birth annually experience some potentially life-threatening complications during pregnancy.

Table RH.9: Assistance during delivery

Percent distribution of women age 15-49 who had a live birth in the two years preceding the survey by person assisting, at delivery and percentage of births delivered by C-section, South Sudan, 2010

	Person assisting at delivery									Total	Any skilled personnel [1]	Percent delivered by C-section [2]	Number of women who gave birth in preceding two years
	Doctor	Health visitor	Nurse midwife	Village midwife	Medical Assistant	Traditional birth attendant	Community health worker	Other/ missing	No attendant				
State													
Upper Nile	5.0	1.9	6.3	25.0	0.7	35.9	1.0	0.8	23.3	100.0	14.0	0.3	436
Jonglei	3.4	0.0	7.3	25.8	2.0	43.1	4.3	0.0	14.2	100.0	12.6	0.0	459
Unity	2.8	0.0	7.1	15.0	0.7	47.4	1.4	0.3	25.2	100.0	10.7	0.0	215
Warap	0.8	1.2	5.0	22.4	1.4	41.0	0.8	0.5	26.8	100.0	8.5	0.2	485
Northern Bahr El Ghazal	2.8	0.3	7.2	33.8	2.2	33.0	6.2	0.3	14.3	100.0	12.4	0.6	299
Western Bahr El Ghazal	6.0	0.8	20.6	25.1	0.3	30.7	1.7	0.3	14.5	100.0	27.7	1.4	139
Lakes	2.9	0.0	11.0	18.5	2.2	32.2	2.3	0.2	30.8	100.0	16.0	0.3	275
Western Equatoria	4.2	2.7	26.7	17.7	1.6	30.5	4.2	0.0	12.3	100.0	35.3	.0	270
Central Equatoria	5.7	0.8	30.6	15.7	1.6	17.5	2.2	0.5	25.4	100.0	38.7	1.9	503
Eastern Equatoria	2.0	0.4	18.1	15.6	0.2	34.4	0.5	1.1	27.6	100.0	20.7	1.1	398
Residence													
Urban	5.1	0.5	23.6	23.8	1.8	25.5	2.7	0.5	16.5	100.0	31.0	1.1	913
Rural	2.9	1.0	10.3	20.5	1.2	37.4	2.3	0.4	24.1	100.0	15.3	0.4	2566
Mother's age at birth													
Less than 20	4.3	0.4	19.1	18.5	1.4	33.5	2.4	0.3	20.1	100.0	25.2	1.6	420
20-34	3.4	0.9	14.0	22.5	1.2	34.3	2.5	0.3	20.9	100.0	19.6	0.5	2198
35-49	2.6	0.6	11.3	21.1	1.8	37.3	2.6	0.0	22.6	100.0	16.3	0.1	446
Missing	3.6	1.0	10.0	18.8	1.4	31.5	1.8	1.6	30.2	100.0	16.0	0.7	415
Place of delivery													
Hospital	19.4	1.3	65.9	8.3	2.6	1.6	0.8	0.0	0.2	100.0	89.1	5.7	298
PHCF (Primary Health Care Facility)	2.6	1.2	58.7	14.0	2.8	7.2	9.2	1.3	3.0	100.0	65.3	0.0	102
Home	2.0	0.9	7.7	25.0	1.2	41.6	2.5	0.3	18.7	100.0	11.8	0.1	2804
Other	(6.7)	(.0)	(14.7)	(14.5)	(0.0)	(20.3)	(0.0)	(0.0)	(43.8)	(100.0)	(21.5)	(0.0)	26

Table RH.9: Assistance during delivery cont…

	Person assisting at delivery									Total	Any skilled personnel [1]	Percent delivered by C-section [2]	Number of women who gave birth in preceding two years
	Doctor	Health visitor	Nurse midwife	Village midwife	Medical Assistant	Traditional birth attendant	Community health worker	Other/ missing	No attendant				
Missing/DK	.2	0.0	1.5	0.0	0.6	3.2	0.0	2.3	92.1	100.0	2.3	0.0	249
Education													
None	2.8	0.8	9.2	21.5	1.2	37.2	2.5	0.4	24.5	100.0	13.9	0.3	2778
Primary	5.5	1.2	30.2	20.9	2.0	24.5	2.1	0.8	12.8	100.0	38.9	0.8	569
Secondary +	9.4	1.2	41.3	19.6	1.3	13.6	1.2	0.7	11.7	100.0	53.2	5.7	122
Adult Education / Khalwa / Sunday Education	*	*	*	*	*	*	*	*	*	*	*	*	10
Wealth index quintiles													
Poorest	1.5	0.6	4.4	22.4	1.6	44.6	0.9	0.4	23.6	100.0	8.0	0.2	666
Second	2.0	0.4	6.0	17.9	0.9	42.9	2.7	0.4	26.8	100.0	9.3	0.4	679
Middle	2.3	1.3	8.7	21.6	1.3	36.4	3.1	0.2	25.2	100.0	13.6	0.0	686
Fourth	3.0	1.2	17.2	22.8	1.7	31.3	3.2	0.4	19.2	100.0	23.1	0.5	726
Richest	8.0	0.7	31.2	22.2	1.3	17.7	1.9	0.7	16.3	100.0	41.1	1.8	722
Total	3.4	0.8	13.8	21.4	1.3	34.3	2.4	0.4	22.1	100.0	19.4	0.6	3479

[1] MICS indicator 5.7; MDG indicator 5.2
[2] MICS indicator 5.9
( ): Figures based on 25-49 unweighted cases
(*): Figures based on unweighted cases < 25

Place of Delivery

Increasing the proportion of births that are delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. Table RH.10 presents the percent distribution of women aged 15-49 who had a live birth in the two years preceding the survey by place of delivery and the percentage of births delivered in a health facility, according to background characteristics.

Only 12 percent of births in South Sudan are delivered in a health facility; 9 percent of deliveries occur in hospital and 3 percent in PHCF (Primary Health Care Facility). Eight in ten births (81 percent) occur at home. Differentials are observed across states, residence, age-groups, educational levels and economic status. The proportion of deliveries in a health facility ranges from 5 percent in Warap state to 24 percent in Central Equatoria state. Women living in urban areas are twice likely to deliver in health facility than their counterparts in rural areas (18 versus 9 percent).Mothers aged less than 20 years are more (16 percent) likely to deliver in health facility than those aged 35-49 years with 9 percent.

Women with secondary and higher educational are more (38 percent) likely to deliver in a health facility than women with no education (8 percent). The proportion of births occurring in a health facility increases steadily with wealth quintile, from 4 percent for the poorest households to 26 percent among the richest households.

Table RH.10: Place of delivery

Percent distribution of women age 15-49 with a birth in two years preceding the survey by place of delivery, South Sudan, 2010

	Place of delivery					Total	Delivered in health facility [1]	Number of women who gave birth in preceding two years
	Hospital	PHCF (Primary Health Care Facility)	Home	Other	Missing/ DK			
State								
Upper Nile	6.6	1.5	88.9	0.2	2.8	100.0	8.1	436
Jonglei	4.8	3.0	85.2	1.0	5.9	100.0	7.8	459
Unity	10.0	1.4	84.4	0.7	3.5	100.0	11.4	215
Warap	1.6	3.0	76.1	0.0	19.4	100.0	4.5	485
Northern Bahr El Ghazal	6.3	1.1	88.3	0.0	4.4	100.0	7.4	299
Western Bahr El Ghazal	14.5	3.9	73.5	0.3	7.8	100.0	18.4	139
Lakes	5.9	1.9	78.0	1.6	12.5	100.0	7.9	275
Western Equatoria	10.1	1.4	85.2	0.9	2.4	100.0	11.5	270
Central Equatoria	18.8	5.4	71.0	0.8	4.0	100.0	24.2	503
Eastern Equatoria	10.1	5.0	77.2	1.8	5.8	100.0	15.1	398
Residence								
Urban	15.0	3.2	73.9	0.7	7.1	100.0	18.2	913
Rural	6.3	2.8	83.0	0.7	7.2	100.0	9.1	2566
Mother's age at birth								
Less than 20	12.1	3.8	77.6	0.0	6.5	100.0	15.9	420
20-34	8.9	2.8	81.3	0.7	6.2	100.0	11.7	2198
35-49	6.6	1.9	82.4	1.4	7.6	100.0	8.6	446
Missing	5.2	3.7	77.9	0.9	12.4	100.0	8.9	415
Percent of women who had:								
None	2.2	1.4	82.7	0.8	13.0	100.0	3.6	1876
1-3 visits	11.2	4.2	84.1	0.4	.2	100.0	15.4	839
4+ visits	23.1	5.5	69.9	1.1	.4	100.0	28.6	602
Missing/DK	14.8	4.9	78.1	0.8	1.4	100.0	19.6	162
Education								
None	5.4	2.1	83.6	0.7	8.2	100.0	7.5	2778
Primary	18.4	6.4	71.8	1.1	2.3	100.0	24.8	569
Secondary +	33.6	4.2	55.0	0.0	7.2	100.0	37.8	122
Adult Education / Khalwa / Sunday Education	*	*		.*	*	*	*	10
Wealth index quintiles								
Poorest	2.9	1.0	89.1	1.0	6.0	100.0	3.9	666
Second	3.7	1.8	84.3	0.7	9.4	100.0	5.5	679
Middle	5.0	4.0	82.0	0.9	8.2	100.0	8.9	686
Fourth	7.1	4.9	81.1	0.7	6.2	100.0	12.0	726
Richest	23.2	2.8	67.5	0.4	6.1	100.0	26.0	722
Total	8.6	2.9	80.6	0.7	7.2	100.0	11.5	3479

[1] MICS indicator 5.8

(*): Figures based on unweighted cases < 25

IX. Literacy and Education

Literacy among Young Women

One of the World Fit for Children goals is to assure adult literacy. Adult literacy is also an MDG indicator, relating to both men and women. In SHHS2, since only results of the women's questionnaire are presented, the results are thus based only on females aged 15-24 years. Results of the male questionnaire are excluded due to high level of non-response.

Literacy is assessed on the ability of the respondent to read a short simple statement or based on school attendance. The percent literate is presented in Table ED.1. Results indicate that 13 percent of women in South Sudan are literate. Central Equatoria (28 percent) and Upper Nile (22 percent) have the highest proportions, while the lowest female literacy rates are in Warap and Unity (4 percent each) and 5 percent in Northern Bahr El Ghazal. The proportion of literate women aged 15-24 years in urban areas is double that of rural areas (24 versus 9 percent).

There are differences across age-groups, educational levels and wealth index quintiles. Women aged 15-19 years are slightly more literate than women aged 20-24 years (16 versus 11 percent). This age difference in literacy rate presumably implies that more recent cohorts may be benefiting from more improved educational opportunities in the country. Literacy rate increases with household wealth from 4 percent for the poorest households to 29 percent for the richest households.

School Readiness

Attendance to pre-school education in an organised learning or child education programme is important for the readiness of children to school. Table ED.2 shows the proportion of children in the first grade of primary school who attended pre-school the previous year.

Overall, 17 percent of children who are currently attending the first grade of primary school were attending pre-school the previous year. There is no significant difference between boys and girls, while more than one-fifth of children in urban areas (23 percent) had attended pre-school the previous year in comparison with 13 percent among children living in rural areas. State level differentials are also significant with 27 percent of first graders in Central Equatoria having attended pre-school compared to 5 percent in Jonglei State (5 percent). Economic status appears to have a positive correlation with school readiness – while the indicator is only 8 percent among the poorest households, it is 26 percent among those children living in the richest households.

Table ED.1: Literacy among young women
Percentage of women age 15-24 years who are literate, South Sudan, 2010

	Percentage literate [1]	Percentage not known	Number of women age 15-24 years
State			
Upper Nile	21.6	0.0	357
Jonglei	6.9	0.0	305
Unity	4.0	0.8	196
Warap	3.9	0.3	417
Northern Bahr El Ghazal	4.8	0.0	256
Western Bahr El Ghazal	12.9	2.8	112
Lakes	8.0	0.3	221
Western Equatoria	14.3	0.4	266
Central Equatoria	27.7	0.8	469
Eastern Equatoria	15.7	0.0	335
Residence			
Urban	24.4	0.9	824
Rural	8.9	0.2	2109
Education			
None	0.2	0.2	1893
Primary	24.3	0.8	862
Secondary +	100.0	0.0	173
Adult Education / Khalwa / Sunday Education	*	*	5
Age-group			
15-19	15.8	0.6	1344
20-24	11.0	0.2	1589
Wealth index quintiles			
Poorest	4.3	0.4	460
Second	4.9	0.0	502
Middle	7.2	0.1	581
Fourth	12.2	0.1	604
Richest	29.0	1.1	786
Total	13.2	0.4	2933

[1] MICS indicator 7.1; MDG indicator 2.3
(*): Figures based on unweighted cases < 25

Table ED.2: School readiness
Percentage of children attending first grade of primary school who attended pre-school the Previous year, South Sudan, 2010

	Percentage of children attending first grade who attended preschool in previous year [1]	Number of children attending first grade of primary school
Sex		
Male	15.2	631
Female	18.6	517
State		
Upper Nile	22.9	137
Jonglei	5.4	109
Unity	(7.9)	23
Warap	11.5	123
Northern Bahr El Ghazal	11.4	91
Western Bahr El Ghazal	17.6	62
Lakes	14.8	46
Western Equatoria	11.1	161
Central Equatoria	27.3	271
Eastern Equatoria	15.0	124
Residence		
Urban	23.2	427
Rural	12.9	721
Mother's education		
None	*	1
Primary	14.8	874
Secondary +	(13.5)	26
Mother not in household	23.9	247
Wealth index quintiles		
Poorest	8.2	123
Second	13.4	151
Middle	11.8	199
Fourth	14.1	310
Richest	25.9	365
Total	16.7	1148

[1] MICS indicator 7.2
(*): Figures based on unweighted cases < 25
( ) : Figures based on 25-49 unweighted cases

Primary and Secondary School Participation

Universal access to basic education and the achievement of primary education by the world's children is one of the most important goals of the Millennium Development Goals and A World Fit for Children. Education is a vital prerequisite for combating poverty, empowering women, protecting children from hazardous and exploitative labour and sexual exploitation, promoting human rights and democracy, protecting the environment, and influencing population growth.

The indicators for primary and secondary school attendance include:

- Net intake rate in primary education
- Primary school net attendance rate (adjusted)
- Secondary school net attendance rate (adjusted)
- Female to male education ratio (or gender parity index - GPI) in primary and secondary school

The indicators of school progression include:

- Children reaching last grade of primary
- Primary completion rate
- Transition rate to secondary school

In South Sudan, children enter primary school at age 6 and secondary school at age 14. There are 8 grades in primary school and 4 grades in secondary school. In primary school, grades are referred to as primary 1 to primary 8. For secondary school, grades are referred to as Senior 1 to Senior 4. The school year runs from February to December.

Among children who are of primary school entry age (age 6) in South Sudan, 11 percent are attending the first grade of primary school (Table ED.3). There is no gender difference; however, significant differentials exist by state, residence and economic status. In Central Equatoria, for instance, the value of the indicator reaches 30 percent, while it is 2 percent in Lakes, 3 percent in Unity, 4 percent in Warap and 5 percent in Jonglei. Children's participation to primary school is timelier in urban areas (20 percent) than in rural areas (9 percent). In the richest households, the proportion is around 27 percent, while it is 3 percent among children living in the poorest households.

It should be noted that due to a design flow, the question asked was '*what is the highest grade (name) completed at this level?*' Rather, the question should have been on attendance (not completion). This has led to a number of children being excluded from the analysis – that is, children that attended, but did not complete a particular grade. The number of cases is about 250, or about 0.5 per cent. However, as most of the tables revolve around levels and not grades, this error is not of major concern.

Table ED.3: Primary school entry
Percentage of children of primary school entry age entering grade 1 (net intake rate), South Sudan, 2010

	Percentage of children of primary school entry age entering grade 1 [1]	Number of children of primary school entry age
Sex		
Male	10.9	1078
Female	11.5	1040
State		
Upper Nile	19.6	282
Jonglei	5.1	347
Unity	2.6	186
Warap	4.0	219
Northern Bahr El Ghazal	7.3	197
Western Bahr El Ghazal	19.0	75
Lakes	2.4	194
Western Equatoria	17.2	153
Central Equatoria	30.0	223
Eastern Equatoria	10.2	242
Residence		
Urban	19.8	468
Rural	8.8	1650
Mother's education		
None	0.2	1428
Primary	61.0	296
Secondary +	*	9
Mother not in household	12.5	385
Wealth index quintiles		
Poorest	2.9	439
Second	5.3	447
Middle	7.6	431
Fourth	14.9	409
Richest	27.3	392
Total	11.2	2118

[1] MICS indicator 7.3
(*): Figures based on unweighted cases < 25

Table ED.4 provides the percentage of children of primary school age [6 to 14 years] who are attending primary or secondary school[10].

A little over a quarter (26 percent) of children of primary school age is attending school. This implies that just under three-quarters of the children are out of school or attending pre-primary school. In urban areas, the net attendance rate is 43 percent while in rural areas it is only 21 percent.

State level differentials are also very significant; the primary school net attendance rate is highest in Central Equatoria (56 percent) and lowest in Unity (8 percent). Economic status and mother's educational level appear to be highly correlated with school attendance. As shown in Table ED.4, the proportion of children of primary school age attending primary school is only 11 percent among the poorest households, compared to 54 percent in the richest households. Children whose mothers have no education are not attending school (0 percent), while the net attendance rate for those children whose mothers have primary, secondary and higher is close to 80 percent. It also noted that the peak attendance is reached at 12-13 years with 37 percent.

The secondary school net attendance rate is presented in Table ED.5[11]. Only 4 percent of children of secondary school age are attending secondary school in South Sudan. Of the 96 percent remaining some are either out of school or attending primary school.

There are some variations across states and residence. The States with the highest rates for secondary school net attendance are Upper Nile (8 percent) and Central Equatoria (8 percent), and the lowest secondary school net attendance rate is in Northern Bahr El Ghazal (less than 1 percent). The residence differentials are also significant: 8 percent for urban compared to 3 percent for rural area.

Differentials are also observed across wealth index quintiles and mother's/caretaker education levels. Amongst the richest households, the attendance rate is 10 percent compared to 2 percent in the poorest households. The secondary school net attendance rate for children whose mothers/caretakers have no education and primary education (less than 1 percent) is definitely too small compared to 61 percent for children whose mothers/caretakers have secondary and higher education.

[10] Rates presented in this table are "adjusted" since they include not only primary school attendance, but also secondary school attendance in the numerator.

[11] Rates presented in this table are "adjusted" since they include not only secondary school attendance, but also attendance to higher levels in the numerator.

Table ED.4: Primary school attendance

Percentage of children of primary school age attending primary or secondary school (Net attendance rate), South Sudan, 2010

	Male		Female		Total	
	Net attendance rate (adjusted) [1]	Number of children	Net attendance rate (adjusted) [1]	Number of children	Net attendance rate (adjusted) [1]	Number of children
State						
Upper Nile	40.0	960	34.4	864	37.3	1824
Jonglei	16.7	1207	12.1	1067	14.6	2274
Unity	9.3	559	5.8	580	7.5	1140
Warap	19.4	936	8.4	921	13.9	1857
Northern Bahr El Ghazal	22.5	681	11.7	703	17.1	1383
Western Bahr El Ghazal	37.6	265	33.5	251	35.6	515
Lakes	17.2	665	10.6	604	14.1	1269
Western Equatoria	50.1	490	45.4	497	47.7	987
Central Equatoria	55.3	806	55.8	822	55.5	1627
Eastern Equatoria	31.0	855	26.2	805	28.6	1661
Residence						
Urban	45.2	1741	41.0	1688	43.1	3429
Rural	23.9	5682	17.9	5425	20.9	11108
Age at the beginning of school year						
6	13.3	1078	14.5	1040	13.9	2118
7	20.1	1223	14.1	1235	17.1	2457
8	24.8	865	22.7	820	23.8	1685
9	30.9	1267	21.6	1272	26.2	2539
10	38.5	530	29.2	511	33.9	1042
11	33.8	941	32.1	840	33.0	1780
12	40.5	603	33.3	588	36.9	1191
13	41.5	917	32.4	807	37.2	1724
Mother's education						
None	0.2	3851	0.1	4036	0.1	7887
Primary	81.5	1938	79.8	1495	80.7	3433
Secondary +	79.9	87	75.4	52	78.2	139
Mother not in household	31.3	1544	28.0	1530	29.6	3074
Missing/DK	*	4	*	0	*	4
Wealth index quintiles						
Poorest	14.9	1574	6.5	1556	10.7	3131
Second	19.7	1534	11.2	1495	15.5	3030
Middle	23.5	1495	19.9	1392	21.8	2887
Fourth	34.6	1487	32.6	1383	33.6	2870
Richest	55.6	1332	51.7	1287	53.7	2619
Total	28.9	7423	23.4	7113	26.2	14537

[1] MICS indicator 7.4; MDG indicator 2.1

(*): Figures based on unweighted cases < 25

Table ED.5: Secondary school attendance

Percentage of children of secondary school age attending secondary school or higher (adjusted net attendance rate), and percentage of children attending primary school, South Sudan, 2010

	Male			Female			Total		
	Net attendance rate (adjusted) [1]	Percent attending primary school	Number of children	Net attendance rate (adjusted) [1]	Percent attending primary school	Number of children	Net attendance rate (adjusted) [1]	Percent attending primary school	Number of children
State									
Upper Nile	8.8	45.2	142	6.7	35.5	160	7.7	40.1	302
Jonglei	2.9	33.8	102	0.0	18.6	100	1.5	26.3	202
Unity	4.2	22.2	80	0.0	14.1	80	2.1	18.1	161
Warap	4.4	36.7	123	0.0	14.7	187	1.7	23.4	309
Northern Bahr El Ghazal	1.4	30.4	68	0.0	17.7	101	0.6	22.8	170
Western Bahr El Ghazal	3.4	50.5	35	7.0	34.0	40	5.4	41.7	75
Lakes	4.2	37.3	56	0.0	20.3	93	1.6	26.6	149
Western Equatoria	4.7	61.3	89	3.2	44.0	89	3.9	52.6	178
Central Equatoria	10.4	57.2	233	4.5	54.3	171	7.9	55.9	404
Eastern Equatoria	7.3	34.5	140	5.0	32.7	148	6.1	33.6	288
Residence									
Urban	10.7	51.9	310	4.7	46.0	307	7.7	48.9	617
Rural	4.5	39.0	757	2.0	23.6	863	3.2	30.8	1620
Age at the beginning of school year									
14	3.0	43.5	404	1.0	32.3	467	1.9	37.5	871
15	4.8	43.3	365	2.7	29.0	384	3.7	35.9	749
16	12.7	41.1	298	5.1	26.1	319	8.8	33.3	617
Mother's education									
None	0.3	0.3	306	0.3	0.1	413	0.3	0.2	719
Primary	0.3	78.8	393	0.0	72.1	332	.2	75.7	724
Secondary +	65.6	14.4	73	(52.1)	(22.3)	36	61.1	17.1	109
Mother not in household	5.9	45.9	296	2.9	25.0	389	4.2	34.1	685
Wealth index quintiles									
Poorest	3.3	20.1	188	0.0	13.0	198	1.6	16.4	386
Second	0.5	26.1	159	0.9	19.9	224	0.7	22.5	384
Middle	3.8	40.2	189	1.9	22.4	237	2.7	30.3	426
Fourth	5.4	57.3	244	2.4	35.9	212	4.0	47.4	456
Richest	13.9	56.1	288	6.7	48.7	298	10.2	52.3	586
Total	6.3	42.7	1068	2.7	29.5	1170	4.4	35.8	2237

[1] MICS indicator 7.5
( ): Based on 25-49 unweighted cases

The percentage of children entering first grade who eventually reach the last grade of primary school is presented in Table ED.6. Of all children starting grade one nearly two-thirds of them (65 percent) eventually reach the last grade of primary school (grade 8). It is important to note that this number includes children that repeat grades but eventually move up to reach last grade.

There are no significant differences noted across gender and mothers/caretakers education levels (primary and secondary and higher education). However, significant variations are visible by state, residence and economic status. The percentage of children entering first grade who eventually reach the last grade of primary is highest (87 percent) in Eastern Equatoria and lowest (24 percent) in Northern Bahr El Ghazal. Survival rate to last grade of primary school is higher in urban areas than rural areas: 73 and 5 percent respectively. Children from the richest households also have a higher survival rate than those from the poorest households: 75 versus 37 percent.

The primary school completion rate and transition rate to secondary education are presented in Table ED.7. The primary completion rate is the ratio of the total number of students, regardless of age, entering the last grade of primary school for the first time, to the number of children of the primary graduation age at the beginning of the current (or most recent) school year.

At the time of the survey, the primary school completion rate was 11 percent at national level and there was no significant difference between boys and girls. Primary school completion is 41 percent in Upper Nile and very low in Northern Bahr el Ghazal, Jonglei and Eastern Equatoria (3 percent in each state). In urban areas, the rate is 23 percent compared to 8 percent in rural areas.

While children of uneducated mothers/caretakers do not complete primary school, the primary school completion rate is 30 percent among children whose mothers/caretakers have primary education. Amongst the richest households the completion rate is 32 percent compared to 1 percent for children from the poorest households.

The study has also shown that more than half (56 percent) of the children who completed primary school have entered secondary school. Due to small numbers of observations across states, gender, residence, educational levels and economic status, no conclusive analysis by background characteristics can be done here for transition rate to secondary school.

Table ED.6: Children reaching last grade of primary school

Percentage of children entering first grade of primary school who eventually reach the last grade of primary school (Survival rate to last grade of primary school), South Sudan, 2010

	Percent attending grade 1 last year who are in grade 2 this year	Percent attending grade 2 last year who are attending grade 3 this year	Percent attending grade 3 last year who are attending grade 4 this year	Percent attending grade 4 last year who are attending grade 5 this year	Percent attending grade 5 last year who are attending grade 6 this year	Percent attending grade 6 last year who are attending grade 7 this year	Percent attending grade 7 last year who are attending grade 8 this year	Percent who reach grade 8 of those who enter grade 1 [1]
Sex								
Male	89.2	92.7	96.3	95.2	96.9	96.4	93.9	66.5
Female	95.3	92.8	91.1	89.9	93.8	96.0	94.4	61.6
State								
Upper Nile	88.1	93.3	97.1	95.9	94.9	93.9	95.3	65.0
Jonglei	93.9	94.3	86.9	95.1	100.0	100.0	100.0	73.2
Unity	92.2	85.2	87.8	100.0	90.7	100.0	100.0	62.6
Warap	81.9	97.5	95.0	85.5	100.0	100.0	100.0	64.9
Northern Bahr El Ghazal	83.1	82.1	91.9	66.9	94.1	83.5	71.4	23.6
Western Bahr El Ghazal	93.2	88.3	96.5	91.4	95.2	89.3	85.8	52.9
Lakes	93.9	93.4	97.7	88.9	91.9	100.0	100.0	70.0
Western Equatoria	93.0	90.4	93.1	94.9	93.4	93.7	89.9	58.4
Central Equatoria	96.1	93.5	92.9	91.3	98.4	98.5	94.0	69.5
Eastern Equatoria	97.1	99.0	96.9	100.0	93.5	100.0	100.0	87.0
Residence								
Urban	95.3	92.0	95.7	95.7	96.5	97.6	96.6	73.1
Rural	90.3	93.2	92.9	91.1	94.8	95.1	91.8	59.0
Mother's education								
None	62.7	100.0	100.0	100.0	100.0			
Primary	92.4	93.2	93.8	92.9	94.7	96.0	94.4	64.5
Secondary +	89.0	87.1	100.0	100.0	100.0	94.3	85.6	62.6
Mother not in household	91.2	92.1	93.9	92.1	98.7	97.6	94.2	66.0
Wealth index quintiles								
Poorest	92.4	97.0	93.9	91.0	92.4	91.7	57.1	37.1
Second	86.3	93.5	93.2	82.3	97.3	92.0	77.0	42.6
Middle	87.1	87.0	91.5	94.9	92.1	100.0	100.0	60.6
Fourth	92.2	92.5	92.3	88.8	98.0	96.6	93.8	62.1
Richest	95.9	94.5	96.6	97.6	95.5	96.3	95.0	74.7
Total	91.9	92.8	93.9	93.0	95.6	96.3	94.1	64.5

[1] MICS indicator 7.6; MDG indicator 2.2
(*): Based on unweighted cases < 25

Table ED.7: Primary school completion and transition to secondary school

Primary school completion rates and transition rate to secondary school, South Sudan, 2010

	Primary school completion rate [1]	Number of children of primary school completion age	Transition rate to secondary school [2]	Number of children who were in the last grade of primary school the previous year
Sex				
Male	12.2	917	63.7	51
Female	9.1	807	(42.9)	30
State				
Upper Nile	41.0	226	*	26
Jonglei	3.3	245	*	3
Unity	7.5	115	*	3
Warap	5.3	214	*	6
Northern Bahr El Ghazal	2.6	177	*	4
Western Bahr El Ghazal	11.9	64	*	5
Lakes	5.0	133	*	2
Western Equatoria	14.4	125	*	6
Central Equatoria	11.7	187	*	18
Eastern Equatoria	2.8	238	*	9
Residence				
Urban	22.5	426	(50.8)	31
Rural	7.0	1298	59.2	50
Mother's education				
None	0.0	715	*	0
Primary	29.8	506	(0.0)	27
Secondary +	(21.9)	31	(88.4)	42
Mother not in household	5.6	469	*	12
Missing/DK	*	2	-	0
Wealth index quintiles				
Poorest	0.9	375	*	13
Second	3.0	363	*	8
Middle	9.0	323	*	6
Fourth	11.8	335	*	13
Richest	31.5	328	(58.2)	42
Total	10.8	1724	56.0	82

[1] MICS indicator 7.7
[2] MICS indicator 7.8
(*): Based on unweighted cases < 25
( ): Based on 25-49 unweighted cases

The ratio of girls to boys attending primary and secondary education is provided in Table ED.8. These ratios are better known as the Gender Parity Index (GPI). One should bear in mind that the ratios included here are obtained from net attendance rates rather than gross attendance ratios. The last ratios provide a misleading description of the GPI mainly because in most of the cases the majority of over-aged children attending primary education tend to be boys.

The gender parity index (GPI) for primary school in South Sudan is 0.81, indicating that girls are still disadvantaged compared to boys in terms of access to primary school. Central Equatoria is the only state that has achieved gender parity (1.01) in access to primary school. Gender imbalance is particularly pronounced in Warap and Northern Bahr El Ghazal where GPI is the lowest: 0.43 and 0.52, respectively.

There is less gender disparity in primary school attendance in urban areas than rural areas (0.91 versus 0.75). Girls are more disadvantaged when mothers/caretakers have no education. Also gender parity increases with household wealth with GPI increasing from 0.44 in the poorest households to 0.93 in the richest households.

The ratio of girls to boys attending secondary school is also obtained. Overall, he study shows that the GPI for secondary school is 0.43, considerably lower than that of the gender parity index for primary school in the country. The GPI for both urban and rural areas stands at 0.44.

Differentials are observed across states, mother's educational levels and wealth index quintiles. The GPI ranges from 0.00 in Jonglei, Unity, Warap and Northern Bahr El Ghazal to 2.05 in Western Bahr El Ghazal. The GPI is 1.27 for children whose mothers have no education and 0.00 for children whose mothers have primary education. The GPI ranges from 0.00 in in the poorest households to 1.87 in the second wealth index quintile.

Table ED.8: Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, South Sudan, 2010

	Primary school adjusted net attendance rate (NAR), girls	Primary school adjusted net attendance rate (NAR), boys	Gender parity index (GPI) for primary school adjusted NAR [1]	Secondary school adjusted net attendance rate (NAR), girls	Secondary school adjusted net attendance rate (NAR), boys	Gender parity index (GPI) for secondary school adjusted NAR [2]
State						
Upper Nile	34.4	40.0	0.86	6.7	8.8	0.77
Jonglei	12.1	16.7	0.72	0.0	2.9	0.00
Unity	5.8	9.3	0.63	0.0	4.2	0.00
Warap	8.4	19.4	0.43	0.0	4.4	0.00
Northern Bahr El Ghazal	11.7	22.5	0.52	0.0	1.4	0.00
Western Bahr El Ghazal	33.5	37.6	0.89	7.0	3.4	2.05
Lakes	10.6	17.2	0.62	0.0	4.2	0.00
Western Equatoria	45.4	50.1	0.91	3.2	4.7	0.68
Central Equatoria	55.8	55.3	1.01	4.5	10.4	0.43
Eastern Equatoria	26.2	31.0	0.85	5.0	7.3	0.69
Residence						
Urban	41.0	45.2	0.91	4.7	10.7	0.44
Rural	17.9	23.9	0.75	2.0	4.5	0.44
Mother's education						
None	0.1	0.2	0.33	0.3	0.3	1.27
Primary	79.8	81.5	0.98	0.0	0.3	0.00
Secondary +	75.4	79.9	0.94	(52.1)	65.6	(0.80)
Mother not in household	28.0	31.3	0.89	2.9	5.9	0.49
Wealth index quintiles						
Poorest	6.5	14.9	0.44	0.0	3.3	0.00
Second	11.2	19.7	0.57	0.9	0.5	1.87
Middle	19.9	23.5	0.85	1.9	3.8	0.49
Fourth	32.6	34.6	0.94	2.4	5.4	0.44
Richest	51.7	55.6	0.93	6.7	13.9	0.48
Total	23.4	28.9	0.81	2.7	6.3	0.43

[1] MICS indicator 7.9; MDG indicator 3.1
[2] MICS indicator 7.10; MDG indicator 3.1
( ): Based on 25-49 unweighted cases

X. Child Protection

Birth Registration

The International Convention on the Rights of the Child states that every child has the right to a name and a nationality and the right to protection from being deprived of his or her identity. Birth registration is a fundamental means of securing these rights for children. The World Fit for Children states the goal to develop systems to ensure the registration of every child at or shortly after birth, and fulfil his or her right to acquire a name and a nationality, in accordance with national laws and relevant international instruments. The SHHS II indicator related to birth registration is the percentage of children under 5 years of age whose birth is registered. During the survey, mothers and caretakers of children under-five years of age were asked whether births were registered and reasons for non-registration.

The births of 35 percent of children under five years in South Sudan have been registered (Table CP.1). Of the registered births, approximately 29 percent has a birth certificate. Differentials by gender, wealth, residence, and states were also assessed. There are no significant variations in birth registration across sex and age. The percentage of registered births in the richest wealth index quintile is 57 percent, significantly higher than that recorded in the lowest quintile (21 percent). The highest birth registration rates are in Central Equatoria (61 percent) and Western Equatoria (56 percent), while the lowest are in Lakes and Western Bahr el Ghazal with 17 percent, each. Forty-five percent of children born in urban areas are registered in South Sudan compared to 32 percent in rural areas. Differentials are also marked across mother's education: the proportion among children whose mothers/caretakers have secondary and higher education is 67 percent compared to 30 percent for children whose mothers/caretakers have no education.

Table CP.1: Birth registration

Percentage of children under age 5 by whether birth is registered and percentage of children not registered whose mothers/caretakers know how to register birth, South Sudan, 2010

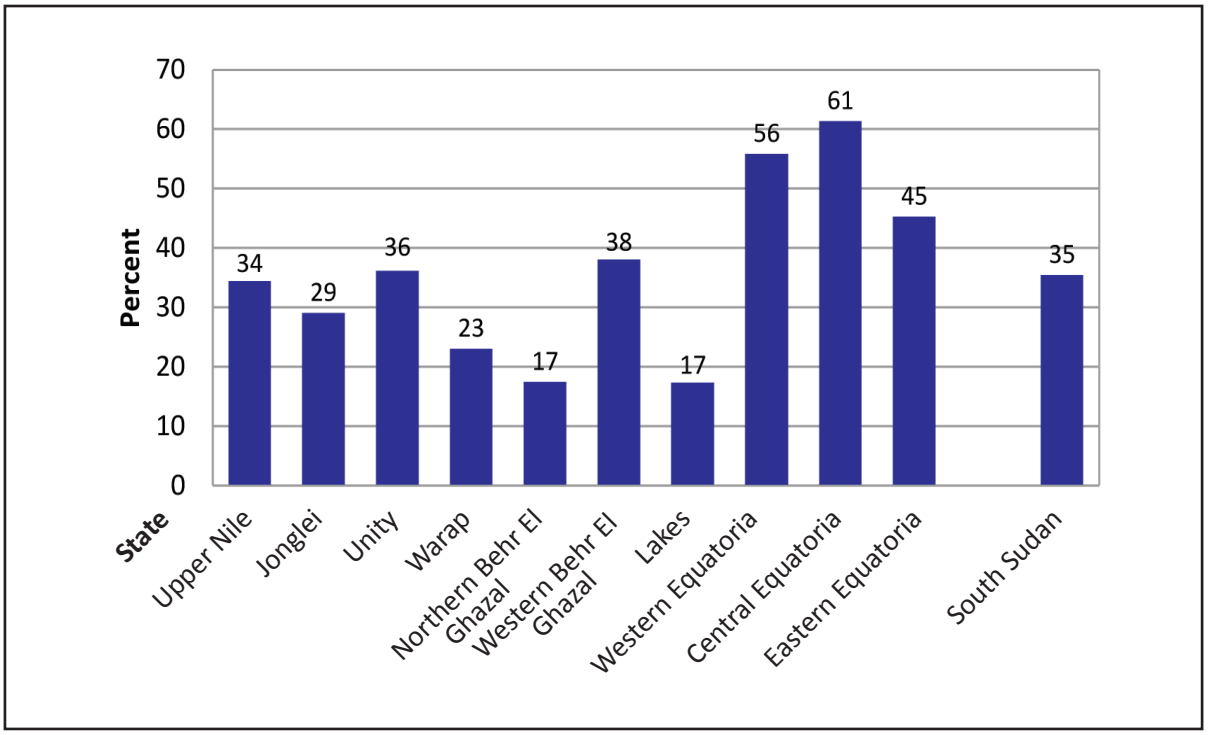
	Children under age 5 whose birth is registered with civil authorities				Number of children	Children under age 5 whose birth is not registered	
	Has birth certificate		No birth certificate	Total registered [1]		Percent of children whose mother / caretaker knows how to register birth	Number of children without birth registration
	Seen	Not seen					
Sex							
Male	6.1	22.5	6.4	34.9	4261	9.8	2773
Female	6.6	23.8	5.6	36.0	4077	10.0	2611
State							
Upper Nile	6.7	20.3	7.4	34.4	967	13.6	634
Jonglei	4.2	23.0	1.8	29.0	1254	8.9	890
Unity	2.8	28.9	4.5	36.1	635	9.7	406
Warap	1.8	18.9	2.2	23.0	1176	6.1	906
Northern Bahr El Ghazal	3.6	12.0	1.9	17.4	820	7.7	677
Western Bahr El Ghazal	4.8	21.6	11.6	38.0	326	12.9	202
Lakes	1.0	14.8	1.5	17.3	618	4.9	511
Western Equatoria	8.7	36.8	10.3	55.8	644	10.3	285
Central Equatoria	14.8	29.5	17.0	61.3	1036	24.7	401
Eastern Equatoria	12.7	26.9	5.6	45.2	862	8.6	472
Residence							
Urban	9.7	26.5	8.7	45.0	2042	12.3	1124
Rural	5.2	22.0	5.1	32.3	6296	9.3	4260
Age-group							
0-11	7.9	18.2	8.1	34.2	1730	12.2	1139
12-23	7.2	23.1	7.0	37.3	1704	10.6	1068
24-35	5.7	24.1	5.6	35.4	1958	9.2	1265
36-47	5.2	24.4	4.4	33.9	1789	8.7	1182
48-59	5.5	26.8	4.5	36.8	1156	8.4	730
Mother's education							
None	4.7	21.3	4.2	30.2	6993	8.6	4878
Primary	14.3	32.6	14.4	61.3	1080	20.8	418
Secondary +	16.6	31.0	19.0	66.6	262	27.3	88
Missing/DK	*	*	.*	*	3	-	0
Wealth index quintiles							
Poorest	1.7	17.6	1.9	21.2	1712	6.0	1348
Second	4.0	18.8	2.6	25.4	1635	7.7	1220
Middle	5.5	21.8	4.8	32.2	1653	7.6	1120
Fourth	8.2	27.9	6.6	42.7	1753	14.3	1005
Richest	12.5	29.5	14.4	56.5	1585	18.8	690
Total	6.3	23.1	6.0	35.4	8338	9.9	5384

[1] MICS indicator 8.1

(*): Figures based on unweighted cases <25

Figure CP.1: Birth Registration

Percent distribution of children aged 0-59 months whose birth is reportedly registered, South Sudan, 2010



Early Marriage and Polygyny

Marriage before the age of 18 is a reality for many young girls. According to UNICEF's worldwide estimates, over 60 million women aged 20-24 were married/in union before the age of 18. Factors that influence child marriage rates include: the state of the country's civil registration system, which provides proof of age for children; the existence of an adequate legislative framework with an accompanying enforcement mechanism to address cases of child marriage; and the existence of customary or religious laws and practices that condone the practice.

In many parts of the world parents encourage the marriage of their daughters while they are still children in hopes that the marriage will benefit them both financially and socially, while also relieving financial burdens on the family. In actual fact, child marriage is a violation of human rights, compromising the development of girls and often resulting in early pregnancy and social isolation, with little education and poor vocational training reinforcing the gendered nature of poverty. The right to 'free and full' consent to a marriage is recognized in the Universal Declaration of Human Rights - with the recognition that consent cannot be 'free and full' when one of the parties involved is not sufficiently mature to make an informed decision about a life partner.

Closely related to the issue of child marriage is the age at which girls become sexually active. Women who were married before age 18 tend to have more children than those who marry later in life. Pregnancy related deaths are known to be a leading cause of mortality for both married and unmarried girls between the ages of 15 and 19, particularly among the youngest of this cohort. There is evidence to suggest that girls who marry at young ages are more likely to marry older men which puts them at increased risk of HIV infection.

The demand for this young wife to reproduce and the power imbalance resulting from the age differential lead to very low condom use among such couples.

Two of the indicators are to estimate the percentage of women married before age 15 and percentage married before age 18. The percentage of women married at various ages is provided in Table CP.2.

The present analysis also points out that close to 7 percent of women aged 15-49 in South Sudan enter marriage or related union before their 15th birthday. In contrast, the 2010 study shows that about 45 percent of young women aged 20-49 years were married before age 18.

For women aged 15-49 years married before age 15, differentials are noted across states with the highest proportion in Western Equatoria (13 percent) and Western Bahr Ghazal (12 percent), while the lowest are in Lakes (4 percent), Upper Nile (5 percent) and Northern Bahr Ghazal (5 percent). No significant variations observed across residence, age-groups, educational levels and wealth index quintiles.

With respect to women aged 20-49 years married before age 18, differentials are observed across states with the highest proportion Unity (67 percent) and the lowest around of 40 percent) in Warap, Northern Bahr Ghazal, Lakes and Central Equatoria. Also, this proportion decreases with age-groups and educational levels. No significant differences noted across the economic status.

About 40 percent of young women aged 15-19 years are currently married. Important variations are observed across states with the highest proportion in Jonglei (67 percent) and lowest proportion (around 32 percent) in Central Equatoria, Lakes, Warap and Western Bahr Ghazal. This proportion is also is higher (49 percent) for women without education compared to 21 percent for women with secondary and higher education.

Table CP.2 also shows that the percentage of women aged 15-49 years in a polygynous union is 41 percent in South Sudan. While there is no urban-rural difference, polygyny increases with age and is more prevalent among uneducated women and the poorest households. Across the state, Lakes has the highest proportion of women in polygynous marriage/union (57 percent) while Western Equatoria has the lowest proportion (27 percent).

Table CP.2: Early marriage and polygyny

Percentage of women age 15-49 years who first married or entered a marital union before their 15th birthday, percentages of women age 20-49 years who first married or entered a marital union before their 15th and 18th birthdays, percentage of women age 15-19 years currently married or in union, and the percentage of women currently married or in union who are in a polygynous marriage or union, South Sudan, 2010

	Percentage married before age 15 [1]	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18 [2]	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union [3]	Number of women age 15-19 years	Percentage of women age 15-49 years in polygynous marriage/ union [4]	Number of women age 15-49 years currently married/in union
State									
Upper Nile	4.5	1088	4.9	47.5	915	35.2	172	30.3	866
Jonglei	6.2	1299	6.2	41.1	1167	66.6	133	35.5	1132
Unity	7.8	594	7.9	67.3	506	47.9	88	49.1	511
Warap	6.3	1273	6.7	39.2	1061	33.0	212	46.3	1029
Northern Bahr El Ghazal	5.4	779	5.5	40.0	662	35.9	117	46.3	667
Western Bahr El Ghazal	12.3	323	12.7	47.5	271	33.4	53	37.7	251
Lakes	3.9	659	4.2	41.3	565	32.6	93	57.1	553
Western Equatoria	12.8	778	12.6	49.8	662	53.6	116	26.5	563
Central Equatoria	8.7	1264	9.7	41.3	1053	31.1	211	35.7	947
Eastern Equatoria	5.5	1012	6.1	46.5	863	40.6	149	50.0	829
Residence									
Urban	8.0	2321	8.2	46.1	1951	39.5	370	39.7	1812
Rural	6.6	6748	6.9	44.4	5773	40.4	974	41.4	5538
Age-group									
15-19	5.0	1344	na	na	na	40.1	1344	22.4	540
20-24	8.9	1589	8.9	51.5	1589	na	na	31.8	1361
25-29	8.8	2067	8.8	50.8	2067	na	na	42.6	1906
30-34	6.4	1490	6.4	45.0	1490	na	na	43.5	1363
35-39	5.5	1396	5.5	38.9	1396	na	na	48.2	1214
40-44	6.3	627	6.3	32.2	627	na	na	47.5	527
45-49	4.9	555	4.9	32.3	555	na	na	50.3	439
Education									
None	6.8	7150	7.0	45.6	6408	49.3	743	42.6	6122
Primary	8.1	1537	9.7	46.8	1000	29.9	536	32.9	991
Secondary +	4.0	353	4.8	21.9	288	20.8	65	32.4	219
Adult Education/ Khalwa / Sunday Education	(5.9)	29	(5.9)	(41.7)	29	0.0	0	*	19
Wealth index quintiles									
Poorest	5.5	1724	5.7	44.1	1513	39.2	211	50.8	1439
Second	7.2	1746	7.4	44.6	1504	43.3	242	43.0	1448
Middle	5.7	1798	6.0	43.8	1535	41.4	263	37.9	1496
Fourth	8.1	1859	8.4	45.6	1607	44.1	251	37.0	1511
Richest	8.0	1943	8.7	45.9	1566	35.1	377	36.7	1456
Total	6.9	9069	7.3	44.8	7725	40.1	1344	41.0	7350

[1] MICS indicator 8.6
[2] MICS indicator 8.7
[3] MICS indicator 8.8
[4] MICS indicator 8.9
( ): Based on 25-49 unweighted cases
(*): Figures based on unweighted cases < 25
NA: : Not Applicable

Table CP.3 presents the proportion of women who were first married or entered into a marital union before age 15 and 18 by residence and age-groups. Examining the percentages of women married before age 15 and 18 by different age-groups allow us to see the trends in early marriage over time.

Overall, 7 percent of women aged 15-49 years were married before age 15; and 45 percent of women 20-49 married before age 18. There is no urban-rural difference for both indicators. While there is a small variation across age groups for early marriage before age 15, the percentage of women 15-49 who married before age 18 varies from 32 percent in the age group 40-44 and 45-49 to 52 percent for the 20-24 age group.

Table CP.3: Trends in early marriage
Percentage of women who were first married or entered into a marital union before age 15 and 18, by residence and age groups, South Sudan, 2010

	Urban				Rural				All			
	Percentage of women married before age 15	Number of women aged 15-49 years	Percentage of women married before age 18	Number of women aged 20-49 years	Percentage of women married before age 15	Number of women aged 15-49 years	Percentage of women married before age 18	Number of women aged 15-49 years	Percentage of women married before age 15	Number of women aged 15-49 years	Percentage of women married before age 18	Number of women aged 15-49 years
Age-group												
15-19	6.4	370	na	na	4.5	974	na	na	5.0	1344	na	na
20-24	9.4	455	51.4	455	8.7	1134	51.6	1134	8.9	1589	51.5	1589
25-29	10.6	496	53.3	496	8.2	1571	50.0	1571	8.8	2067	50.8	2067
30-34	6.9	381	46.2	381	6.2	1109	44.6	1109	6.4	1490	45.0	1490
35-39	5.4	333	40.0	333	5.6	1062	38.6	1062	5.5	1396	38.9	1396
40-44	9.7	157	29.2	157	5.1	471	33.1	471	6.3	627	32.2	627
45-49	5.1	130	35.4	130	4.8	425	31.3	425	4.9	555	32.3	555
Total	8.0	2321	46.1	1951	6.6	6748	44.4	5773	6.9	9069	44.8	7725

NA: Not Applicable

The Figure CP.2 shows an erratic trend across age-groups, but the proportions of women marrying before age 15 still almost at same levels between new generation aged 15-19 years (5 percent for rural areas and 6 percent for urban areas) and those aged 45-49 years (5 percent for both urban and rural areas). It is also noted that the proportions of early marriage (before age 15) are almost equal in urban and rural areas, except for age-group 40-44 years (10 percent in urban compared 5 in rural areas) and age-group 25-29 years (11 and 8 percent, respectively in urban and rural areas).

Figure CP.2: Percentage of women who were first married/union before age 15 by age- groups and residence, South Sudan, 2010

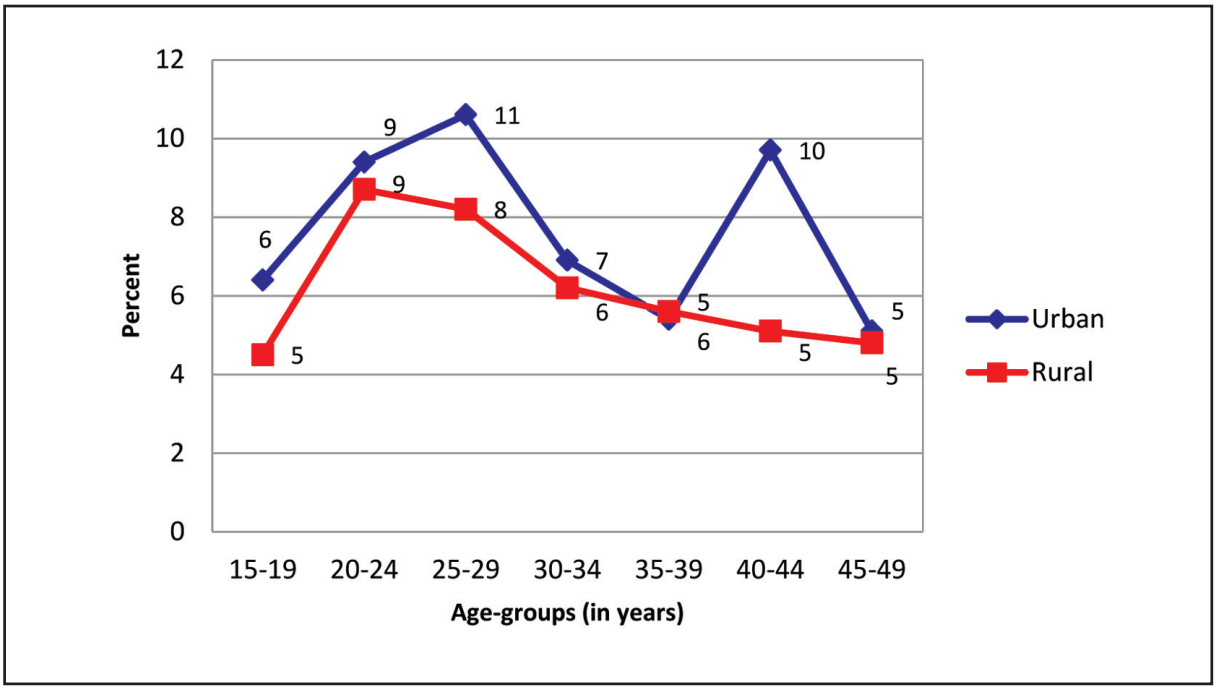
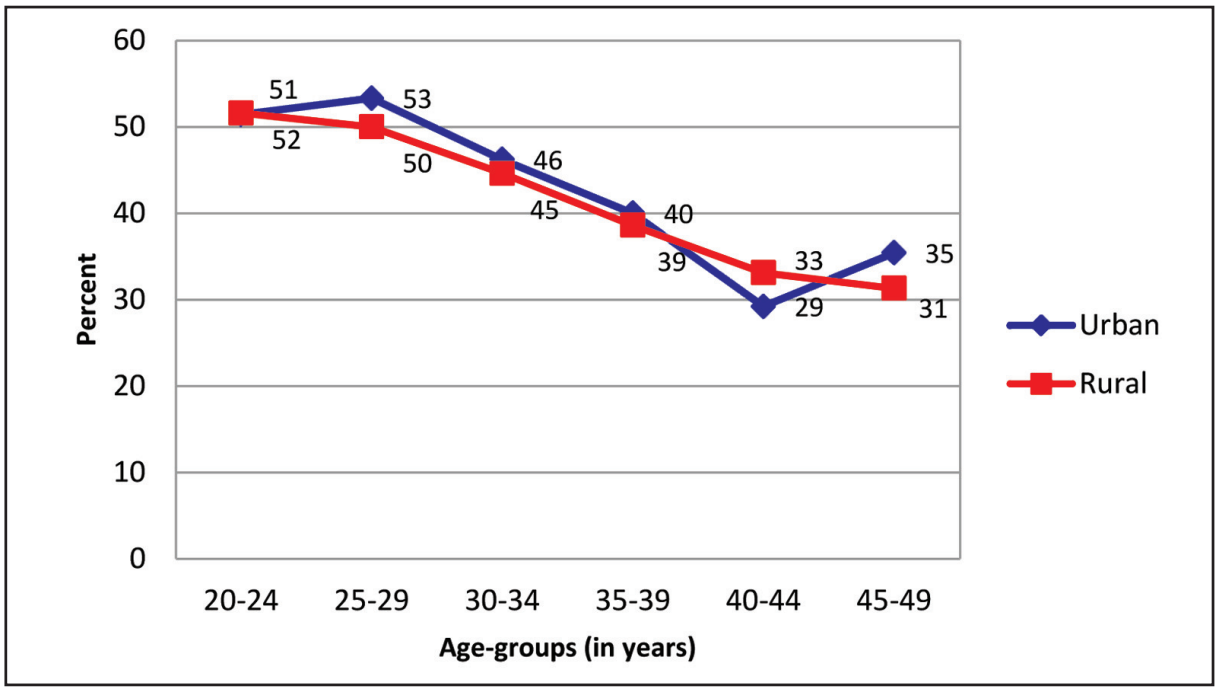


Figure CP.3 shows no significant variations between urban and rural areas in terms of women aged 20-49 married before age 18 in South Sudan. At same time, it is well visible that there has been a gradual increase of proportion of women marrying before age 18, from age-group 45-49 years to age-group 20-24 years.

Figure CP.3: Percentage of women who were first married/union before age 18 by age- groups and residence, South Sudan, 2010



Attitudes toward Domestic Violence

The survey assessed the attitudes of women and men aged 15-49 years towards wife/partner beating for a variety of scenarios by asking the respondents whether husbands are justified to hit or beat their wives/partners for a variety of scenarios. These questions were asked to have an indication of cultural beliefs that tend to be associated with the prevalence of violence against women by their husbands/partners. The main assumption here is that women that agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described in reality tend to be abused by their own husbands/partners and similarly, men who agree with the statements in reality tend to exercise violence towards their wives or partners. It is worth-noting that the results for the men's module were excluded from this analysis due to low response rate.

The responses to these questions can be found in Table CP.4. Overall, 79 percent of women in South Sudan feel that a husband/partner has a right to hit or beat his wife/partner for at least one of a variety of reasons. Women who approve a husband's violence, in most cases agree and justify violence in instances when the woman neglects the children (62 percent), or if she demonstrates her autonomy, e.g. goes out without telling her husband (54 percent) or argues with him (52 percent). Nearly one in two women (47 percent) believes that a husband has a right to hit or beat his wife/partner if she refuses to have sex with him; 41 percent believes that a husband has a right to hit or beat his wife/partner if she burns the food.

Table CP.4 also shows that the proportions of domestic violence acceptance (*For any of these reasons*) range from 74 percent in Western Bahr El Ghazal to 88 percent in Warap. No significant variations noted across residence, age-groups, education and wealth index quintiles. However for the marital status, the proportion of domestic violence acceptance is higher (80 percent) for women married/in union than that (67 percent) for women never married/in union.

Table CP.4: Attitudes toward domestic violence

Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner in various circumstances, South Sudan, 2010

	Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner:						Number of women age 15-49 years
	If goes out without telling him	If she neglects the children	If she argues with him	If she refuses sex with him	If she burns the food	For any of these reasons [1]	
State							
Upper Nile	57.1	60.8	61.8	49.0	48.0	74.5	1088
Jonglei	51.2	51.6	49.5	47.8	37.2	75.7	1299
Unity	65.1	72.8	61.2	54.8	58.9	85.4	594
Warap	62.2	79.0	60.0	58.5	50.5	87.9	1273
Northern Bahr El Ghazal	51.2	59.5	44.2	35.9	43.1	76.1	779
Western Bahr El Ghazal	53.6	59.8	52.0	41.1	43.5	73.6	323
Lakes	56.7	63.2	53.9	51.4	45.2	78.6	659
Western Equatoria	44.1	44.2	38.1	40.7	26.4	68.8	778
Central Equatoria	51.5	62.7	42.8	33.8	31.9	80.1	1264
Eastern Equatoria	50.2	61.1	54.7	54.1	31.6	78.9	1012
Residence							
Urban	54.2	60.8	52.5	44.4	36.8	78.2	2321
Rural	54.1	62.0	51.6	48.0	42.2	78.6	6748
Age-group							
15-19	48.5	56.0	44.8	38.3	39.7	71.5	1344
20-24	54.2	62.3	51.0	48.2	42.8	78.7	1589
25-29	56.8	63.5	53.9	50.1	41.8	80.7	2067
30-34	55.9	63.7	55.0	49.1	40.9	80.8	1490
35-39	54.5	61.8	52.1	47.6	40.5	78.8	1396
40-44	54.9	60.9	55.5	48.3	38.7	81.0	627
45-49	51.4	62.5	50.4	45.5	37.0	76.0	555
Marital/Union status							
Currently married/ in union	55.8	63.4	53.8	49.0	41.9	80.4	7350
Formerly married/ in union	53.2	58.0	50.0	48.9	37.9	75.0	706
Not married / in union	42.7	51.7	38.7	31.6	35.0	66.7	1013
Education							
None	55.0	62.7	53.3	49.9	42.5	79.2	7150
Primary	52.2	58.6	46.7	37.1	35.5	76.2	1537
Secondary +	45.5	55.2	45.8	34.9	29.3	73.6	353
Adult Education / Khalwa / Sunday Education	(58.4)	(63.2)	(45.7)	(34.2)	(33.5)	(75.3)	29
Wealth index quintiles							
Poorest	55.3	67.0	54.7	54.4	45.3	82.6	1724
Second	52.7	62.1	51.3	48.7	41.5	76.9	1746
Middle	53.7	59.6	52.1	46.2	41.4	76.7	1798
Fourth	56.0	59.6	51.8	46.8	39.8	78.8	1859
Richest	53.0	60.6	49.6	40.1	36.6	77.5	1943
Total	54.2	61.7	51.8	47.1	40.8	78.5	9069

[1] MICS indicator 8.14
( ): Based on 25-49 unweighted cases

XI. HIV/AIDS, Sexual Behaviour, and Orphans

Knowledge about HIV Transmission and Misconceptions about HIV/AIDS

One of the most important prerequisites for reducing the rate of HIV infection is accurate knowledge of how HIV is transmitted and strategies for preventing transmission. Correct information is the first step towards raising awareness and giving young people the tools to protect themselves from infection. Misconceptions about HIV are common and can confuse young people and hinder prevention efforts. Different regions are likely to have variations in misconceptions although some appear to be universal (for example that sharing food can transmit HIV or mosquito bites can transmit HIV). The UN General Assembly Special Session on HIV/AIDS (UNGASS) called on governments to improve the knowledge and skills of young people to protect themselves from HIV. The indicators to measure this goal as well as the MDG of reducing HIV infections by half include improving the level of knowledge of HIV and its prevention, and changing behaviours to prevent further spread of the disease. HIV modules were administered to women and men 15-49 years of age. However, this report excludes results from the men's module due to low response rate.

One indicator which is both an MDG and UNGASS indicator is the percent of young women who have comprehensive and correct knowledge of HIV prevention and transmission. In South Sudan SHHS2 all women who have heard of AIDS were asked whether they knew of the three main ways of preventing HIV transmission – having only one faithful uninfected partner, using a condom every time, and abstaining from sex. The results are presented in Table HA.1.

In South Sudan, more than half of the interviewed women (53 percent) have heard of AIDS. Thirty- seven percent of the interviewed women know of having one faithful uninfected sex partner and 22 percent know of using a condom every time as main ways of preventing HIV transmission. However, the percentage of women who know of both main ways of preventing HIV transmission is 19 percent. Also 27 percent of women know that a healthy looking person can have the AIDS virus. The percentage of women who know two prevention methods varies significantly across states, residence, education and economic status.

Only 5 percent of women in Warap report knowing the two methods of prevention; this proportion is highest in Western Equatoria (45 percent) and Central Equatoria (42 percent). Thirty-one percent of women living in urban areas know the two methods of prevention, compared to 15 percent for those in rural areas. Knowledge of both methods of prevention increases with the level of education. Among women with secondary education or higher, 53 percent were able to identify both ways of HIV transmission prevention, compared to 13 percent for women with no education. With respect to household's economic status, 37 percent of women in the richest households know the two methods of prevention, while this proportion is 8 percent for women in the poorest households. There are no significant differentials across different age-groups.

The results indicate that 27 percent of women aged 15-49 years know that a healthy looking person can have the AIDS virus. The proportions range from 5 percent in Warap to 61 percent in Central Equatoria. In urban areas, this proportion is 43 percent compared to 21 percent in rural areas. Women with secondary and higher education are more (71 percent) likely to

know that a healthy looking person can have the AIDS virus than their counterparts with no education (19 percent). The proportion for women from richest households is 52 percent compared to 10 percent for women in the poorest households.

Table HA.1 presents also the percentage of women aged 15-49 years who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions in South Sudan, that HIV can be transmitted by supernatural means and sharing food. The table also provides information on whether women know that HIV cannot be transmitted by mosquito bites.

Of the interviewed women aged 15-49 years, 15 percent of them reject the two most common misconceptions and know that a healthy-looking person can be infected. This percentage is highest (39 percent) in Central Equatoria and lowest (1 percent) in Warap State. Besides, there are profound differentials across residence, educational levels and economic status. The proportion of urban women who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus doubles (24 percent) that of rural women (11 percent). Fifty-three percent of women with secondary and higher education reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus, compared to only 10 percent for those with no education. The proportion of women from the richest households is 32 percent compared to 6 percent for the poorest households.

Comprehensive knowledge of HIV methods and transmission

Table HA.1 presents the percentage of women 15-49 with comprehensive knowledge about HIV prevention. Women who have comprehensive knowledge about HIV prevention include women who know of the two main ways of HIV prevention (having only one faithful uninfected partner and using a condom every time, who know that a healthy looking person can have the AIDS virus, and who reject the two most common misconceptions. Comprehensive knowledge of HIV prevention methods and transmission is very low in the country, although there are differences across states, residence, educational levels and wealth index quintiles.

Overall, 9 percent of women aged 15-49 years were found to have comprehensive knowledge. Amongst States, the highest proportions of women with comprehensive knowledge on the transmission of HIV/AIDS are in Central Equatoria (22 percent) and Western Equatoria (21 percent), and the lowest proportions are in Warap (1 percent), Northern Bahr El Ghazal and Unity, with 2 percent each. Comprehensive knowledge is higher (15 percent) in urban areas than in rural areas (7 percent).

As expected, the percentage of women with comprehensive knowledge increases with the woman's education level. Among women with secondary education or higher, 32 percent have comprehensive knowledge on the prevention of HIV/AIDS, compared to 5 percent for women with no education. Women in the richest households (19 percent), have higher level of comprehensive knowledge of HIV/AIDS transmission than their counterparts from the poorest households (3 percent)

Table HA.1: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission

Percentage of women aged 15-49 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission, South Sudan, 2010

	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:		Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	Percentage with comprehensive knowledge [1]	Number of women
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
State											
Upper Nile	49.5	35.7	19.7	17.7	19.1	24.6	36.4	29.5	7.6	4.7	1088
Jonglei	38.5	21.8	13.9	10.9	15.4	17.2	26.4	21.5	6.0	3.9	1299
Unity	40.0	24.2	11.7	7.9	16.0	20.3	29.1	26.9	6.7	2.1	594
Warap	21.2	12.5	5.4	4.8	5.4	6.7	15.5	8.4	1.4	.6	1273
Northern Bahr El Ghazal	41.9	18.1	9.6	7.5	10.2	18.7	28.6	18.4	4.7	2.0	779
Western Bahr El Ghazal	63.2	45.4	22.7	19.7	35.7	27.5	48.6	42.4	13.6	5.8	323
Lakes	46.1	26.2	16.0	12.6	18.3	26.2	33.7	26.0	11.2	6.6	659
Western Equatoria	91.0	70.4	50.6	45.3	53.2	53.6	74.9	68.6	30.3	20.8	778
Central Equatoria	93.4	80.1	44.4	41.5	61.1	59.8	79.5	77.4	39.1	22.2	1264
Eastern Equatoria	54.0	36.7	25.9	21.9	33.4	38.0	43.9	43.4	23.0	14.0	1012
Residence											
Urban	70.8	55.3	34.2	31.0	42.5	42.0	58.0	53.0	24.4	15.0	2321
Rural	47.0	30.9	17.9	15.2	21.1	25.0	35.5	30.2	11.4	6.5	6748
Age-group											
15-24	58.7	42.4	26.9	23.4	31.1	31.5	47.2	41.2	16.8	9.8	2933
25-29	52.7	37.5	22.2	19.4	26.2	30.4	40.5	36.1	15.2	9.3	2067
30-39	50.2	34.2	18.9	16.2	23.7	28.1	38.3	32.7	13.4	7.6	2886
40-49	47.0	30.5	17.8	16.0	23.2	25.2	35.3	31.3	11.9	7.2	1183

Table HA.1: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission cont…

	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:		Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	Percentage with comprehensive knowledge [1]	Number of women
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
Marital Status											
Ever married/in union	52.3	36.3	21.3	18.5	26.0	28.7	40.3	35.3	14.2	8.2	8056
Never married/in union	59.3	43.9	28.2	24.8	31.0	34.4	49.0	41.7	19.1	12.3	1013
Education											
None	43.9	28.2	15.4	13.1	18.7	22.4	32.0	26.7	9.6	5.2	7150
Primary	85.6	67.5	44.7	39.9	52.7	51.1	73.3	67.7	29.5	18.8	1537
Secondary +	95.9	84.5	57.0	52.7	70.7	73.7	87.9	85.6	52.9	32.0	353
Adult Education / Khalwa / Sunday Educatation	(71.4)	(55.7)	(43.3)	(38.9)	(55.8)	(54.1)	(60.0)	(55.4)	(37.6)	(25.7)	29
Wealth index quintiles											
Poorest	32.6	17.9	7.7	6.6	10.4	15.7	23.6	17.7	5.7	2.8	1724
Second	36.9	22.3	12.5	10.3	13.6	18.7	26.4	20.1	7.2	4.2	1746
Middle	47.2	30.7	19.1	16.2	20.6	24.9	34.4	30.3	10.4	6.0	1798
Fourth	62.9	44.5	27.8	23.8	32.9	33.9	48.7	43.5	16.4	10.0	1859
Richest	82.0	66.4	40.8	37.0	52.1	50.8	69.6	64.9	31.9	18.9	1943
Total	53.1	37.1	22.1	19.2	26.6	29.3	41.3	36.0	14.7	8.6	9069

[1] MICS indicator 9.1
( ): Figures based on 25-49 unweighted cases

Table HA.2 presents results for young women aged 15-24 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission.

Nearly three in five (59 percent) of the women aged 15-24 heard of AIDS. The States with the highest proportions are Central Equatoria (95 percent) and Western Equatoria (91 percent). The lowest proportion is in Warap State, reported at 28 percent. The urban-rural variation is significant, reported at 76 and 52 percent, respectively. There are also marked differences across wealth index quintiles and educational levels. The proportion (84 percent) of women aged 15-24 who heard about HIV/AIDS amongst the richest households is much higher than that of their counterparts from the poorest households reported at 34 percent. For women with secondary or higher education the proportion (98 percent) is more than double of that for women with no education (44 percent) .

Table HA.2 also shows that only 23 percent of women aged 15-24 years know two prevention methods. The States with the highest proportions are Western Equatoria (48 percent) and Central Equatoria (45 percent), while the lowest are in Warap (7 percent) Northern Bahr El Ghazal (7 percent) and Unity (9 percent) States. The proportion in urban areas is 36 percent compared to 18 percent in rural areas. Among women with secondary education or higher, 51 percent identify both ways of HIV transmission prevention, while this proportion is 14 percent for those with no education. Knowledge of both ways of HIV transmission prevention for women aged 15-24 years from the richest households is 39 percent, considerably higher than that (7 percent) for women from the poorest households.

Furthermore, 17 percent of women aged 15-24 years reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus. This percentage is highest in Central Equatoria (42 percent), and the lowest are in Warap State (2 percent) and Northern Bahr El Ghazal (5 percent). In addition, there are variations across residence, educational levels and wealth index quintiles. The proportion for urban women (26 percent) doubles that of the rural women (13 percent). The proportion for women aged 15-24 years with secondary and higher education is 55 percent, while it is only 9 percent for those with no education. In the richest households, the proportion of women aged 15-24 years who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus is 32 percent, which is much higher than 6 percentfor women from poorest households.

The SHHS2 data also show that only 10 percent of young women aged 15-24 years have comprehensive knowledge of HIV prevention methods and transmission in South Sudan.

The UNGASS target proposed by UNAIDS is '*by 2010, ensure that 95 per cent of youth aged 15-24 years of age have information, education, services and life skills that enable them to reduce their vulnerability to HIV infection* (UNGASS)'. The results show that the comprehensive knowledge for South Sudanese young women fall very short of the UNGASS target. The low comprehensive knowledge figures mean that a lot more still needs to be done to provide young people with information to acquire knowledge on how to protect themselves from HIV transmission (UNAIDS).

While both women and men should be targeted with education on HIV prevention, concerted efforts should be directed at young people as many continue to get infected due to low levels of comprehensive HIV knowledge.

Across states, the proportions range from 1 percent in Warap to 23 percent in Central Equatoria. In urban areas, 16 percent of women aged 15-24 years have comprehensive knowledge of HIV/AIDS transmission, while about 7 percent of rural women do. The proportion of comprehensive knowledge of HIV prevention methods and transmission is closely associated with the education level of the young women (Figure HA.1). As was the case with the women aged 15-49 years, the proportion for women with secondary or higher education is higher than that for women with no education, respectively reported at 32 and 5 percent. There are as well marked differences across wealth index quintiles. Women in the richest households are more likely to have comprehensive knowledge about HIV transmission (18 percent) than those from the poorest households (3 percent). No significant variations noted across marital status.

Table HA.2: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission among young people

Percentage of young women aged 15-24 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission, South Sudan, 2010

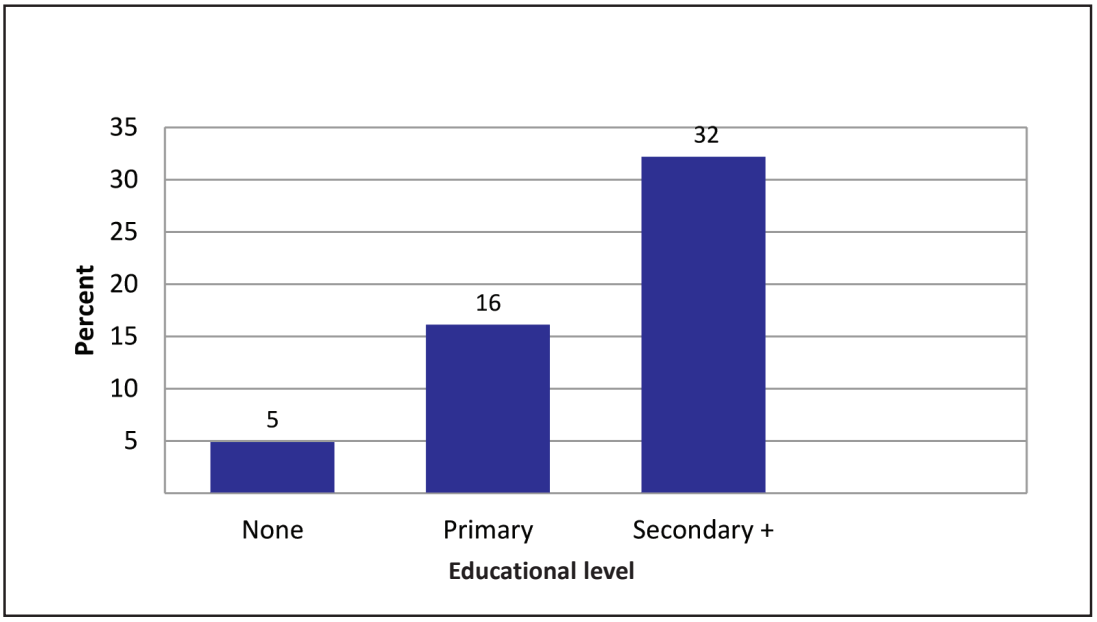
	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:		Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	Percentage with comprehensive knowledge [1]	Number of women aged 15-24 years
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
State											
Upper Nile	58.4	45.7	24.8	22.2	24.0	27.5	46.3	35.9	6.9	3.4	357
Jonglei	46.6	28.9	22.3	18.3	18.5	21.3	33.3	31.5	7.6	5.1	305
Unity	43.8	26.1	12.8	8.9	20.7	19.4	33.0	31.8	9.0	3.1	196
Warap	27.9	17.7	7.3	7.0	7.5	6.9	20.5	10.1	2.4	1.0	417
Northern Bahr El Ghazal	42.1	17.0	9.3	7.0	9.9	17.8	27.6	17.9	4.8	1.6	256
Western Bahr El Ghazal	66.9	46.3	26.9	22.5	36.3	28.3	51.2	47.3	12.3	5.1	112
Lakes	49.5	27.2	18.0	13.8	18.9	26.2	37.4	29.9	10.9	6.4	221
Western Equatoria	90.7	71.8	54.6	48.0	62.0	49.5	75.2	65.6	31.7	21.6	266
Central Equatoria	95.3	83.5	48.2	45.0	63.6	62.2	83.5	82.5	41.5	23.0	469
Eastern Equatoria	56.1	38.7	33.8	27.8	37.8	40.7	49.1	45.7	26.4	17.7	335
Residence											
Urban	75.9	61.2	40.3	36.1	48.5	44.0	63.0	57.6	26.1	16.4	824
Rural	51.9	35.0	21.7	18.4	24.3	26.6	41.0	34.8	13.2	7.2	2109
Age-group											
15-19	59.6	43.3	26.6	23.1	29.4	31.6	47.9	41.6	15.5	8.3	1344
20-24	57.9	41.6	27.2	23.7	32.5	31.4	46.6	40.9	17.9	11.0	1589
Marital status											
Ever married/in union	58.4	42.0	26.9	23.5	31.6	30.6	46.6	41.2	16.3	9.1	2028
Never married/in union	59.2	43.4	27.0	23.3	29.9	33.6	48.4	41.1	18.1	11.2	905

Table HA.2: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission among young people cont…

	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:		Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	Percentage with comprehensive knowledge [1]	Number of women aged 15-24 years
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
Education											
None	43.9	28.2	16.6	14.2	18.6	20.6	32.1	26.2	9.2	4.9	1893
Primary	83.2	65.3	43.3	38.2	50.3	46.7	71.3	64.8	25.9	16.1	862
Secondary +	98.0	83.7	58.4	51.2	71.2	74.8	91.0	88.8	55.3	32.2	173
Adult Education / Khalwa / Sunday Education	*	*	*	*	*	*	*	*	*	*	5
Wealth index quintiles											
Poorest	33.8	16.6	8.5	7.0	11.2	15.0	26.5	20.3	5.9	3.0	460
Second	40.6	26.8	14.8	12.5	14.2	20.2	29.2	21.3	7.3	4.4	502
Middle	50.5	32.9	22.0	18.6	22.4	24.6	38.1	32.1	10.0	5.7	581
Fourth	67.5	49.6	33.7	29.1	36.5	37.1	53.5	46.8	19.5	12.2	604
Richest	84.1	69.0	44.0	39.2	55.7	49.3	72.6	68.5	32.2	18.3	786
Total	58.7	42.4	26.9	23.4	31.1	31.5	47.2	41.2	16.8	9.8	2933

[1] MICS indicator 9.2; MDG indicator 6.3
(*): Figures based on unweighted cases <25

Figure HA.1: Percentage of young women and men aged 15-24 years who have a comprehensive knowledge of HIV/AIDS transmission by education background, South Sudan, 2010



Knowledge of Mother to Child Transmission of HIV

Knowledge of mother-to-child transmission of HIV is also an important first step for women to seek HIV testing when they are pregnant to avoid infection in the baby. Women should know that HIV can be transmitted during pregnancy, during delivery, and through breastfeeding. The level of knowledge among women aged 15-49 years concerning mother-to-child transmission is presented in Table HA.3.

Overall, 41 percent of women aged 15-49 years know that HIV can be transmitted from mother to child. The percentage of women who know all three ways of mother-to-child transmission is 15 percent while 12 percent of women do not know any of the specific means.

The proportions of women who know that HIV can be transmitted from mother to child are highest in Central and Western Equatoria, with reported percentages of 78 and 76, respectively; and it is lowest in Warap, with 13 percent. This proportion varies markedly across residence, education and wealth index quintiles. The urban proportion is 59 percent, while the rural one is 35 percent. There is also close association between the level of education of the women and their knowledge of HIV transmission from mother to child. Women with no education have considerably lower proportion (32 percent) than their counterparts with secondary of higher education (90 percent). The proportion is highest (70 percent) amongst the richest households and lowest for women from poorest households, reported at 21 percent.

Table HA.3 also shows that the proportions of women aged 15-24 years who know all three means of mother- to-child transmission of HIV/AIDS are highest in Western Equatoria (23 percent), Western Bahr El Ghazal (23 percent) and Upper Nile States (21 percent); while the lowest proportion (7 percent) is in Warap. In urban areas, the proportion of women aged 15-24 years who know all three means of mother- to-child transmission of HIV/AIDS is higher (20 percent) than that (13 percent) of their counterparts in rural areas. The proportion of women aged 15-24 years who know all three means is highest (28 percent) amongst those with secondary or higher education and lowest (12 percent) amongst women with no education. There are also significant differences across economic status. Women from the richest quintiles have higher proportion (25 percent) of knowledge of transmission, compared to 9 percent for those from the poorest households. However, there are no significant differences noted across marital status.

Accepting Attitudes toward People Living with HIV/AIDS

The indicators are on attitudes toward people living with HIV measure stigma and discrimination in the community. Stigma and discrimination are low if respondents report an accepting attitude on the following four questions: 1) Would care for family member sick with AIDS; 2) would buy fresh vegetables from a vendor who is HIV positive; 3) thinks that a female teacher who is HIV positive should be allowed to teach in school; and 4) would ***not*** want to keep HIV status of a family member a secret.

Table HA.4 presents the attitudes of women towards people living with HIV/AIDS. In South Sudan 92 percent of women who have heard of AIDS agree with at least one accepting statement, and 10 percent expressed accepting attitudes on all four. The most common accepting attitude is the willingness to care for a family member with the AIDS virus in own home (68 percent). The States with the highest willingnessare in Western, Central and Eastern Equatoria States, with reported percentages of 87, 82 and 81, respectively. The lowest proportion is in Unity with 41 percent. This proportion is highest (82 percent) amongst women with secondary and higher education, as opposed to women with no education (62 percent). There are also slight urban-rural differentials, with 73 and 65 percent, respectively. Significant variations exist across economic status, as the proportion of women willing to care for a family member with the AIDS virus in own home is highest (74 percent) amongst the richest households and lowest (52 percent) in poorest households.

The proportions of women who expressed accepting attitudes on all four indicators range from 1 percent in Unity and Warap to 18 percent in Western Equatoria. Slight variations are observed across residence with 13 percent in urban areas in comparison with 8 percent in rural areas. Educational levels are associated with the attitudes of women towards victims of HIV/AIDS; the proportion of women accepting attitudes on all four indicators is markedly higher (23 percent) amongst women with secondary and higher education, than amongst women with no education (7 percent). Significant variations are also noted across wealth index quintiles; the proportion of women who expressed accepting attitudes on all four indicators is 15 percent amongst the richest households and 4 percent in poorest households.

Table HA.3: Knowledge of mother-to-child HIV transmission

Percentage of women aged 15-49 years who correctly identify means of HIV transmission from mother to child, South Sudan, 2010

	Percentage who know HIV can be transmitted from mother to child	Percent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
		During pregnancy	During delivery	By breastfeeding	All three means [1]		
State							
Upper Nile	36.5	30.6	29.5	28.9	21.3	13.0	1088
Jonglei	28.7	15.5	24.0	24.7	11.2	9.8	1299
Unity	31.7	21.6	26.1	23.5	14.9	8.3	594
Warap	13.3	10.2	10.4	10.5	7.2	7.9	1273
Northern Bahr El Ghazal	28.4	16.8	21.8	17.9	10.2	13.4	779
Western Bahr El Ghazal	51.6	34.2	37.4	41.0	23.2	11.6	323
Lakes	30.7	17.2	25.5	22.4	12.8	15.3	659
Western Equatoria	75.5	35.7	58.4	59.7	23.4	15.5	778
Central Equatoria	77.8	29.2	62.6	54.8	17.7	15.6	1264
Eastern Equatoria	42.1	17.3	34.5	33.5	11.8	11.9	1012
Residence							
Urban	59.3	29.8	48.3	45.7	20.3	11.5	2321
Rural	34.7	18.9	27.4	26.1	12.6	12.3	6748
Age-group							
15-24	46.2	23.7	36.2	35.4	15.4	12.5	2933
25+	38.5	20.8	31.2	29.1	14.2	11.9	6136
Age-group							
15-19	45.8	23.4	34.7	35.1	14.6	13.9	1344
20-24	46.5	23.9	37.5	35.8	16.1	11.4	1589
25-29	41.6	22.9	32.5	31.4	15.2	11.1	2067
30-39	37.4	20.5	30.8	28.2	14.4	12.9	2886
40-49	35.9	17.7	29.7	27.2	11.8	11.1	1183
Marital status							
Ever married/in union	40.4	21.5	32.5	30.8	14.7	11.9	8056
Never married/in union	45.5	23.0	34.8	33.9	13.8	13.8	1013
Education							
None	31.6	18.0	25.2	24.2	12.3	12.3	7150
Primary	72.8	34.3	58.1	54.8	22.2	12.8	1537
Secondary +	89.5	40.3	74.9	67.9	27.5	6.4	353
Adult Education / Khalwa / Sunday Education	(65.9)	(33.3)	(51.9)	(54.6)	(22.7)	(5.5)	29
Wealth index quintiles							
Poorest	20.9	13.3	16.8	15.4	8.9	11.7	1724
Second	25.3	15.0	19.9	19.3	9.8	11.6	1746
Middle	34.9	18.9	26.9	26.1	12.2	12.3	1798
Fourth	50.2	25.0	39.5	37.6	16.1	12.7	1859
Richest	69.8	34.7	57.6	54.3	24.6	12.3	1943
Total	41.0	21.7	32.8	31.2	14.6	12.1	9069

[1] MICS indicator 9.3

( ): Figures based on 25-49 unweighted cases

Table HA.4: Accepting attitudes toward people living with HIV/AIDS

Percentage of women aged 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV/AIDS, South Sudan, 2010

	Percent of women who:						Number of women who have heard of AIDS
	Are willing to care for a family member with the AIDS virus in own home	Would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus	Believe that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Agree with at least one accepting attitude	Express accepting attitudes on all four indicators [1]	
State							
Upper Nile	51.0	32.9	37.6	48.7	87.9	6.3	538
Jonglei	53.0	24.7	26.6	58.4	89.4	4.4	501
Unity	41.4	12.1	16.8	66.2	87.9	0.6	238
Warap	50.0	14.4	17.1	69.3	85.8	1.3	270
Northern Bahr El Ghazal	52.1	17.5	16.9	70.0	87.9	4.0	326
Western Bahr El Ghazal	65.2	37.0	44.1	57.9	92.1	11.2	204
Lakes	50.3	16.4	18.8	61.1	85.6	2.7	304
Western Equatoria	87.0	46.9	50.4	59.9	96.8	17.7	708
Central Equatoria	81.6	48.1	41.9	51.2	96.1	12.6	1181
Eastern Equatoria	80.7	52.5	37.9	60.0	95.4	15.8	546
Residence							
Urban	73.3	44.9	44.5	54.3	94.2	13.4	1643
Rural	64.5	31.5	30.0	59.8	91.1	7.7	3173
Age-group							
15-24	70.1	37.5	37.0	56.1	92.5	10.1	1721
25+	66.0	35.3	33.8	58.9	91.9	9.4	3095
Age-group							
15-19	68.7	35.9	37.6	54.9	91.5	10.6	801
20-24	71.3	38.9	36.5	57.1	93.4	9.8	920
25-29	66.6	36.0	35.4	59.0	92.4	9.1	1089

Table HA.4: Accepting attitudes toward people living with HIV/AIDS cont…

	Percent of women who:						Number of women who have heard of AIDS
	Are willing to care for a family member with the AIDS virus in own home	Would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus	Believe that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Agree with at least one accepting attitude	Express accepting attitudes on all four indicators [1]	
30-39	65.9	35.4	32.4	59.4	92.0	10.0	1449
40-49	65.0	33.6	34.4	57.5	90.7	8.5	556
Marital status							
Ever married/in union	67.3	35.4	34.0	58.8	92.3	9.3	4215
Never married/in union	68.8	40.9	41.7	51.9	91.1	12.4	601
Education							
None	62.1	29.1	27.6	59.5	90.3	6.9	3141
Primary	76.2	45.1	45.1	53.8	94.9	12.4	1316
Secondary +	82.4	64.0	61.3	58.1	98.5	22.8	338
Adult Education / Khalwa / Sunday Education	*	*	*	*	*	*	21
Wealth index quintiles							
Poorest	52.3	20.7	21.5	65.3	87.7	3.9	561
Second	57.1	25.4	25.1	63.3	88.3	6.2	644
Middle	64.4	33.4	30.2	54.8	90.8	7.4	848
Fourth	73.2	36.9	34.2	58.2	93.7	9.3	1169
Richest	74.4	46.7	46.7	54.6	94.8	14.6	1594
Total	67.5	36.1	34.9	57.9	92.1	9.7	4816

[1] MICS indicator 9.4
(*): Figures based on unweighted cases < 25

Knowledge of a Place for HIV Testing, Counselling and Testing during Antenatal Care

Another important indicator is the knowledge of where to be tested for HIV and use of such services. In order to protect themselves and to prevent infecting others, it is important for individuals to know their HIV status. Knowledge of own status is also a critical factor in the decision to seek treatment. Results related to knowledge among women of a facility for HIV testing and whether they have ever been tested are presented in Table HA.5.

Overall, 19 percent of women aged 15-49 years knew where to be tested, 12 percent have actually been tested, 6 percent have been tested in last 12 months and 4 percent have been tested in the last 12 months and have been told result.

The proportion of women who knew where to be tested varies across states, residence and wealth index quintiles. The proportions of knowledge of a place for HIV testing range from 2 percent in Warap to 52 percent in Western Equatoria and 51 percent in Central Equatoria. Women living in urban areas are more (36 percent) likely to know where to get an HIV test than those in rural areas (14 percent). The proportion of women from the richest households is higher (41 percent) than that from the poorest households (4 percent).

Furthermore, the proportion of women aged 15-49 years who have been tested in the last 12 months ranges from 0 percent in Warapand Northern Bahr El Ghazalto 14 percent in Western Equatoria. The proportion amongst women from urban areas is 8 percent compared to 3 percent for women from rural areas. The proportion amongst women from the richest households is 9 percent and less than 1 percent for women from the poorest households.

Table HA.6 presents the same results for sexually active young women. The proportion of young women who have been tested and have been told the result within the last 12 months provides a measure of the effectiveness of interventions that promote HIV counselling and testing among young people. This is important to know, because young people may feel that there are barriers to accessing services related to sensitive issues, such as sexual health.

In South Sudan, 25 percent of sexually active young women aged 15-24 years know a place to get tested, 16 percent have ever been tested, 10 percent have been tested in the last 12 months and 6 percent have been tested in the last 12 months and have been told their result. This latter proportion is highest (17 percent) in Western Equatoria, while the lowest proportions are in Warap and Unity with 0 percent each. The proportion amongst women from urban areas is 11 percent, compared to 4 percent in the rural areas. The proportion among women aged 15-24 years with secondary and higher education is 23 percent compared to 3 percent for women with no education. The proportion amongst women from the richest households is significantly higher (12 percent) than that for women from the poorest two quintiles of households (1 percent).

Table HA.5: Knowledge of a place for HIV testing

Percentage of women aged 15-49 years who know where to get an HIV test, percentage of women who have ever been tested, percentage of women who have been tested in the last 12 months, and percentage of women who have been tested and have been told the result, South Sudan, 2010

	Percentage of women who:				Number of women
	Know a place to get tested [1]	Have ever been tested	Have been tested in the last 12 months	Have been tested and have been told result [2]	
State					
Upper Nile	11.9	3.9	1.4	1.1	1088
Jonglei	5.2	3.7	1.7	1.4	1299
Unity	5.7	2.3	1.2	0.6	594
Warap	2.3	1.3	0.2	0.0	1273
Northern Bahr El Ghazal	3.6	0.9	0.5	0.3	779
Western Bahr El Ghazal	22.9	10.5	6.0	2.8	323
Lakes	8.1	4.2	1.5	1.1	659
Western Equatoria	52.1	33.2	19.7	13.9	778
Central Equatoria	51.0	33.2	17.3	9.7	1264
Eastern Equatoria	27.8	20.5	9.8	7.4	1012
Residence					
Urban	35.7	23.8	12.0	7.8	2321
Rural	13.6	7.8	4.0	2.6	6748
Age-group					
15-19	19.2	8.3	4.6	3.2	1344
20-24	24.4	17.4	10.3	6.5	1589
25-29	19.1	12.4	5.9	3.1	2067
30-34	18.2	11.7	5.2	3.2	1490
35-39	17.8	10.3	5.1	3.8	1396
40-44	15.9	10.5	4.9	3.8	627
45-49	15.6	8.3	4.5	4.1	555
Marital status					
Ever married/in union	19.1	12.3	6.2	3.8	8056
Never married/in union	20.6	8.2	5.0	5.0	1013
Wealth index quintiles					
Poorest	3.9	2.2	0.5	0.3	1724
Second	8.0	4.6	1.6	1.3	1746
Middle	15.7	9.0	4.4	2.6	1798
Fourth	24.3	15.0	8.2	5.4	1859
Richest	41.4	26.5	14.5	9.4	1943
Total	19.3	11.9	6.1	3.9	9069

[1] MICS indicator 9.5
[2] MICS indicator 9.6

Table HA.6: Knowledge of a place for HIV testing among sexually active young women

Percentage of women aged 15-24 years who have had sex in the last 12 months, and among women who have had sex in the last 12 months, the percentage who know where to get an HIV test, percentage of women who have ever been tested, percentage of women who have been tested in the last 12 months, and percentage of women who have been tested and have been told the result, South Sudan, 2010

	Percentage who have had sex in the last 12 months	Number of women aged 15-24 years	Percentage of women who:				Number of women aged 15-24 years who have had sex in the last 12 months
			Know a place to get tested	Have ever been tested	Have been tested in the last 12 months	Have been tested and have been told result [1]	
State							
Upper Nile	47.0	357	17.0	5.3	1.9	1.2	168
Jonglei	46.1	305	5.1	5.1	2.1	2.1	141
Unity	48.3	196	4.8	1.6	0.0	0.0	94
Warap	44.7	417	3.8	2.1	1.3	0.0	186
Northern Bahr El Ghazal	54.1	256	3.5	1.2	1.2	0.6	139
Western Bahr El Ghazal	60.3	112	26.4	14.0	10.6	4.5	67
Lakes	45.9	221	11.8	9.6	4.2	3.4	101
Western Equatoria	77.1	266	55.0	36.4	23.5	17.0	205
Central Equatoria	55.0	469	50.2	34.4	22.1	10.9	258
Eastern Equatoria	65.9	335	30.6	22.7	12.0	9.1	221
Residence							
Urban	57.4	824	39.3	27.4	15.7	10.5	474
Rural	52.5	2109	18.5	11.3	7.1	4.1	1107
Age-group							
15-19	41.0	1344	21.8	11.3	6.1	3.8	551
20-24	64.8	1589	26.4	18.8	11.6	7.2	1030
Marital status							
Ever married/in union	70.2	2028	24.8	16.6	9.9	5.8	1424
Never married/in union	17.2	905	24.6	11.8	8.0	8.0	156
Education							
None	55.6	1893	13.8	8.5	4.4	3.0	1052
Primary	50.5	862	42.0	26.2	16.8	9.2	435
Secondary +	52.4	173	68.2	56.2	36.1	25.2	91
Adult Education/ Khalwa / Sunday Education	*	5	*	*	*	*	2
Wealth index quintiles							
Poorest	48.2	460	5.4	4.1	2.6	1.2	222
Second	47.3	502	8.9	4.6	0.5	0.2	238
Middle	55.2	581	19.0	11.0	6.7	4.9	321
Fourth	59.6	604	27.0	18.8	11.9	6.9	360
Richest	55.9	786	45.6	30.2	18.6	11.7	439
Total	53.9	2933	24.8	16.2	9.7	6.0	1580

[1] MICS indicator 9.7

(*): Figures based on unweighted cases < 25

Among women who had given birth within the two years preceding the survey, the percent who received counselling and HIV testing during antenatal care is presented in Table HA.7. Testing and counselling during pregnancy is an important component of elimination of mother-to-child transmission (eMTCT), and more so if the desire is to attain the MDG's target of having a generation free of HIV as stipulated by the UNAIDS in its targets 'getting to Zero new HIV infections'.

Overall, 42 percent received antenatal care from a health care professional for last pregnancy; 15 percent received HIV counselling during antenatal care; 10 percent were tested for HIV during antenatal care; 9 percent were tested for HIV during antenatal care, and received the results; and 7 percent received HIV counselling, were tested and received the results.

Central Equatoria has the highest proportions for these five indicators, with respectively 72, 41, 31, 27 and 23 percent; and closely followed by Western Equatoria with 65, 37, 25, 24 and 20 percent, respectively. Warap has the lowest proportions for women received antenatal care from a health care professional for last pregnancy (19 percent), women who received HIV counselling during antenatal care (2 percent) and women who received HIV counselling, were tested and received the results (0 percent); Northern Bahr El Ghazal has also 0 percent for this latter indicator. The states with the lowest proportions of women who were tested for HIV during antennal care are: Warap (1 percent), Northern Bahr El Ghazal (1 percent), Upper Nile (2 percent), Unity (3 percent), Jonglei (4 percent) and Lakes (4 percent).

As expected, women living in urban areas have higher proportions for all five indicators considered. For example, the proportion of urban women who received HIV counselling during antenatal care doubles (26 percent) that of those in rural areas (11 percent). This is also the case for women who were tested for HIV during antenatal care, and received the results, with 18 percent in urban areas compared to 5 percent in rural areas.

Table HA.7 shows also that the proportions of all five indicators examined increase with the educational levels of the women. For example, women with secondary and higher education are more (46 percent) likely to receive HIV counselling during antenatal care than their counterparts with no education (9 percent). The proportion of women from the richest households is much higher than that of women from the poorest household in all 4 indicators considered in Table HA.7. For example, the proportion of the women from the richest households who received HIV counselling during antenatal care is markedly higher (32 percent) than that of women from poorest households, reported at 4 percent.

Table HA.7: HIV counselling and testing during antenatal care

Among women aged 15-49 years who gave birth in the last 2 years, percentage of women who received antenatal care from a health professional during the last pregnancy, percentage who received HIV counselling, percentage who were offered and accepted an HIV test and received the results, South Sudan, 2010

	Percent of women who:					Number of women who gave birth in the 2 years preceding the survey
	Received antenatal care from a health care professional for last pregnancy	Received HIV counselling during antenatal care [1]	Were tested for HIV during antenatal care	Were tested for HIV during antenatal care, and received the results [2]	Received HIV counselling, were tested and received the results	
State						
Upper Nile	40.8	6.2	2.2	1.4	1.4	436
Jonglei	24.3	4.6	3.7	3.4	3.1	459
Unity	32.2	7.8	2.9	1.8	1.4	215
Warap	19.3	1.8	0.8	0.6	0.3	485
Northern Bahr El Ghazal	41.2	3.8	0.5	0.3	0.3	299
Western Bahr El Ghazal	51.2	14.3	10.3	8.7	6.0	139
Lakes	39.0	6.6	3.7	3.5	3.0	275
Western Equatoria	64.6	37.0	24.9	23.8	20.1	270
Central Equatoria	72.2	41.3	30.6	27.0	22.8	503
Eastern Equatoria	40.8	19.1	13.3	12.4	10.3	398
Residence						
Urban	59.3	25.7	19.6	17.8	15.4	913
Rural	35.6	10.6	6.1	5.4	4.4	2566
Age-group						
15-19	46.3	14.5	11.2	9.7	7.1	271
15-24	46.6	17.1	11.8	10.9	8.8	1054
20-24	46.7	18.1	12.0	11.3	9.4	783
25-29	41.5	15.4	9.9	8.8	7.8	1067
30-34	40.7	12.4	8.9	7.5	5.9	661
35-49	35.9	11.5	6.9	6.1	5.4	697
Marital status						
Ever married/in union	41.8	14.6	9.7	8.6	7.3	3477
Never married/in union	*	*	*	*	*	2
Education						
None	34.4	8.7	5.2	4.5	3.8	2778
Primary	71.4	36.4	25.3	23.4	18.9	569
Secondary +	72.6	45.9	39.0	35.0	31.8	122
Adult Education / Khalwa / Sunday Education	*	*	*	*	*	10
Wealth index quintiles						
Poorest	22.0	4.2	2.7	2.3	1.6	666
Second	30.5	6.3	2.6	2.0	1.4	679
Middle	35.1	11.1	8.4	7.0	6.2	686
Fourth	48.9	18.1	11.6	10.6	8.7	726
Richest	69.9	31.7	22.0	20.3	17.5	722
Total	41.8	14.6	9.7	8.6	7.3	3479

[1] MICS indicator 9.8
[2] MICS indicator 9.9
(*): Figures based on unweighted cases < 25
Note: we don't know which information given at the counselling. there is only one question asked

Sexual Behaviour Related to HIV Transmission

Promoting safer sexual behaviour is critical for reducing HIV prevalence. The use of condoms during sex, especially with non-regular partners, is especially important for reducing the spread of HIV. In most countries, over half of new HIV infections are among young people age 15-24 years thus a change in behaviour among this age group will be especially important to reduce new infections. A set of questions was administered to all women 15-49 years of age to assess their risk of HIV infection. Risk factors for HIV include sex at an early age, sex with older men, sex with a non-marital non-cohabitating partner, and failure to use a condom. The frequency of sexual behaviours that increase the risk of HIV infection among women is presented in Table HA.8 and Figure HA.2.

The results from the SHHS2 show that 3 in 4 never married young women have never had sex. The State with the highest proportion (91 percent) of never-married women aged 15-24 years who have never had sex is Upper Nile, while the lower proportion (34 percent) is in Western Equatoria. The proportion is also higher among women aged 15-19 years (78 percent) than those aged 20-4 years (58 percent). There is no significant differential across residence; but an erratic pattern is observed across educational levels and economic status.

About 11 percent of all young women aged 15-24 years had sex before age 15 years. The highest proportion (23 percent) was recorded among young women in Western Equatoria, compared to 4 percent in Upper Nile, 5 percent in Lakes and 6 percent in both Northern Bahr El Ghazal and Jonglei. The proportions among young women aged 15-24 years with no education and primary education are slightly higher (11 percent) compared to that (5 percent) of those with secondary or higher education. This pattern is as well marked for marital status, with 13 percent for Ever married/in union and 5 percent for never married/in union.

Among the young women aged 15-24 years who had sex in the 12 months preceding the survey, virtually none had sex with a man 10 or more years older.

Promoting safer sexual behaviour is critical for reducing HIV prevalence in the population. The use of condoms during sex, especially with non-regular partners, is especially important for curtailing the spread of the HIV/AIDS epidemic. To this, limiting sexual relations to just one committed partner significantly undercuts the risk of infection.

To understand the level of HIV/AIDS risk in South Sudan, sexual activity in the twelve months preceding the survey was sought from the respondents. Women aged 15-24 years were thus investigated.

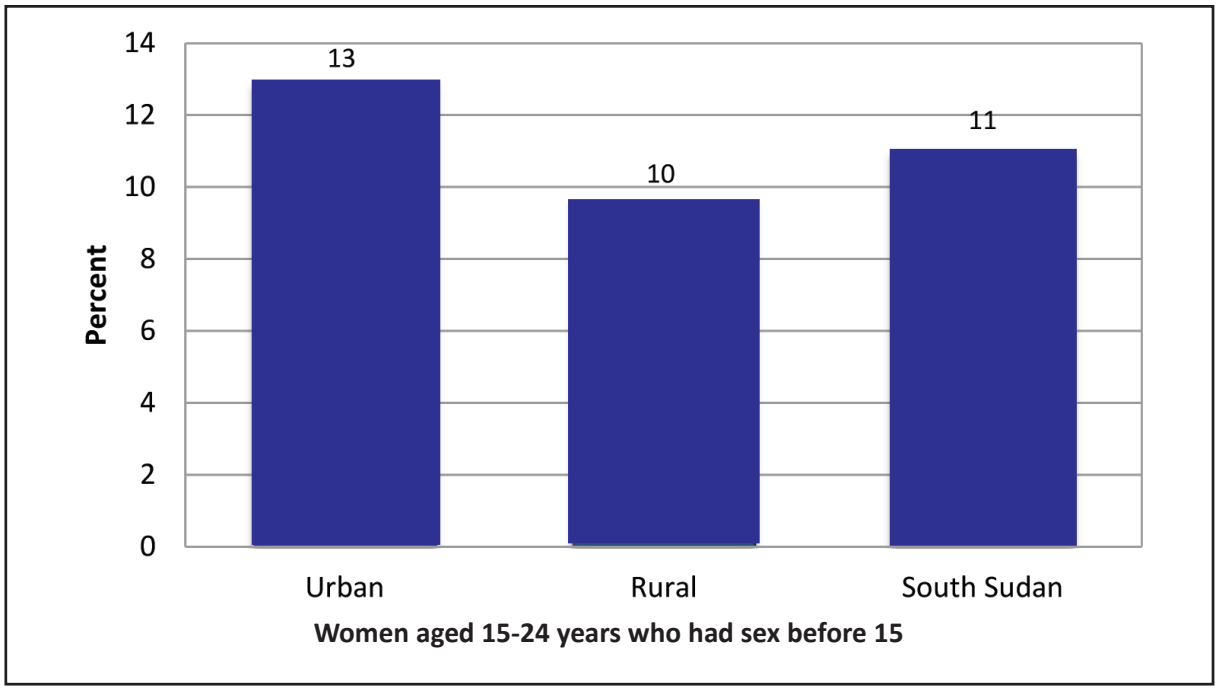
Table HA.8: Sexual behaviour that increases the risk of HIV infection

Percentage of never-married young women aged 15-24 years who have never had sex, percentage of young women aged 15-24 years who have had sex before age 15, and percentage of young women aged 15-24 years who had sex with a man 10 or more years older during the last 12 months, South Sudan, 2010

Background characteristics	Percentage of never-married women aged 15-24 years who have never had sex [1]	Number of never-married women aged 15-24 years	Percentage of 15-24 years who had sex before age 15 [2]	Number of women aged 15-24 years	Percentage of women aged 15-24 years who had sex in the last 12 months with a man 10 or more years older [3]	Number of women aged 15-24 years who had sex in the 12 months preceding the survey
State						
Upper Nile	90.6	128	3.5	357	0.0	168
Jonglei	(75.1)	50	6.1	305	0.0	141
Unity	57.9	43	14.8	196	0.0	94
Warap	79.7	163	11.4	417	0.0	186
Northern Bahr El Ghazal	76.5	84	5.9	256	0.0	139
Western Bahr El Ghazal	68.4	36	17.8	112	0.0	67
Lakes	82.5	71	4.5	221	0.0	101
Western Equatoria	34.1	51	23.1	266	0.0	205
Central Equatoria	82.3	175	12.8	469	0.0	258
Eastern Equatoria	57.3	104	10.1	335	0.0	221
Residence						
Urban	75.0	255	12.9	824	0.0	474
Rural	74.7	650	9.6	2109	0.0	1107
Age-group						
15-19	77.9	765	10.8	1344	0.0	551
20-24	57.9	140	10.2	1589	0.0	1030
Marital status						
Ever married/in union	NA	NA	13.0	2028	0.0	1424
Never married/in union	74.8	905	4.9	905	0.0	156
Education						
None	70.3	437	10.9	1893	0.0	1052
Primary	79.5	389	10.8	862	0.0	435
Secondary +	77.4	78	5.1	173	0.0	91
Adult Education / Khalwa / Sunday Education	*	1	*	5	*	2
Wealth index quintiles						
Poorest	77.2	148	7.5	460	0.0	222
Second	70.7	157	11.4	502	0.0	238
Middle	71.5	165	8.2	581	0.0	321
Fourth	71.4	158	12.5	604	0.0	360
Richest	79.6	278	11.8	786	0.0	439
Total	74.8	905	10.5	2933	0.0	1580

(1) MICS Indicator 9.10
(2) MICS Indicator 9.11
(3) MICS Indicator 9.12
(*): Figures based on unweighted cases < 25
NA: Not Applicable

Figure HA.2: Sexual behaviour that increases risk of HIV infection, South Sudan, 2010



Sexual behaviour and condom use during sex with more than one partner was assessed in all women(aged 15-49 years) who had sex with more than one partner in the 12 months preceding the survey (Tables HA.9 and HA.10).

Overall, 91 percent of women aged 15-49 years have ever had sex and 57 percent of these women had sex in the last 12 months. Table HA.9 also shows that 4 percent of women aged 15-49 years report having sex with more than one partner in the last 12 months. Of those women, 5 percent report that a condom was used the last time they had sex.

The data also show that the proportions of women aged 15-49 years having sex with more than one partner in the last 12 months range from 1 percent in Upper Nile and Warap to 14 percent in Western Equatoria. No significant variations noted across residence, age-groups, marital status and economic status.

Table HA.10 presents results for young women aged 15-24 years who had sex with multiple partners. The data indicate that 76 percent of young women have ever had sex, 54 percent had sex in the last12 months, and 4 percent had sex with more than one sexual. The proportions of women aged 15-24 years having sex with more than one sexual partner in the past 12 months range from 0 percent in Upper Nile to 16 percent in Western Equatoria. No significant variations across residence, marital status and age-group. However an erratic pattern is observed across education and economic status.

Among the women aged 15-24 years who had more than one sexual partner in the last 12 months, only 7 percent reported that a condom was used during the last time they had sex. Due to small number across all background characteristics, no disaggregated analysis can be conclusive.

Table HA.9: Sex with multiple partners

Percentage of women aged 15-49 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, South Sudan, 2010

	Percentage of women who:			Number of women aged 15-49 years	Percent of women aged 15-49 years who had more than one sexual partner in the last 12 months, who also reported that a condom was used the last time they had sex [2]	Number of women aged 15-49 years who had more than one sexual partner in the last 12 months
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]			
State						
Upper Nile	86.9	53.2	0.5	1088	*	5
Jonglei	96.9	41.3	1.8	1299	*	24
Unity	93.1	50.2	4.7	594	(0.0)	28
Warap	88.7	46.3	0.7	1273	*	9
Northern Bahr El Ghazal	89.6	53.6	3.4	779	(3.1)	27
Western Bahr El Ghazal	89.6	68.2	3.9	323	(12.0)	13
Lakes	87.6	54.7	2.7	659	(4.2)	18
Western Equatoria	97.4	79.9	13.7	778	6.7	106
Central Equatoria	87.4	63.8	3.4	1264	(9.0)	43
Eastern Equatoria	93.0	69.2	5.0	1012	(2.8)	51
Residence						
Urban	90.1	60.5	3.9	2321	11.1	91
Rural	91.3	55.2	3.4	6748	2.3	232
Age-group						
15-24	75.6	53.9	3.9	2933	7.3	115
25-29	98.1	65.7	3.3	2067	3.1	68
30-39	98.4	58.6	4.0	2886	4.0	115
40-49	98.7	42.3	2.0	1183	*	24
Marital status						
Ever married/in union	98.8	61.3	3.4	8056	4.1	274
Never married/in union	28.8	18.6	4.8	1013	(8.7)	49
Education						
None	94.2	55.5	3.1	7150	1.6	220
Primary	78.8	60.3	5.7	1537	8.4	87
Secondary +	79.9	60.6	4.0	353	*	14
Adult Education / Khalwa / Sunday Education	95.4	56.2	6.0	29	*	2
Wealth index quintiles						
Poorest	92.4	50.6	1.5	1724	(1.5)	26
Second	92.0	52.1	2.8	1746	1.4	50
Middle	92.0	56.1	4.1	1798	2.6	73
Fourth	92.6	58.8	4.4	1859	0.9	82
Richest	86.4	64.0	4.7	1943	12.9	92
Total	91.0	56.5	3.6	9069	4.8	323

(1): MICS Indicator 9.13
(2): MICS Indicator 9.14
(*): Figures based on unweighted cases < 25
( ): Figures based on 25-49 unweighted cases

Table HA.10: Sex with multiple partners (Young women)

Percentage of women aged 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, South Sudan, 2010

	Percentage of women who:			Number of women aged 15-24 years	Percent of women aged 15-24 years who had more than one sexual partner in the last 12 months, who also reported that a condom was used the last time they had sex [2]	Number of women aged 15-24 years who had more than one sexual partner in the last 12 months
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]			
State						
Upper Nile	65.2	47.0	0.3	357	*	1
Jonglei	87.2	46.1	2.6	305	*	8
Unity	85.0	48.3	4.3	196	*	8
Warap	68.5	44.7	0.7	417	*	3
Northern Bahr El Ghazal	71.4	54.1	3.5	256	*	9
Western Bahr El Ghazal	75.3	60.3	5.4	112	*	6
Lakes	70.0	45.9	1.9	221	*	4
Western Equatoria	92.7	77.1	16.0	266	11.2	43
Central Equatoria	69.0	55.0	2.7	469	*	13
Eastern Equatoria	82.0	65.9	6.2	335	*	21
Residence						
Urban	75.4	57.4	4.8	824	(12.1)	40
Rural	75.6	52.5	3.6	2109	4.8	76
Age-group						
15-19	54.8	41.0	3.5	1344	(6.1)	47
20-24	93.1	64.8	4.3	1589	8.2	69
Marital status						
Ever married/in union	98.0	70.2	3.8	2028	6.8	77
Never married/in union	25.2	17.2	4.3	905	(8.3)	39
Education						
None	81.9	55.6	3.0	1893	4.4	57
Primary	63.6	50.5	6.1	862	7.5	53
Secondary +	65.2	52.4	2.9	173	*	5
Adult Education / Khalwa / Sunday Education	*	*	*	5	*	1
Wealth index quintiles						
Poorest	74.2	48.2	0.9	460	*	4
Second	76.5	47.3	3.2	502	*	16
Middle	77.9	55.2	5.2	581	(3.9)	30
Fourth	80.0	59.6	5.1	604	(2.3)	31
Richest	70.5	55.9	4.3	786	(19.3)	34
Total	75.6	53.9	3.9	2933	7.3	115

(1): MICS Indicator 9.13
(2): MICS Indicator 9.14
(*): Figures based on unweighted cases < 25
( ): Figures based on 25-49 unweighted cases

Tables HA.11 presents the percentage of women aged 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with a non-marital, non-cohabiting partner in the last 12 months and among those who had sex with a non-marital, non-cohabiting partner, the percentage who used a condom the last time they had sex with such a partner.

Overall, the proportion of women aged 15-24 years who ever had sex is 76 percent and 54 percent had sex in last 12 months. Thirteen percent of those that had sex in the past 12 month had sex with a non-marital, non-cohabiting partner, and only 3 percent of these reported condom use during the last intercourse.

Due to small numbers of women aged 15-24 years who had more than one sexual partner in the last 12 months across states, education and economic status, the analysis of proportions of women who had had sex with a non-marital, non-cohabiting partner in the last 12 months, and who also reported that a condom was used the last time they had sex with such a partner, is limited to residence, age-groups and marital status.

No significant differences noted between urban and rural areas in terms of proportion of who had sex with a non-marital, non-cohabiting partner in the last 12 months, and for the proportion of women aged 15-24 years who had sex with a non-marital, non-cohabiting partner in the last 12 months, who also reported that a condom was used the last time they had sex with such a partner. However, for age-groups, the proportion of women aged 15-19 years who had sex with a non-marital, non-cohabiting partner in the last 12 months is 23 percent compared to 8 percent for those aged 20-24 years. No significant variations for the condom use during the last time they had sex with such a partner. Marital status plays a major role, with 87 percent of never married/in union who had sex with a non-marital, non-cohabiting partner in the last 12 months; while for those ever married/in union, it is only 5 percent. There is no difference in condom use.

Table HA.11: Sex with non-regular partners

Percentage of women aged 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with a non-marital, non-cohabiting partner in the last 12 months and among those who had sex with a non-marital, non-cohabiting partner, the percentage who used a condom the last time they had sex with such a partner, South Sudan, 2010

	Percentage of women 15-24 who:		Number of women aged 15-24 years	Percentage who had sex with a non-marital, non-cohabiting partner in the last 12 months [1]	Number of women aged 15-24 years who had sex in the last 12 months	Percentage of women aged 15-24 years who had sex with a non-marital, non-cohabiting partner in the last 12 months, who also reported that a condom was used the last time they had sex with such a partner [2]	Number of women age 15-24 years who had sex in last 12 months with a non-marital, non-cohabiting partner
	Ever had sex	Had sex in the last 12 months					
State							
Upper Nile	65.2	47.0	357	5.8	168	*	10
Jonglei	87.2	46.1	305	7.8	141	*	11
Unity	85.0	48.3	196	17.7	94	*	17
Warap	68.5	44.7	417	10.1	186	*	19
Northern Bahr El Ghazal	71.4	54.1	256	13.0	139	*	18
Western Bahr El Ghazal	75.3	60.3	112	16.3	67	(6.8)	11
Lakes	70.0	45.9	221	7.8	101	*	8
Western Equatoria	92.7	77.1	266	27.0	205	6.9	55
Central Equatoria	69.0	55.0	469	10.5	258	*	27
Eastern Equatoria	82.0	65.9	335	15.8	221	(4.0)	35
Residence							
Urban	75.4	57.4	824	14.9	474	2.5	70
Rural	75.6	52.5	2109	12.6	1107	3.0	140
Age-group							
15-19	54.8	41.0	1344	23.1	551	1.9	127
20-24	93.1	64.8	1589	8.1	1030	4.3	83
Marital status							
Ever married/in union	98.0	70.2	2028	5.2	1424	3.3	74
Never married/in union	25.2	17.2	905	87.3	156	2.6	136
Education							
None	81.9	55.6	1893	9.6	1052	1.1	101
Primary	63.6	50.5	862	20.2	435	4.0	88
Secondary +	65.2	52.4	173	22.6	91	*	21
Adult Education/ Khalwa/ Sunday Education	*	*	5	*	2	*	1
Wealth index quintiles							
Poorest	74.2	48.2	460	12.9	222	(0.0)	29
Second	76.5	47.3	502	13.1	238	(0.0)	31
Middle	77.9	55.2	581	13.5	321	(0.9)	43
Fourth	80.0	59.6	604	10.7	360	(5.4)	38
Richest	70.5	55.9	786	15.6	439	5.1	69
Total	75.6	53.9	2933	13.3	1580	2.8	210

(1): MICS Indicator 9.15
(2): MICS Indicator 9.16
(*): Figures based on unweighted cases < 25
( ): Figures based on 25-49 unweighted cases

Orphans

As the HIV epidemic progresses, more and more children are becoming orphaned because of AIDS. Children who are orphaned may be at increased risk of neglect or exploitation if the parents are not available to assist them. Monitoring the variations in different outcomes for orphans and comparing them to their peers gives us a measure of how well communities and governments are responding to their needs. Table HA.12 presents information on the living arrangements and orphanhood status of children under age 18.

Overall, 54 percent of children aged 0-17 years in South Sudan live with both their parents, 13 percent of children aged 0-17 years are not living with a biological parent and 17 percent have lost either one or both parents.

For children aged 0-17 years not living with a biological parent and children with one or both parents dead, considered separately, the variations across gender, states, residence and economic status seem not to be significant. However in both cases, the proportions increase with age-group. For example, for children not living with a biological parent, the proportion is 6 percent in age-group 0-4 years and 24 percent in age-group 15-17 years; and for children with one or both parents dead, the proportion in age-group 0-4 years is 10 percent compared 31 percent in age-group 15-17 years.

Table HA.12: Children's living arrangements and orphan hood

Percent distribution of children age 0-17 years according to living arrangements, percentage of children age 0-17 years in households not living with a biological parent and percentage of children who have one or both parents dead, South Sudan, 2010

	Living with both parents	Living with neither parent				Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent [1]	One or both parents dead [2]	Number of children age 0-17 years
		Only father alive	Only mother alive	Both are alive	Both are dead	Father alive	Father dead	Mother alive	Mother dead					
Sex														
Male	54.6	1.0	2.5	7.2	2.0	18.2	10.6	2.1	1.0	0.8	100.0	12.7	17.2	16126
Female	53.4	0.9	2.8	8.1	1.9	18.4	10.7	2.2	0.8	0.7	100.0	13.8	17.3	15846
State														
Upper Nile	61.7	1.0	1.9	5.1	2.1	13.3	10.8	2.3	1.1	0.7	100.0	10.1	17.0	3939
Jonglei	44.5	0.8	2.5	5.6	1.6	27.4	14.4	1.5	1.0	0.7	100.0	10.6	20.2	4848
Unity	47.8	0.8	1.7	8.5	1.5	26.1	10.0	2.0	0.6	1.0	100.0	12.5	14.9	2490
Warap	61.3	0.8	2.1	7.6	2.5	9.8	12.6	1.9	0.9	0.7	100.0	13.0	18.9	4256
Northern Behr El Ghazal	52.3	0.7	1.8	8.8	1.6	21.4	9.7	2.0	0.9	0.8	100.0	12.9	14.8	3064
Western Behr El Ghazal	52.5	0.9	2.9	8.3	2.3	19.6	9.9	2.4	0.8	0.2	100.0	14.5	16.8	1156
Lakes	50.7	0.9	3.4	10.1	2.4	18.7	9.6	1.9	0.9	1.4	100.0	16.9	17.3	2614
Western Equatoria	48.1	1.8	4.2	12.4	1.9	18.4	8.2	3.2	1.2	0.5	100.0	20.3	17.4	2254
Central Equatoria	60.5	0.9	3.7	8.5	2.1	11.7	7.0	3.2	1.5	0.7	100.0	15.2	15.3	3831
Eastern Equatoria	55.0	1.5	2.9	5.6	1.7	20.0	10.6	1.5	0.4	0.7	100.0	11.7	17.2	3519
Residence														
Urban	49.7	1.3	3.1	9.4	2.1	19.8	9.8	2.8	0.9	1.0	100.0	15.9	17.4	7684
Rural	55.3	0.9	2.5	7.1	1.9	17.9	10.9	1.9	0.9	0.7	100.0	12.4	17.2	24287
Age-group														
0-4 years	61.0	0.3	0.9	4.5	.6	23.0	7.4	1.5	0.3	0.6	100.0	6.3	9.6	10035
5-9 years	53.9	0.9	2.4	8.5	1.6	18.3	10.7	2.1	0.9	0.7	100.0	13.4	16.5	11424
10-14 years	48.4	1.6	3.9	9.4	3.5	14.8	13.3	2.7	1.3	1.0	100.0	18.5	23.8	8276
15-17 years	43.6	2.3	7.0	10.6	4.1	10.6	14.9	3.2	2.8	0.9	100.0	24.0	31.4	2237
Wealth index quintiles														
Poorest	54.3	0.8	2.1	6.5	1.4	19.1	12.7	1.5	1.0	0.5	100.0	10.9	18.3	6736
Second	53.5	1.0	1.8	6.4	2.3	19.4	11.9	2.1	0.9	0.8	100.0	11.5	17.9	6518
Middle	53.6	1.1	2.4	7.7	2.0	17.9	12.0	1.5	0.8	0.9	100.0	13.3	18.4	6369
Fourth	55.1	1.0	2.8	7.9	2.0	18.4	8.8	2.4	1.1	0.5	100.0	13.7	15.7	6385
Richest	53.4	1.2	4.0	9.8	2.1	16.7	7.4	3.4	1.0	1.0	100.0	17.1	15.8	5964
Total	54.0	1.0	2.6	7.6	2.0	18.3	10.6	2.1	0.9	0.8	100.0	13.2	17.2	31972

[1] MICS indicator 9.17
[2] MICS indicator 9.18

How orphans compare to non-orphaned children in schooling opportunities is also analysed (Table HA.13). Overall, the proportion of children aged 10-14 years who are orphans and are attending school is 27 percent, while that of children who are non-orphans and are attending school is 34 percent; which yields a ratio of 0.78.

The Orphans to non-orphans school attendance ratios range from 0.70 to 0.79. Across gender, they are almost equal with 0.79 for males and 0.77 for females. However, there seems to be some differentials by residence: The Orphans to non-orphans school attendance ratio in urban areas is 0.70 compared to 0.79 in rural areas.

Table HA.13: School attendance of orphans and non-orphans
School attendance of children age 10-14 years by orphanhood, South Sudan, 2010

	Percentage of children whose mother and father have died (orphans)	Percentage of children of whom both parents are alive and child is living with at least one parent (non-orphans)	Number of children age 10-14 years	Percentage of children who are orphans and are attending school [1]	Total number of orphan children age 10-14 years	Percentage of children who are non-orphans and are attending school [2]	Total number of non-orphan children age 10-14 years	Orphans to non-orphans school attendance ratio
Sex								
Male	3.6	65.8	4258	30.3	153	38.5	2801	0.79
Female	3.5	66.1	4018	22.4	140	29.3	2655	0.77
Residence								
Urban	4.2	63.8	2000	38.1	84	54.4	1277	0.70
Rural	3.3	66.6	6275	21.8	209	27.8	4180	0.79
Total	3.5	65.9	8276	26.5	293	34.0	5456	0.78

[1] MICS Indicator 9.19
[2] MICS Indicator 9.20

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Appendix A. Sample Design

The major features of the sample design are described in this appendix. Sample design features include target sample size, sample allocation, sampling frame and listing, choice of domains, sampling stages, stratification, and the calculation of sample weights.

The primary objective of the sample design for the South Sudan Household Health Survey (SHHS2) was to produce statistically reliable estimates for a large number of indicators on the situation of children and women at the national level, for urban and rural areas, and for each of the tenstatesof the country (Upper Nile, Jonglei, Unity, Warap, Northern Bahr El Ghazal, Western Bahr El Ghazal, Lakes, Western Equatoria, Central Equatoria, and Eastern Equatoria).

A two-stage stratified cluster sample design was used to select the sample.

Sample Size and Sample Allocation

For the calculation of the sample size, the key indicator used was the prevalence of Diarrhea among children aged 0-4 years. The following formula was used to estimate the required sample size for this indicator:

$$n = \frac{[4(r)(1-r)(f)(1.1)]}{[(0.12r)^2(p)(\bar{n})]}$$

Where:

- *n*is the required sample size, expressed as number of households
- *4* is a factor to achieve the 95 percent level of confidence
- *r* is the predicted or anticipated value of the indicator, expressed in the form of a proportion
- *1.1* is the factor necessary to raise the sample size by 10 per cent for non-response
- *f*is the shortened symbol for *deff* (design effect)
- *0.12r* is the margin of error to be tolerated at the 95 percent level of confidence, defined as 12 per cent of *r* (relative margin of error of *r*)
- *p* is the proportion of the total population upon which the indicator, *r*, is based
- $\bar{n}$ is the average household size (number of persons per household).

For the calculation, the value of r (Prevalence of Diarrhea) was determined to be 20 percent from the SHHS1. The value of *deff* (design effect) was taken as 1.5 based on estimates from previous surveys, *p* (percentage of children aged 0-4 years in the total population) was taken as 16 percent from the 2008 Sudan Population and Housing Census, *ń* (average household size) was taken as 7 from the 2008 Sudan Population and Housing Census, and the response rate was assumed to be 90 percent.

The resulting number of households from this exercise was 1,000 households which is the sample size per state. However, for the states of Unity and Jonglei the sample size was reduced to 975 households. The final sample size for the survey is 9,950 households. In each state, the sample was allocated between urban and rural proportionally to the population size. The sample takeper cluster for the SHHS2 was determined as 25 households, based on a number of considerations, including the design effect, the budget available, and the time that would be needed per team to complete one cluster.

The table below shows the allocation of clusters to the sampling strata.

Table SD.1: Allocation of Sample Clusters (Primary Sampling Units) to Sampling Strata

State	Population (2008 Estimates)			Number of Clusters		
	Total	Urban	Rural	Urban	Rural	Total
Upper Nile	963,600	243,185	720,415	9	31	40
Jonglei	1,358,602	129,341	1,229,261	3	36	39
Unity	585,801	120,992	464,809	7	32	39
Warrap	972,928	84,887	888,041	3	37	40
Northern Bahr El Ghazal	720,898	55,398	665,500	2	38	40
Western Bahr El Ghazal	333,431	142,907	190,524	18	22	40
Lakes	695,730	65,033	630,697	3	37	40
Western Equatoria	619,029	100,034	518,995	5	35	40
Central Equatoria	1,103,592	382,362	721,230	13	27	40
Eastern Equatoria	906,126	80,420	825,706	3	37	40
Total	8,259,737	1,404,559	6,855,178	66	332	398

Sampling Frame and Selection of Clusters

The sampling frame used for the SHHS2 is the 2008 Sudan Population and Housing Census. States were identified as sampling domains and each state was stratified by urban and rural, thus creating a total of 20 strata.
Census enumeration areas were defined as primary sampling units (PSUs), and were selected from each of the sampling stratum by using systematic pps (probability proportional to size) sampling procedures, based on the estimated sizes of the enumeration areas from the 2008 Population Census. The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the 10 states, separately by urban and rural stratum.

Listing Activities
Since the sampling frame (the 2008 Population and Housing Census) was not up-to-date, a new listing of households was conducted in all the sample enumeration areas prior to the selection of households. For this purpose, listing teams were formed, who visited each enumeration area, and listed the occupied households.

Selection of Households

Lists of households were prepared by the listing teams in the field for each enumeration area. The households were then sequentially numbered from 1 to n (the total number of households in each enumeration area) at the Central Statistical Office, where the selection of 25 households in each enumeration area was carried out using random systematic selection procedures.

Calculation of Sample Weights

The SHHS2 sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the 10 states, different sampling fractions were used across states since the size of the states varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

The major component of the weight is the reciprocal of the sampling fraction employed in selecting the number of sample households in that particular sampling stratum
(h) and PSU (i):

$$W_{hi} = \frac{1}{f_{hi}}$$

The term f_{hi}, the sampling fraction forthe*i-th* sample PSU in the*h-th* stratum, is the product of probabilities of selection at every stage in each sampling stratum:

$$f_{hi} = p_{1hi} \times p_{2hi}$$

where$p_{shi}$is the probability of selection of the sampling unit atstage *s*for the *i-th*sample PSU in the *h-th* sampling stratum.

Since the estimated numbers of households in each enumeration area (PSU) in the sampling frame used for the first stage selection and the updated number of households in the enumeration area from the listing were different, individual sampling fractions for households in each sample enumeration area (cluster) were calculated. The sampling fractions for households in each enumeration area (cluster) therefore included the first stage probability of selection of the enumeration area in that particular sampling stratum and the second stage probability of selection of a household in the sample enumeration area (cluster).

A second component in the calculation of sample weights takes into account the level of non-response for the household and individual interviews. The adjustment for household non-response is equal to the inverse value of:

RR_h = Number of interviewed households in stratum h/ Number of occupied households listed in stratum h

After the completion of fieldwork, response rates were calculated for each sampling stratum. These were used to adjust the sample weights calculated for each cluster. Response rates in the SHHS2 are shown in Table HH.1 in this report.

Similarly, the adjustment for non-response at the individual level (women and under-5 children) for each stratum is equal to the inverse value of:

RR_h = Completed women's (or under-5's) questionnaires in stratum h / Eligible women (or under-5s) in stratum h

The non-response adjustment factors for women's and under-5's questionnaires were applied to the adjusted household weights. Numbers of eligible women and under-5 children were obtained

from the roster of household members in the Household Questionnaire for households where interviews were completed.

The design weights for the households were calculated by multiplying the above factors for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization is achieved by dividing the full sample weights (adjusted for non-response) by the average of these weights across all households at the national level. This is performed by multiplying the sample weights by a constant factor equal to the unweighted number of households at the national level divided by the weighted total number of households (using the full sample weights adjusted for nonresponse). A similar standardization procedure was followed in obtaining standardized weights for the women's and under-5's questionnaires.

Sample weights were appended to all data sets and analyses were performed by weighting each household, woman or under-5 with these sample weights.

Table SD2: South Sudan Population Distribution by State, Place of Residence and Sex

State	Urban/rural									
	Urban			Rural			Total			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Percent
South Sudan	754,086	651,100	1,405,186	3,533,214	3,322,090	6,855,304	4,287,300	3,973,190	8,260,490	100.0
Upper Nile	130,164	113,812	243,976	395,266	325,111	720,377	525,430	438,923	964,353	11.7
Jonglei	69,636	59,705	129,341	664,691	564,570	1,229,261	734,327	624,275	1,358,602	16.4
Unity	63,677	57,113	120,790	236,570	228,441	465,011	300,247	285,554	585,801	7.1
Warap	45,055	39,832	84,887	425,679	462,362	888,041	470,734	502,194	972,928	11.8
Northern Bahr El Ghazal	30,134	25,264	55,398	318,156	347,344	665,500	348,290	372,608	720,898	8.7
Western Bahr El Ghazal	75,597	67,348	142,945	101,443	89,043	190,486	177,040	156,391	333,431	4.0
Lakes	35,248	29,785	65,033	330,632	300,065	630,697	365,880	329,850	695,730	8.4
Western Equatoria	51,425	48,609	100,034	267,018	251,977	518,995	318,443	300,586	619,029	7.5
Central Equatoria	210,731	171,631	382,362	370,991	350,204	721,195	581,722	521,835	1,103,557	13.4
Eastern Equatoria	42,419	38,001	80,420	422,768	402,973	825,741	465,187	440,974	906,161	11.0

Source: 5th Sudan Population and Housing Census, 2008

Table SD3:Population distribution by state, and urban and rural, South Sudan.

State	Percentage		
	Urban	Rural	Total
South Sudan	17.0	83.0	100
Upper Nile	25.3	74.7	100
Jonglei	9.5	90.5	100
Unity	20.6	79.4	100
Warap	8.7	91.3	100
Northern Bahr El Ghazal	7.7	92.3	100
Western Bahr El Ghazal	42.9	57.1	100
Lakes	9.3	90.7	100
Western Equatoria	16.2	83.8	100
Central Equatoria	34.6	65.4	100
Eastern Equatoria	8.9	91.1	100

Source: 5th Sudan Population and Housing Census, 2008

Appendix B. Estimates of Sampling Errors

The sample of respondents selected in the South Sudan Household Health Survey (SHHS 2) is only one of the samples that could have been selected from the same population, using the same design and size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between the estimates from all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey data.

The following sampling error measures are presented in this appendix for each of the selected indicators:

- Standard error (*se*): Sampling errors are usually measured in terms of standard errors for particular indicators (means, proportions, etc.). Standard error is the square root of the variance of the estimate. The Taylor linearization method is used for the estimation of standard errors.
- Coefficient of variation (*se*/*r*) is the ratio of the standard error to the value of the indicator, and is a measure of the relative sampling error.
- Design effect (*deff*) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect (*deft*) is used to show the efficiency of the sample design in relation to the precision. A *deft* value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a *deft* value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.
- Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall, with a specified level of confidence. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error ($r + 2.se$ or $r - 2.se$) of the statistic in 95 percent of all possible samples of identical size and design.

For the calculation of sampling errors from the SHHS 2 data, SPSS Version 18 Complex Samples module has been used. The results are shown in the tables that follow. In addition to the sampling error measures described above, the tables also include weighted and unweighted counts of denominators for each indicator.

Sampling errors are calculated for indicators of primary interest, for the national level, for the states, and for urban and rural areas. One of the selected indicators is based on households, 6 are based on household members, 19 are based on women, and 18 are based on children under 5. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. Tables (SE.2 to SE.14) show the calculated sampling errors for selected domains.

Table SE.1: Indicators selected for sampling error calculations

List of indicators selected for sampling error calculations, and base populations (denominators) for each indicator, South Sudan, 2010

MICS4 Indicator		Base Population
HOUSEHOLDS		
2.16	Iodized salt consumption	All households in which salt was tested or with no salt
HOUSEHOLD MEMBERS		
4.1	Use of improved drinking water sources	All household members
4.3	Use of improved sanitation facilities	All household members
7.5	Secondary school net attendance rate (adjusted)	Children of secondary school age
9.18	Prevalence of children with at least one parent dead	Children age 0-17 years
9.19	School attendance of orphans	Children age 0-17 years
9.20	School attendance of non-orphans	Children age 0-17 years
WOMEN		
3.20	Intermittent preventive treatment for malaria	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.2	Early childbearing	Women age 20-24 years
5.3	Contraceptive prevalence	Women age 15-49 years who are currently married or in union
5.4	Unmet need	Women age 15-49 years who are currently married or in union
5.5a	Antenatal care coverage - at least once by skilled personnel	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.5b	Antenatal care coverage – at least four times by any provider	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.7	Skilled attendant at delivery	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.8	Institutional deliveries	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.9	Caesarean section	Women age 15-49 years with a live birth in the 2 years preceding the survey
7.1	Literacy rate among young women	Women age 15-24 years
8.7	Marriage before age 18	Women age 20-49 years
8.9	Polygyny	Women age 15-49 years who are currently married or in union
9.2	Comprehensive knowledge about HIV prevention among young people	Women age 15-24 years
9.3	Knowledge of mother- to-child transmission of HIV	Women age 15-49 years
9.4	Accepting attitudes towards people living with HIV	Women age 15-49 years who have heard of HIV
9.6	Women who have been tested for HIV and know the results	Women age 15-49 years
9.7	Sexually active young women who have been tested for HIV and know the results	Women age 15-24 years who have had sex in the 12 months preceding the survey
9.11	Sex before age 15 among young women	Women age 15-24 years
UNDER-5s		
2.1a	Underweight prevalence	Children under age 5
2.2a	Stunting prevalence	Children under age 5
2.3a	Wasting prevalence	Children under age 5
2.6	Exclusive breastfeeding under 6 months	Total number of infants under 6 months of age
2.14	Age-appropriate breastfeeding	Children age 0-23 months
-	Tuberculosis immunization coverage	Children age 12-23 months

-	Received polio immunization	Children age 12-23 months
-	Received DPT immunization	Children age 12-23 months
-	Received measles immunization	Children age 12-23 months
-	Received Hepatitis B immunization	Children age 12-23 months
-	Diarrhoea in the previous 2 weeks	Children under age 5
-	Illness with a cough in the previous 2 weeks	Children under age 5
-	Fever in last two weeks	Children under age 5
3.8	Oral rehydration therapy with continued feeding	Children under age 5 with diarrhoea in the previous 2 weeks
3.10	Antibiotic treatment of suspected pneumonia	Children under age 5 with suspected pneumonia in the previous 2 weeks
3.18	Anti-malarial treatment of children under age 5	Children under age 5 reported to have had fever in the previous 2 weeks
6.7	Attendance to early childhood education	Children age 36-59 months
8.1	Birth registration	Children under age 5

Table SE.2: Sampling errors: Total sample

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.4528	0.0115	0.025	4.693	2.166	8720	8726	0.430	0.476
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.7162	0.0127	0.018	7.396	2.720	56001	9369	0.691	0.742
Use of improved sanitation	4.3	0.0740	0.0053	0.072	3.864	1.966	56001	9369	0.063	0.085
Secondary school net attendance rate (adjusted)	7.5	0.0442	0.0047	0.107	1.166	1.080	2237	2222	0.035	0.054
Prevalence of children with one or both parents dead	9.18	0.1724	0.0041	0.024	3.810	1.952	31972	31931	0.164	0.181
School attendance of orphans	9.19	0.2651	0.0165	0.062	0.413	0.643	293	297	0.232	0.298
School attendance of non-orphans	9.20	0.3401	0.0118	0.035	3.337	1.827	5456	5423	0.317	0.364
WOMEN										
Pregnant women	-	0.0961	0.0039	0.040	1.574	1.255	9069	9069	0.088	0.104
Intermittent preventive treatment for malaria	3.20	0.1920	0.0115	0.060	1.492	1.221	1699	1755	0.169	0.215
Early childbearing	5.2	0.2792	0.0125	0.045	1.242	1.114	1589	1612	0.254	0.304
Contraceptive prevalence	5.3	0.0409	0.0030	0.074	1.699	1.304	7350	7340	0.035	0.047
Unmet need	5.4	0.2631	0.0086	0.033	2.775	1.666	7350	7340	0.246	0.280
Antenatal care coverage - at least once by skilled personnel	5.5a	0.4179	0.0103	0.025	1.543	1.242	3479	3516	0.397	0.439
Antenatal care coverage – at least four times by any provider	5.5b	0.1730	0.0072	0.041	1.264	1.124	3479	3516	0.159	0.187
Skilled attendant at delivery	5.7	0.1945	0.0084	0.043	1.566	1.252	3479	3516	0.178	0.211
Institutional deliveries	5.8	0.1149	0.0077	0.067	2.031	1.425	3479	3516	0.100	0.130
Caesarean section	5.9	0.0059	0.0017	0.283	1.658	1.288	3479	3516	0.003	0.009
Literacy rate among young women	7.1	0.1323	0.0084	0.064	1.846	1.359	2933	2972	0.115	0.149
Marriage before age 18	8.7	0.4483	0.0082	0.018	2.115	1.454	7725	7709	0.432	0.465
Polygyny	8.9	0.4100	0.0070	0.017	1.478	1.216	7350	7340	0.396	0.424
Comprehensive knowledge about HIV prevention among young people	9.2	0.0977	0.0068	0.069	1.538	1.240	2933	2972	0.084	0.111
Knowledge of mother- to-child transmission of HIV	9.3	0.1457	0.0047	0.032	1.616	1.271	9069	9069	0.136	0.155
Accepting attitudes towards people living with HIV	9.4	0.0966	0.0054	0.056	1.619	1.272	4816	4883	0.086	0.107
Women who have been tested for HIV and know the results	9.6	0.0537	0.0034	0.063	2.019	1.421	9069	9069	0.047	0.060

Table SE.2: Sampling errors: Total sample cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Sexually active young women who have been tested for HIV and know the results	9.7	0.0604	0.0067	0.110	1.272	1.128	1580	1625	0.047	0.074
Sex before age 15 among young women	9.11	0.1049	0.0062	0.059	1.219	1.104	2933	2972	0.093	0.117
UNDER-5s										
Underweight prevalence	2.1a	0.3618	0.0077	0.021	1.694	1.301	6645	6652	0.346	0.377
Stunting prevalence	2.2a	0.3496	0.0091	0.026	2.201	1.484	6040	6069	0.331	0.368
Wasting prevalence	2.3a	0.2752	0.0078	0.029	1.838	1.356	5926	5952	0.260	0.291
Exclusive breastfeeding under 6 months	2.6	0.4509	0.0179	0.040	1.133	1.065	866	877	0.415	0.487
Age-appropriate breastfeeding	2.14	0.3041	0.0091	0.030	1.346	1.160	3434	3430	0.286	0.322
Tuberculosis immunization coverage	-	0.3439	0.0150	0.044	1.646	1.283	1679	1655	0.314	0.374
Received polio immunization	-	0.1477	0.0113	0.077	1.466	1.211	1463	1440	0.125	0.170
Received DPT immunization	-	0.1510	0.0123	0.081	1.916	1.384	1652	1627	0.126	0.176
Received measles immunization	-	0.2631	0.0145	0.055	1.783	1.335	1676	1651	0.234	0.292
Received Hepatitis B immunization	-	0.0544	0.0068	0.126	1.482	1.217	1652	1627	0.041	0.068
Diarrhoea in the previous 2 weeks	-	0.3403	0.0071	0.021	1.862	1.365	8338	8338	0.326	0.354
Illness with a cough in the previous 2 weeks	-	0.1898	0.0059	0.031	1.902	1.379	8338	8338	0.178	0.202
Fever in last two weeks	-	0.3241	0.0065	0.020	1.589	1.261	8338	8338	0.311	0.337
Oral rehydration therapy with continued feeding	3.8	0.2299	0.0081	0.035	1.091	1.044	2838	2925	0.214	0.246
Antibiotic treatment of suspected pneumonia	3.10	0.3285	0.0132	0.040	1.262	1.124	1582	1593	0.302	0.355
Anti-malarial treatment of children under age 5	3.18	0.2667	0.0120	0.045	1.957	1.399	2703	2675	0.243	0.291
Attendance to early childhood education	6.7	0.0595	0.0066	0.111	2.285	1.512	2945	2937	0.046	0.073
Birth registration	8.1	0.3543	0.0089	0.025	2.875	1.696	8338	8338	0.337	0.372

Table SE.3: Sampling errors: Urban areas

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.5725	0.0147	0.026	2.012	1.418	2015	2265	0.543	0.602
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.8087	0.0241	0.030	9.108	3.018	13951	2420	0.809	0.857
Use of improved sanitation	4.3	0.1553	0.0160	0.103	4.706	2.169	13951	2420	0.155	0.187
Secondary school net attendance rate (adjusted)	7.5	0.0771	0.0115	0.150	1.247	1.117	617	666	0.054	0.100
Prevalence of children with one or both parents dead	9.18	0.1735	0.0091	0.052	4.832	2.198	7684	8434	0.155	0.192
School attendance of orphans	9.19	0.3810	0.0291	0.076	0.295	0.543	84	83	0.323	0.439
School attendance of non-orphans	9.20	0.5444	0.0193	0.035	2.097	1.448	1277	1403	0.506	0.583
WOMEN										
Pregnant women	-	0.1054	0.0070	0.067	1.281	1.132	2321	2438	0.091	0.119
Intermittent preventive treatment for malaria	3.20	0.1835	0.0158	0.086	1.147	1.071	629	686	0.152	0.215
Early childbearing	5.2	0.3011	0.0260	0.086	1.527	1.236	455	478	0.249	0.353
Contraceptive prevalence	5.3	0.0494	0.0057	0.116	1.334	1.155	1812	1907	0.038	0.061
Unmet need	5.4	0.2816	0.0133	0.047	1.677	1.295	1812	1907	0.255	0.308
Antenatal care coverage - at least once by skilled personnel	5.5a	0.5929	0.0184	0.031	1.392	1.180	913	996	0.556	0.630
Antenatal care coverage – at least four times by any provider	5.5b	0.2557	0.0161	0.063	1.355	1.164	913	996	0.224	0.288
Skilled attendant at delivery	5.7	0.3098	0.0182	0.059	1.544	1.242	913	996	0.273	0.346
Institutional deliveries	5.8	0.1821	0.0192	0.105	2.463	1.570	913	996	0.144	0.220
Caesarean section	5.9	0.0107	0.0050	0.465	2.328	1.526	913	996	0.001	0.021
Literacy rate among young women	7.1	0.2442	0.0201	0.082	1.913	1.383	824	878	0.204	0.284
Marriage before age 18	8.7	0.4607	0.0165	0.036	2.239	1.496	1951	2038	0.428	0.494
Polygyny	8.9	0.3970	0.0132	0.033	1.383	1.176	1812	1907	0.371	0.423
Comprehensive knowledge about HIV prevention among young people	9.2	0.1640	0.0155	0.094	1.535	1.239	824	878	0.133	0.195
Knowledge of mother- to-child transmission of HIV	9.3	0.2029	0.0095	0.047	1.368	1.170	2321	2438	0.184	0.222
Accepting attitudes towards people living with HIV	9.4	0.1336	0.0118	0.088	2.073	1.440	1643	1722	0.110	0.157

Table SE.3: Sampling errors: Urban areas cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.1064	0.0075	0.070	1.435	1.198	2321	2438	0.091	0.121
Sexually active young women who have been tested for HIV and know the results	9.7	0.1054	0.0152	0.144	1.264	1.124	474	516	0.075	0.136
Sex before age 15 among young women	9.11	0.1289	0.0121	0.094	1.136	1.066	824	878	0.105	0.153
UNDER-5s										
Underweight prevalence	2.1a	0.3180	0.0147	0.046	1.765	1.328	1630	1765	0.289	0.348
Stunting prevalence	2.2a	0.3163	0.0136	0.043	1.370	1.170	1469	1594	0.289	0.344
Wasting prevalence	2.3a	0.2125	0.0125	0.059	1.460	1.208	1439	1567	0.188	0.237
Exclusive breastfeeding under 6 months	2.6	0.4321	0.0395	0.091	1.526	1.235	226	241	0.353	0.511
Age-appropriate breastfeeding	2.14	0.3277	0.0194	0.059	1.672	1.293	912	980	0.289	0.366
Tuberculosis immunization coverage	-	0.4522	0.0272	0.060	1.352	1.163	420	453	0.398	0.507
Received polio immunization	-	0.2377	0.0295	0.124	1.872	1.368	362	390	0.179	0.297
Received DPT immunization	-	0.2329	0.0306	0.132	2.302	1.517	405	439	0.172	0.294
Received measles immunization	-	0.3552	0.0262	0.074	1.368	1.170	424	456	0.303	0.408
Received Hepatitis B immunization	-	0.0857	0.0162	0.189	1.460	1.208	405	439	0.053	0.118
Diarrhoea in the previous 2 weeks	-	0.3359	0.0146	0.043	2.080	1.442	2042	2174	0.307	0.365
Illness with a cough in the previous 2 weeks	-	0.2004	0.0113	0.056	1.721	1.312	2042	2174	0.178	0.223
Fever in last two weeks	-	0.3302	0.0130	0.039	1.662	1.289	2042	2174	0.304	0.356
Oral rehydration therapy with continued feeding	3.8	0.2158	0.0187	0.087	1.576	1.256	686	764	0.178	0.253
Antibiotic treatment of suspected pneumonia	3.10	0.4316	0.0239	0.055	1.028	1.014	409	443	0.384	0.479
Anti-malarial treatment of children under age 5	3.18	0.3729	0.0239	0.064	1.783	1.335	674	731	0.325	0.421
Attendance to early childhood education	6.7	0.0683	0.0122	0.178	1.664	1.290	670	715	0.044	0.093
Birth registration	8.1	0.4495	0.0192	0.043	3.226	1.796	2042	2174	0.411	0.488

Table SE.4: Sampling errors: Rural areas

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.4168	0.0143	0.034	5.466	2.338	6705	6461	0.388	0.445
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6855	0.0147	0.022	7.004	2.646	42050	6949	0.656	0.715
Use of improved sanitation	4.3	0.0470	0.0045	0.096	3.137	1.771	42050	6949	0.038	0.056
Secondary school net attendance rate (adjusted)	7.5	0.0316	0.0046	0.145	1.071	1.035	1620	1556	0.022	0.041
Prevalence of children with one or both parents dead	9.18	0.1720	0.0046	0.027	3.506	1.873	24287	23497	0.163	0.181
School attendance of orphans	9.19	0.2184	0.0197	0.090	0.487	0.698	209	214	0.179	0.258
School attendance of non-orphans	9.20	0.2777	0.0140	0.050	3.938	1.984	4180	4020	0.250	0.306
WOMEN										
Pregnant women	-	0.0929	0.0046	0.050	1.682	1.297	6748	6631	0.084	0.102
Intermittent preventive treatment for malaria	3.20	0.1970	0.0157	0.080	1.667	1.291	1070	1069	0.166	0.228
Early childbearing	5.2	0.2705	0.0140	0.052	1.119	1.058	1134	1134	0.243	0.298
Contraceptive prevalence	5.3	0.0382	0.0035	0.092	1.845	1.358	5538	5433	0.031	0.045
Unmet need	5.4	0.2570	0.0105	0.041	3.133	1.770	5538	5433	0.236	0.278
Antenatal care coverage - at least once by skilled personnel	5.5a	0.3557	0.0123	0.035	1.666	1.291	2566	2520	0.331	0.380
Antenatal care coverage – at least four times by any provider	5.5b	0.1435	0.0079	0.055	1.263	1.124	2566	2520	0.128	0.159
Skilled attendant at delivery	5.7	0.1535	0.0090	0.059	1.587	1.260	2566	2520	0.135	0.172
Institutional deliveries	5.8	0.0910	0.0078	0.086	1.858	1.363	2566	2520	0.075	0.107
Caesarean section	5.9	0.0042	0.0014	0.334	1.173	1.083	2566	2520	0.001	0.007
Literacy rate among young women	7.1	0.0885	0.0085	0.096	1.866	1.366	2109	2094	0.072	0.106
Marriage before age 18	8.7	0.4442	0.0095	0.021	2.079	1.442	5773	5671	0.425	0.463
Polygyny	8.9	0.4142	0.0082	0.020	1.501	1.225	5538	5433	0.398	0.431
Comprehensive knowledge about HIV prevention among young people	9.2	0.0718	0.0072	0.101	1.641	1.281	2109	2094	0.057	0.086

Table SE.4: Sampling errors: Rural areas cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Knowledge of mother- to-child transmission of HIV	9.3	0.1261	0.0053	0.042	1.721	1.312	6748	6631	0.115	0.137
Accepting attitudes towards people living with HIV	9.4	0.0774	0.0054	0.070	1.307	1.143	3173	3161	0.066	0.088
Women who have been tested for HIV and know the results	9.6	0.0356	0.0037	0.103	2.586	1.608	6748	6631	0.028	0.043
Sexually active young women who have been tested for HIV and know the results	9.7	0.0411	0.0070	0.172	1.397	1.182	1107	1109	0.027	0.055
Sex before age 15 among young women	9.11	0.0956	0.0072	0.075	1.259	1.122	2109	2094	0.081	0.110
UNDER-5s										
Underweight prevalence	2.1a	0.3760	0.0090	0.024	1.670	1.292	5015	4887	0.358	0.394
Stunting prevalence	2.2a	0.3603	0.0111	0.031	2.404	1.551	4571	4475	0.338	0.383
Wasting prevalence	2.3a	0.2953	0.0095	0.032	1.894	1.376	4487	4385	0.276	0.314
Exclusive breastfeeding under 6 months	2.6	0.4575	0.0198	0.043	1.000	1.000	640	636	0.418	0.497
Age-appropriate breastfeeding	2.14	0.2956	0.0102	0.035	1.235	1.111	2522	2450	0.275	0.316
Tuberculosis immunization coverage	-	0.3077	0.0181	0.059	1.848	1.359	1259	1202	0.272	0.344
Received polio immunization	-	0.1180	0.0113	0.096	1.293	1.137	1101	1050	0.095	0.141
Received DPT immunization	-	0.1244	0.0131	0.106	1.878	1.370	1247	1188	0.098	0.151
Received measles immunization	-	0.2318	0.0175	0.076	2.057	1.434	1252	1195	0.197	0.267
Received Hepatitis B immunization	-	0.0442	0.0075	0.170	1.583	1.258	1247	1188	0.029	0.059
Diarrhoea in the previous 2 weeks	-	0.3418	0.0081	0.024	1.795	1.340	6296	6164	0.326	0.358
Illness with a cough in the previous 2 weeks	-	0.1863	0.0069	0.037	1.951	1.397	6296	6164	0.172	0.200
Fever in last two weeks	-	0.3222	0.0074	0.023	1.566	1.252	6296	6164	0.307	0.337
Oral rehydration therapy with continued feeding	3.8	0.2344	0.0089	0.038	0.959	0.979	2152	2161	0.217	0.252
Antibiotic treatment of suspected pneumonia	3.10	0.2926	0.0154	0.053	1.310	1.144	1173	1150	0.262	0.323
Anti-malarial treatment of children under age 5	3.18	0.2314	0.0135	0.059	2.003	1.415	2028	1944	0.204	0.258
Attendance to early childhood education	6.7	0.0569	0.0078	0.137	2.499	1.581	2275	2222	0.041	0.072
Birth registration	8.1	0.3234	0.0101	0.031	2.870	1.694	6296	6164	0.303	0.344

Table SE.5: Sampling errors: Upper Nile

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.1458	0.0184	0.127	2.422	1.556	933	888	0.109	0.183
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6548	0.0417	0.064	7.289	2.700	6763	949	0.571	0.738
Use of improved sanitation	4.3	0.0784	0.0245	0.313	7.890	2.809	6763	949	0.029	0.127
Secondary school net attendance rate (adjusted)	7.5	0.0772	0.0097	0.126	0.374	0.611	302	282	0.058	0.097
Prevalence of children with one or both parents dead	9.18	0.1698	0.0121	0.071	3.869	1.967	3939	3719	0.146	0.194
School attendance of orphans	9.19	*	*	*	*	*	42	39	*	*
School attendance of non-orphans	9.20	0.5097	0.0284	0.056	2.328	1.526	763	722	0.453	0.566
WOMEN										
Pregnant women	-	0.0716	0.0091	0.127	1.211	1.101	1088	976	0.053	0.090
Intermittent preventive treatment for malaria	3.20	0.0370	0.0123	0.334	0.765	0.875	205	180	0.012	0.062
Early childbearing	5.2	0.2869	0.0356	0.124	1.005	1.003	184	163	0.216	0.358
Contraceptive prevalence	5.3	0.0298	0.0057	0.191	0.871	0.933	866	779	0.018	0.041
Unmet need	5.4	0.2365	0.0177	0.075	1.352	1.163	866	779	0.201	0.272
Antenatal care coverage - at least once by skilled personnel	5.5a	0.4075	0.0313	0.077	1.604	1.266	436	395	0.345	0.470
Antenatal care coverage – at least four times by any provider	5.5b	0.1978	0.0237	0.120	1.400	1.183	436	395	0.150	0.245
Skilled attendant at delivery	5.7	0.1396	0.0164	0.118	0.887	0.942	436	395	0.107	0.172
Institutional deliveries	5.8	0.0810	0.0143	0.177	1.083	1.041	436	395	0.052	0.110
Caesarean section	5.9	0.0031	0.0030	0.995	1.198	1.095	436	395	0.000	0.009
Literacy rate among young women	7.1	0.2165	0.0268	0.124	1.324	1.151	357	314	0.163	0.270
Marriage before age 18	8.7	0.4754	0.0261	0.055	2.258	1.503	915	825	0.423	0.528
Polygyny	8.9	0.3027	0.0189	0.062	1.313	1.146	866	779	0.265	0.340
Comprehensive knowledge about HIV prevention among young people	9.2	0.0341	0.0119	0.348	1.342	1.158	357	314	0.010	0.058
Knowledge of mother- to-child transmission of HIV	9.3	0.2131	0.0087	0.041	0.441	0.664	1088	976	0.196	0.231
Accepting attitudes towards people living with HIV	9.4	0.0632	0.0106	0.167	0.890	0.943	538	472	0.042	0.084
Women who have been tested for HIV and know the results	9.6	0.0112	0.0049	0.435	2.086	1.444	1088	976	0.001	0.021

Table SE.5: Sampling errors: Upper Nile cont...										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Sexually active young women who have been tested for HIV and know the results	9.7	0.0124	0.0085	0.685	0.861	0.928	168	147	0.000	0.029
Sex before age 15 among young women	9.11	0.0354	0.0068	0.193	0.426	0.653	357	314	0.022	0.049
UNDER-5s										
Underweight prevalence	2.1a	0.3221	0.0165	0.051	0.877	0.936	822	700	0.289	0.355
Stunting prevalence	2.2a	0.3211	0.0215	0.067	1.407	1.186	778	664	0.278	0.364
Wasting prevalence	2.3a	0.2656	0.0187	0.070	1.158	1.076	761	649	0.228	0.303
Exclusive breastfeeding under 6 months	2.6	0.4734	0.0503	0.106	0.792	0.890	92	79	0.373	0.574
Age-appropriate breastfeeding	2.14	0.2214	0.0245	0.111	1.270	1.127	427	366	0.172	0.270
Tuberculosis immunization coverage	-	0.4241	0.0350	0.082	1.016	1.008	239	204	0.354	0.494
Received polio immunization	-	0.2103	0.0357	0.170	1.438	1.199	220	188	0.139	0.282
Received DPT immunization	-	0.1492	0.0310	0.208	1.482	1.217	230	197	0.087	0.211
Received measles immunization	-	0.3283	0.0297	0.090	0.810	0.900	239	204	0.269	0.388
Received Hepatitis B immunization	-	0.0155	0.0089	0.577	1.028	1.014	230	197	0.000	0.033
Diarrhoea in the previous 2 weeks	-	0.3231	0.0239	0.074	2.164	1.471	967	827	0.275	0.371
Illness with a cough in the previous 2 weeks	-	0.1593	0.0129	0.081	1.032	1.016	967	827	0.133	0.185
Fever in last two weeks	-	0.2759	0.0150	0.054	0.928	0.963	967	827	0.246	0.306
Oral rehydration therapy with continued feeding	3.8	0.1860	0.0189	0.102	0.634	0.796	312	270	0.148	0.224
Antibiotic treatment of suspected pneumonia	3.10	0.3699	0.0333	0.090	0.627	0.792	154	133	0.303	0.436
Anti-malarial treatment of children under age 5	3.18	0.2729	0.0390	0.143	1.764	1.328	267	231	0.195	0.351
Attendance to early childhood education	6.7	0.0757	0.0198	0.262	1.440	1.200	303	258	0.036	0.115
Birth registration	8.1	0.3440	0.0261	0.076	2.487	1.577	967	827	0.292	0.396

(*): the number of unweighted observations is less than 50

Table SE.6: Sampling errors: Jonglei

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.3538	0.0524	0.148	9.579	3.095	1259	800	0.249	0.459
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.7856	0.0430	0.055	9.984	3.160	8172	912	0.700	0.872
Use of improved sanitation	4.3	0.0618	0.0138	0.223	2.991	1.729	8172	912	0.034	0.089
Secondary school net attendance rate (adjusted)	7.5	0.0146	0.0101	0.689	0.900	0.949	202	129	0.000	0.035
Prevalence of children with one or both parents dead	9.18	0.2024	0.0128	0.063	3.128	1.769	4848	3095	0.177	0.228
School attendance of orphans	9.19	*	*	*	*	*	37	24	*	*
School attendance of non-orphans	9.20	0.1685	0.0347	0.206	4.541	2.131	833	529	0.099	0.238
WOMEN										
Pregnant women	-	0.0811	0.0118	0.146	1.575	1.255	1299	843	0.057	0.105
Intermittent preventive treatment for malaria	3.20	0.2058	0.0448	0.218	1.068	1.034	131	88	0.116	0.295
Early childbearing	5.2	0.2936	0.0555	0.189	1.664	1.290	173	113	0.183	0.405
Contraceptive prevalence	5.3	0.0209	0.0063	0.302	1.425	1.194	1132	733	0.008	0.034
Unmet need	5.4	0.2893	0.0352	0.122	4.422	2.103	1132	733	0.219	0.360
Antenatal care coverage - at least once by skilled personnel	5.5a	0.2426	0.0289	0.119	1.355	1.164	459	299	0.185	0.300
Antenatal care coverage – at least four times by any provider	5.5b	0.0750	0.0132	0.176	0.752	0.867	459	299	0.049	0.101
Skilled attendant at delivery	5.7	0.1262	0.0227	0.180	1.387	1.178	459	299	0.081	0.172
Institutional deliveries	5.8	0.0785	0.0190	0.243	1.492	1.222	459	299	0.040	0.117
Caesarean section	5.9	0.0000	0.0000	0.000	NA	NA	459	299	0.000	0.000
Literacy rate among young women	7.1	0.0695	0.0308	0.443	2.905	1.704	305	199	0.008	0.131
Marriage before age 18	8.7	0.4107	0.0276	0.067	2.376	1.542	1167	757	0.356	0.466
Polygyny	8.9	0.3550	0.0237	0.067	1.795	1.340	1132	733	0.308	0.402
Comprehensive knowledge about HIV prevention among young people	9.2	0.0514	0.0152	0.296	0.939	0.969	305	199	0.021	0.082
Knowledge of mother- to-child transmission of HIV	9.3	0.1125	0.0168	0.149	2.371	1.540	1299	843	0.079	0.146
Accepting attitudes towards people living with HIV	9.4	0.0435	0.0150	0.345	1.773	1.332	501	328	0.013	0.074
Women who have been tested for HIV and know the results	9.6	0.0144	0.0062	0.432	2.299	1.516	1299	843	0.002	0.027

Table SE.6: Sampling errors: Jonglei cont...										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Sexually active young women who have been tested for HIV and know the results	9.7	0.0206	0.0148	0.715	0.980	0.990	141	92	0.000	0.050
Sex before age 15 among young women	9.11	0.0609	0.0197	0.323	1.343	1.159	305	199	0.022	0.100
UNDER-5s										
Underweight prevalence	2.1a	0.3797	0.0245	0.064	1.745	1.321	1048	688	0.331	0.429
Stunting prevalence	2.2a	0.3135	0.0292	0.093	2.378	1.542	914	600	0.255	0.372
Wasting prevalence	2.3a	0.3669	0.0287	0.078	2.112	1.453	912	598	0.310	0.424
Exclusive breastfeeding under 6 months	2.6	0.4143	0.0649	0.157	1.283	1.133	113	75	0.285	0.544
Age-appropriate breastfeeding	2.14	0.2760	0.0308	0.112	1.428	1.195	457	302	0.214	0.338
Tuberculosis immunization coverage	-	0.2727	0.0434	0.159	1.542	1.242	248	163	0.186	0.360
Received polio immunization	-	0.0713	0.0227	0.319	1.023	1.011	202	132	0.026	0.117
Received DPT immunization	-	0.1488	0.0363	0.244	1.673	1.293	246	162	0.076	0.221
Received measles immunization	-	0.2228	0.0397	0.178	1.472	1.213	248	163	0.144	0.302
Received Hepatitis B immunization	-	0.0052	0.0053	1.007	0.861	0.928	246	162	0.000	0.016
Diarrhoea in the previous 2 weeks	-	0.2849	0.0276	0.097	3.079	1.755	1254	825	0.230	0.340
Illness with a cough in the previous 2 weeks	-	0.1354	0.0174	0.128	2.130	1.459	1254	825	0.101	0.170
Fever in last two weeks	-	0.2873	0.0149	0.052	0.896	0.947	1254	825	0.257	0.317
Oral rehydration therapy with continued feeding	3.8	0.2656	0.0256	0.096	0.794	0.891	357	237	0.214	0.317
Antibiotic treatment of suspected pneumonia	3.10	0.3370	0.0477	0.142	1.122	1.059	170	111	0.241	0.432
Anti-malarial treatment of children under age 5	3.18	0.2015	0.0311	0.154	1.427	1.195	360	238	0.139	0.264
Attendance to early childhood education	6.7	0.0488	0.0145	0.296	1.433	1.197	486	319	0.020	0.078
Birth registration	8.1	0.2904	0.0227	0.078	2.067	1.438	1254	825	0.245	0.336

(*) : the number of unweighted observations is less than 50

Table SE.7: Sampling errors: Unity

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.1399	0.0351	0.251	6.845	2.616	486	668	0.070	0.210
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6784	0.0486	0.072	9.083	3.014	3969	840	0.581	0.776
Use of improved sanitation	4.3	0.0979	0.0196	0.201	3.666	1.915	3969	840	0.059	0.137
Secondary school net attendance rate (adjusted)	7.5	0.0208	0.0103	0.496	1.192	1.092	161	229	0.000	0.041
Prevalence of children with one or both parents dead	9.18	0.1490	0.0105	0.070	2.982	1.727	2490	3457	0.128	0.170
School attendance of orphans	9.19	*	*	*	*	*	18	24	*	*
School attendance of non-orphans	9.20	0.1226	0.0236	0.192	3.035	1.742	423	587	0.075	0.170
WOMEN										
Pregnant women	-	0.0824	0.0083	0.101	0.718	0.847	594	787	0.066	0.099
Intermittent preventive treatment for malaria	3.20	0.1623	0.0411	0.253	1.289	1.135	80	105	0.080	0.244
Early childbearing	5.2	0.4799	0.0501	0.104	1.417	1.190	107	142	0.380	0.580
Contraceptive prevalence	5.3	0.0133	0.0038	0.288	0.754	0.869	511	677	0.006	0.021
Unmet need	5.4	0.2325	0.0257	0.110	2.499	1.581	511	677	0.181	0.284
Antenatal care coverage - at least once by skilled personnel	5.5a	0.3225	0.0420	0.130	2.281	1.510	215	284	0.239	0.406
Antenatal care coverage – at least four times by any provider	5.5b	0.1215	0.0276	0.227	2.020	1.421	215	284	0.066	0.177
Skilled attendant at delivery	5.7	0.1068	0.0164	0.154	0.800	0.894	215	284	0.074	0.140
Institutional deliveries	5.8	0.1143	0.0212	0.185	1.257	1.121	215	284	0.072	0.157
Caesarean section	5.9	0.0000	0.0000	0.000	NA	NA	215	284	0.000	0.000
Literacy rate among young women	7.1	0.0395	0.0151	0.381	1.543	1.242	196	259	0.009	0.070
Marriage before age 18	8.7	0.6730	0.0286	0.043	2.488	1.577	506	670	0.616	0.730
Polygyny	8.9	0.4906	0.0225	0.046	1.374	1.172	511	677	0.446	0.536
Comprehensive knowledge about HIV prevention among young people	9.2	0.0314	0.0093	0.296	0.734	0.857	196	259	0.013	0.050
Knowledge of mother- to-child transmission of HIV	9.3	0.1487	0.0215	0.144	2.858	1.691	594	787	0.106	0.192
Accepting attitudes towards people living with HIV	9.4	0.0065	0.0045	0.691	0.974	0.987	238	314	0.000	0.015

Table SE.7: Sampling errors: Unity cont...										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.0064	0.0032	0.496	1.253	1.119	594	787	0.000	0.013
Sexually active young women who have been tested for HIV and know the results	9.7	0.0000	0.0000	0.000	NA	NA	94	125	0.000	0.000
Sex before age 15 among young women	9.11	0.1477	0.0267	0.181	1.458	1.207	196	259	0.094	0.201
UNDER-5s										
Underweight prevalence	2.1a	0.4934	0.0330	0.067	2.255	1.502	366	520	0.427	0.559
Stunting prevalence	2.2a	0.4651	0.0384	0.083	3.011	1.735	358	509	0.388	0.542
Wasting prevalence	2.3a	0.3812	0.0254	0.067	1.327	1.152	341	485	0.330	0.432
Exclusive breastfeeding under 6 months	2.6	0.5101	0.0648	0.127	1.429	1.195	61	86	0.380	0.640
Age-appropriate breastfeeding	2.14	0.3006	0.0370	0.123	1.957	1.399	213	301	0.226	0.375
Tuberculosis immunization coverage	-	0.2336	0.0483	0.207	1.944	1.394	106	150	0.137	0.330
Received polio immunization	-	0.0701	0.0236	0.337	1.104	1.051	92	130	0.023	0.117
Received DPT immunization	-	0.0974	0.0385	0.395	2.409	1.552	101	144	0.020	0.174
Received measles immunization	-	0.1979	0.0549	0.277	2.771	1.665	104	147	0.088	0.308
Received Hepatitis B immunization	-	0.0276	0.0164	0.595	1.437	1.199	101	144	0.000	0.060
Diarrhoea in the previous 2 weeks	-	0.3888	0.0162	0.042	0.997	0.998	635	900	0.356	0.421
Illness with a cough in the previous 2 weeks	-	0.1798	0.0165	0.092	1.663	1.289	635	900	0.147	0.213
Fever in last two weeks	-	0.2542	0.0163	0.064	1.255	1.120	635	900	0.222	0.287
Oral rehydration therapy with continued feeding	3.8	0.2271	0.0281	0.124	1.572	1.254	247	350	0.171	0.283
Antibiotic treatment of suspected pneumonia	3.10	0.2997	0.0380	0.127	1.108	1.053	114	162	0.224	0.376
Anti-malarial treatment of children under age 5	3.18	0.2066	0.0334	0.162	1.549	1.244	161	228	0.140	0.273
Attendance to early childhood education	6.7	0.0158	0.0072	0.452	1.053	1.026	226	321	0.002	0.030
Birth registration	8.1	0.3612	0.0226	0.063	1.998	1.413	635	900	0.316	0.406

(*): the number of unweighted observations is less than 50

Table SE.8: Sampling errors: Warap

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.2301	0.0351	0.153	5.769	2.402	1066	829	0.160	0.300
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6074	0.0371	0.061	5.387	2.321	7587	935	0.533	0.682
Use of improved sanitation	4.3	0.0101	0.0057	0.565	3.040	1.744	7587	935	0.000	0.022
Secondary school net attendance rate (adjusted)	7.5	0.0173	0.0079	0.459	0.880	0.938	309	239	0.001	0.033
Prevalence of children with one or both parents dead	9.18	0.1886	0.0110	0.058	2.588	1.609	4256	3293	0.167	0.211
School attendance of orphans	9.19	*	*	*	*	*	41	31	*	*
School attendance of non-orphans	9.20	0.2056	0.0316	0.154	3.152	1.775	670	516	0.142	0.269
WOMEN										
Pregnant women	-	0.1224	0.0094	0.077	0.845	0.919	1273	1024	0.104	0.141
Intermittent preventive treatment for malaria	3.20	0.1861	0.0525	0.282	1.729	1.315	120	96	0.081	0.291
Early childbearing	5.2	0.1996	0.0268	0.134	0.736	0.858	204	165	0.146	0.253
Contraceptive prevalence	5.3	0.0147	0.0054	0.365	1.639	1.280	1029	825	0.004	0.025
Unmet need	5.4	0.1866	0.0182	0.097	1.794	1.340	1029	825	0.150	0.223
Antenatal care coverage - at least once by skilled personnel	5.5a	0.1927	0.0250	0.130	1.568	1.252	485	390	0.143	0.243
Antenatal care coverage – at least four times by any provider	5.5b	0.0593	0.0118	0.199	0.969	0.984	485	390	0.036	0.083
Skilled attendant at delivery	5.7	0.0871	0.0242	0.279	2.878	1.696	485	390	0.039	0.136
Institutional deliveries	5.8	0.0452	0.0196	0.434	3.468	1.862	485	390	0.006	0.084
Caesarean section	5.9	0.0025	0.0024	0.983	0.935	0.967	485	390	0.000	0.007
Literacy rate among young women	7.1	0.0393	0.0109	0.277	1.061	1.030	417	338	0.017	0.061
Marriage before age 18	8.7	0.3925	0.0171	0.044	1.040	1.020	1061	851	0.358	0.427
Polygyny	8.9	0.4631	0.0190	0.041	1.200	1.096	1029	825	0.425	0.501
Comprehensive knowledge about HIV prevention among young people	9.2	0.0096	0.0055	0.573	1.066	1.033	417	338	0.000	0.020
Knowledge of mother- to-child transmission of HIV	9.3	0.0720	0.0121	0.167	2.225	1.492	1273	1024	0.048	0.096
Accepting attitudes towards people living with HIV	9.4	0.0133	0.0077	0.579	0.974	0.987	270	216	0.000	0.029

Table SE.8: Sampling errors: Warap cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.0009	0.0009	0.994	0.956	0.978	1273	1024	0.000	0.003
Sexually active young women who have been tested for HIV and know the results	9.7	0.0000	0.0000	0.000	NA	NA	186	150	0.000	0.000
Sex before age 15 among young women	9.11	0.1141	0.0169	0.148	0.950	0.975	417	338	0.080	0.148
UNDER-5s										
Underweight prevalence	2.1a	0.4471	0.0248	0.056	1.578	1.256	774	633	0.397	0.497
Stunting prevalence	2.2a	0.3769	0.0348	0.092	3.107	1.763	738	603	0.307	0.447
Wasting prevalence	2.3a	0.3718	0.0253	0.068	1.499	1.224	672	549	0.321	0.422
Exclusive breastfeeding under 6 months	2.6	0.5604	0.0554	0.099	1.157	1.076	119	94	0.450	0.671
Age-appropriate breastfeeding	2.14	0.2936	0.0251	0.086	1.144	1.069	470	376	0.243	0.344
Tuberculosis immunization coverage	-	0.1641	0.0296	0.180	1.052	1.026	206	166	0.105	0.223
Received polio immunization	-	0.0588	0.0166	0.283	0.731	0.855	183	147	0.025	0.092
Received DPT immunization	-	0.0316	0.0127	0.401	0.847	0.920	201	162	0.006	0.057
Received measles immunization	-	0.1111	0.0288	0.259	1.366	1.169	204	164	0.054	0.169
Received Hepatitis B immunization	-	0.0059	0.0058	0.982	0.926	0.962	201	162	0.000	0.018
Diarrhoea in the previous 2 weeks	-	0.3232	0.0187	0.058	1.520	1.233	1176	950	0.286	0.361
Illness with a cough in the previous 2 weeks	-	0.1756	0.0142	0.081	1.324	1.151	1176	950	0.147	0.204
Fever in last two weeks	-	0.2738	0.0211	0.077	2.118	1.455	1176	950	0.232	0.316
Oral rehydration therapy with continued feeding	3.8	0.1769	0.0226	0.128	1.080	1.039	380	308	0.132	0.222
Antibiotic treatment of suspected pneumonia	3.10	0.1694	0.0404	0.239	1.894	1.376	206	164	0.089	0.250
Anti-malarial treatment of children under age 5	3.18	0.1136	0.0245	0.216	1.554	1.247	322	262	0.065	0.163
Attendance to early childhood education	6.7	0.0090	0.0054	0.598	1.166	1.080	440	358	0.000	0.020
Birth registration	8.1	0.2298	0.0201	0.087	2.167	1.472	1176	950	0.190	0.270

(*): the number of unweighted observations is less than 50

Table SE.9: Sampling errors: Northern Bahr El Ghazal

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.1295	0.0279	0.215	6.719	2.592	923	974	0.074	0.185
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6891	0.0379	0.055	6.577	2.565	5210	982	0.613	0.765
Use of improved sanitation	4.3	0.0150	0.0074	0.494	3.656	1.912	5210	982	0.000	0.030
Secondary school net attendance rate (adjusted)	7.5	0.0055	0.0055	0.986	0.965	0.982	170	179	0.000	0.016
Prevalence of children with one or both parents dead	9.18	0.1481	0.0124	0.084	3.920	1.980	3064	3235	0.123	0.173
School attendance of orphans	9.19	*	*	*	*	*	27	28	*	*
School attendance of non-orphans	9.20	0.2358	0.0196	0.083	1.221	1.105	543	573	0.197	0.275
WOMEN										
Pregnant women	-	0.1212	0.0137	0.113	1.679	1.296	779	948	0.094	0.149
Intermittent preventive treatment for malaria	3.20	0.1044	0.0142	0.136	0.368	0.606	141	172	0.076	0.133
Early childbearing	5.2	0.2285	0.0315	0.138	0.953	0.976	139	170	0.165	0.292
Contraceptive prevalence	5.3	0.0690	0.0130	0.188	2.130	1.459	667	813	0.043	0.095
Unmet need	5.4	0.3066	0.0345	0.113	4.556	2.135	667	813	0.238	0.376
Antenatal care coverage - at least once by skilled personnel	5.5a	0.4123	0.0277	0.067	1.148	1.072	299	364	0.357	0.468
Antenatal care coverage – at least four times by any provider	5.5b	0.1291	0.0133	0.103	0.572	0.756	299	364	0.103	0.156
Skilled attendant at delivery	5.7	0.1240	0.0206	0.166	1.415	1.190	299	364	0.083	0.165
Institutional deliveries	5.8	0.0738	0.0135	0.184	0.975	0.987	299	364	0.047	0.101
Caesarean section	5.9	0.0056	0.0039	0.691	0.985	0.992	299	364	0.000	0.013
Literacy rate among young women	7.1	0.0477	0.0166	0.348	1.891	1.375	256	312	0.014	0.081
Marriage before age 18	8.7	0.4001	0.0222	0.056	1.658	1.288	662	806	0.356	0.445
Polygyny	8.9	0.4627	0.0202	0.044	1.333	1.154	667	813	0.422	0.503
Comprehensive knowledge about HIV prevention among young people	9.2	0.0158	0.0059	0.372	0.690	0.831	256	312	0.004	0.028
Knowledge of mother- to-child transmission of HIV	9.3	0.1019	0.0097	0.095	0.973	0.987	779	948	0.082	0.121
Accepting attitudes towards people living with HIV	9.4	0.0401	0.0136	0.339	1.902	1.379	326	396	0.013	0.067

Table SE.9: Sampling errors: Northern Bahr El Ghazal cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.0031	0.0018	0.577	0.986	0.993	779	948	0.000	0.007
Sexually active young women who have been tested for HIV and know the results	9.7	0.0058	0.0058	0.986	0.960	0.980	139	169	0.000	0.017
Sex before age 15 among young women	9.11	0.0588	0.0133	0.227	1.001	1.000	256	312	0.032	0.085
UNDER-5s										
Underweight prevalence	2.1a	0.3600	0.0174	0.048	1.155	1.075	742	875	0.325	0.395
Stunting prevalence	2.2a	0.2950	0.0177	0.060	1.235	1.111	693	817	0.259	0.330
Wasting prevalence	2.3a	0.2908	0.0180	0.062	1.285	1.134	691	815	0.255	0.327
Exclusive breastfeeding under 6 months	2.6	0.3780	0.0479	0.127	0.869	0.932	76	90	0.282	0.474
Age-appropriate breastfeeding	2.14	0.2242	0.0228	0.102	1.091	1.045	310	366	0.179	0.270
Tuberculosis immunization coverage	-	0.2095	0.0390	0.186	1.432	1.197	133	157	0.131	0.287
Received polio immunization	-	0.0610	0.0196	0.322	0.875	0.935	111	131	0.022	0.100
Received DPT immunization	-	0.0252	0.0146	0.581	1.368	1.170	134	158	0.000	0.054
Received measles immunization	-	0.1643	0.0313	0.191	1.124	1.060	134	158	0.102	0.227
Received Hepatitis B immunization	-	0.0126	0.0083	0.656	0.862	0.929	134	158	0.000	0.029
Diarrhoea in the previous 2 weeks	-	0.3742	0.0180	0.048	1.335	1.156	820	967	0.338	0.410
Illness with a cough in the previous 2 weeks	-	0.2700	0.0166	0.061	1.346	1.160	820	967	0.237	0.303
Fever in last two weeks	-	0.3074	0.0222	0.072	2.236	1.495	820	967	0.263	0.352
Oral rehydration therapy with continued feeding	3.8	0.2482	0.0197	0.079	0.753	0.868	307	362	0.209	0.288
Antibiotic treatment of suspected pneumonia	3.10	0.2380	0.0285	0.120	1.162	1.078	221	261	0.181	0.295
Anti-malarial treatment of children under age 5	3.18	0.1617	0.0303	0.188	2.011	1.418	252	297	0.101	0.222
Attendance to early childhood education	6.7	0.0427	0.0157	0.369	2.256	1.502	316	373	0.011	0.074
Birth registration	8.1	0.1743	0.0158	0.091	1.672	1.293	820	967	0.143	0.206

(*): the number of unweighted observations is less than 50

Table SE.10: Sampling errors: Western Bahr El Ghazal

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.3473	0.0381	0.110	5.873	2.423	374	919	0.271	0.423
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6544	0.0344	0.053	4.973	2.230	2117	950	0.586	0.723
Use of improved sanitation	4.3	0.0963	0.0320	0.332	11.137	3.337	2117	950	0.032	0.160
Secondary school net attendance rate (adjusted)	7.5	0.0535	0.0139	0.259	0.693	0.833	75	184	0.026	0.081
Prevalence of children with one or both parents dead	9.18	0.1685	0.0160	0.095	5.191	2.278	1156	2832	0.136	0.201
School attendance of orphans	9.19	*	*	*	*	*	13	32	*	*
School attendance of non-orphans	9.20	0.4877	0.0340	0.070	2.142	1.464	189	463	0.420	0.556
WOMEN										
Pregnant women	-	0.0918	0.0115	0.125	1.335	1.155	323	840	0.069	0.115
Intermittent preventive treatment for malaria	3.20	0.1211	0.0234	0.193	1.068	1.033	80	209	0.074	0.168
Early childbearing	5.2	0.2873	0.0366	0.128	0.997	0.998	59	153	0.214	0.361
Contraceptive prevalence	5.3	0.0399	0.0075	0.189	0.964	0.982	251	651	0.025	0.055
Unmet need	5.4	0.2976	0.0336	0.113	3.521	1.876	251	651	0.230	0.365
Antenatal care coverage - at least once by skilled personnel	5.5a	0.5125	0.0329	0.064	1.566	1.252	139	362	0.447	0.578
Antenatal care coverage – at least four times by any provider	5.5b	0.2763	0.0216	0.078	0.840	0.916	139	362	0.233	0.319
Skilled attendant at delivery	5.7	0.2803	0.0289	0.103	1.497	1.223	139	362	0.222	0.338
Institutional deliveries	5.8	0.1839	0.0246	0.134	1.451	1.205	139	362	0.135	0.233
Caesarean section	5.9	0.0137	0.0028	0.206	0.212	0.461	139	362	0.008	0.019
Literacy rate among young women	7.1	0.1293	0.0248	0.192	1.587	1.260	112	291	0.080	0.179
Marriage before age 18	8.7	0.4750	0.0227	0.048	1.444	1.202	271	702	0.430	0.520
Polygyny	8.9	0.3771	0.0202	0.054	1.128	1.062	251	651	0.337	0.417
Comprehensive knowledge about HIV prevention among young people	9.2	0.0511	0.0115	0.225	0.789	0.888	112	291	0.028	0.074
Knowledge of mother- to-child transmission of HIV	9.3	0.2324	0.0149	0.064	1.046	1.023	323	840	0.203	0.262
Accepting attitudes towards people living with HIV	9.4	0.1119	0.0171	0.153	1.571	1.253	204	535	0.078	0.146

Table SE.10: Sampling errors: Western Bahr El Ghazal cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.0526	0.0067	0.127	0.747	0.864	323	840	0.039	0.066
Sexually active young women who have been tested for HIV and know the results	9.7	0.0447	0.0198	0.444	1.612	1.270	67	176	0.005	0.084
Sex before age 15 among young women	9.11	0.1782	0.0244	0.137	1.184	1.088	112	291	0.129	0.227
UNDER-5s										
Underweight prevalence	2.1a	0.2859	0.0162	0.057	0.955	0.977	295	742	0.253	0.318
Stunting prevalence	2.2a	0.3036	0.0160	0.053	0.840	0.917	277	696	0.272	0.336
Wasting prevalence	2.3a	0.2040	0.0179	0.088	1.343	1.159	271	683	0.168	0.240
Exclusive breastfeeding under 6 months	2.6	0.5669	0.0596	0.105	1.518	1.232	42	106	0.448	0.686
Age-appropriate breastfeeding	2.14	0.3765	0.0339	0.090	1.836	1.355	150	377	0.309	0.444
Tuberculosis immunization coverage	-	0.3840	0.0421	0.110	1.337	1.156	71	179	0.300	0.468
Received polio immunization	-	0.1865	0.0331	0.177	1.066	1.033	59	149	0.120	0.253
Received DPT immunization	-	0.1961	0.0291	0.149	0.948	0.974	70	177	0.138	0.254
Received measles immunization	-	0.3335	0.0487	0.146	1.900	1.378	71	179	0.236	0.431
Received Hepatitis B immunization	-	0.0784	0.0146	0.187	0.522	0.723	70	177	0.049	0.108
Diarrhoea in the previous 2 weeks	-	0.4217	0.0269	0.064	2.434	1.560	326	820	0.368	0.476
Illness with a cough in the previous 2 weeks	-	0.1947	0.0173	0.089	1.566	1.251	326	820	0.160	0.229
Fever in last two weeks	-	0.2763	0.0225	0.081	2.072	1.439	326	820	0.231	0.321
Oral rehydration therapy with continued feeding	3.8	0.1702	0.0235	0.138	1.353	1.163	137	346	0.123	0.217
Antibiotic treatment of suspected pneumonia	3.10	0.5313	0.0400	0.075	1.021	1.010	63	160	0.451	0.611
Anti-malarial treatment of children under age 5	3.18	0.3858	0.0390	0.101	1.448	1.203	90	227	0.308	0.464
Attendance to early childhood education	6.7	0.0524	0.0125	0.239	0.894	0.945	113	284	0.027	0.077
Birth registration	8.1	0.3797	0.0333	0.088	3.867	1.966	326	820	0.313	0.446

(*): the number of unweighted observations is less than 50

Table SE.11: Sampling errors: Lakes

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.6155	0.0368	0.060	5.000	2.236	632	876	0.542	0.689
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.9226	0.0239	0.026	7.494	2.738	4435	939	0.875	0.970
Use of improved sanitation	4.3	0.0397	0.0145	0.364	5.150	2.269	4435	939	0.011	0.069
Secondary school net attendance rate (adjusted)	7.5	0.0157	0.0119	0.761	1.844	1.358	149	201	0.000	0.040
Prevalence of children with one or both parents dead	9.18	0.1734	0.0146	0.084	5.379	2.319	2614	3621	0.144	0.203
School attendance of orphans	9.19	*	*	*	*	*	25	34	*	*
School attendance of non-orphans	9.20	0.1973	0.0293	0.148	3.218	1.794	430	595	0.139	0.256
WOMEN										
Pregnant women	-	0.1066	0.0112	0.105	1.265	1.125	659	957	0.084	0.129
Intermittent preventive treatment for malaria	3.20	0.1994	0.0233	0.117	0.644	0.803	127	191	0.153	0.246
Early childbearing	5.2	0.3058	0.0449	0.147	1.767	1.329	128	187	0.216	0.396
Contraceptive prevalence	5.3	0.0093	0.0057	0.617	2.866	1.693	553	807	0.000	0.021
Unmet need	5.4	0.1871	0.0275	0.147	4.006	2.001	553	807	0.132	0.242
Antenatal care coverage - at least once by skilled personnel	5.5a	0.3899	0.0324	0.083	1.783	1.335	275	405	0.325	0.455
Antenatal care coverage – at least four times by any provider	5.5b	0.1296	0.0207	0.160	1.531	1.237	275	405	0.088	0.171
Skilled attendant at delivery	5.7	0.1603	0.0231	0.144	1.599	1.265	275	405	0.114	0.206
Institutional deliveries	5.8	0.0785	0.0178	0.227	1.774	1.332	275	405	0.043	0.114
Caesarean section	5.9	0.0027	0.0027	1.020	1.122	1.059	275	405	0.000	0.008
Literacy rate among young women	7.1	0.0804	0.0203	0.253	1.796	1.340	221	322	0.040	0.121
Marriage before age 18	8.7	0.4126	0.0275	0.067	2.563	1.601	565	822	0.358	0.468
Polygyny	8.9	0.5715	0.0201	0.035	1.330	1.153	553	807	0.531	0.612
Comprehensive knowledge about HIV prevention among young people	9.2	0.0642	0.0190	0.296	1.933	1.390	221	322	0.026	0.102
Knowledge of mother- to-child transmission of HIV	9.3	0.1280	0.0148	0.115	1.867	1.366	659	957	0.098	0.158
Accepting attitudes towards people living with HIV	9.4	0.0265	0.0121	0.456	2.439	1.562	304	431	0.002	0.051

Table SE.11: Sampling errors: Lakes cont...										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.0112	0.0047	0.416	1.881	1.371	659	957	0.002	0.021
Sexually active young women who have been tested for HIV and know the results	9.7	0.0344	0.0139	0.404	0.856	0.925	101	148	0.007	0.062
Sex before age 15 among young women	9.11	0.0448	0.0121	0.271	1.105	1.051	221	322	0.021	0.069
UNDER-5s										
Underweight prevalence	2.1a	0.4313	0.0321	0.074	2.686	1.639	458	640	0.367	0.496
Stunting prevalence	2.2a	0.4024	0.0320	0.079	2.238	1.496	379	528	0.338	0.466
Wasting prevalence	2.3a	0.3104	0.0262	0.084	1.628	1.276	365	510	0.258	0.363
Exclusive breastfeeding under 6 months	2.6	0.3262	0.0453	0.139	0.867	0.931	67	94	0.236	0.417
Age-appropriate breastfeeding	2.14	0.2348	0.0233	0.099	1.149	1.072	272	382	0.188	0.281
Tuberculosis immunization coverage	-	0.2329	0.0469	0.201	2.231	1.494	129	182	0.139	0.327
Received polio immunization	-	0.0733	0.0177	0.241	0.736	0.858	115	161	0.038	0.109
Received DPT immunization	-	0.0809	0.0231	0.286	1.288	1.135	128	180	0.035	0.127
Received measles immunization	-	0.1712	0.0366	0.214	1.677	1.295	127	179	0.098	0.244
Received Hepatitis B immunization	-	0.0239	0.0120	0.501	1.100	1.049	128	180	0.000	0.048
Diarrhoea in the previous 2 weeks	-	0.2999	0.0190	0.064	1.489	1.220	618	863	0.262	0.338
Illness with a cough in the previous 2 weeks	-	0.1495	0.0128	0.086	1.115	1.056	618	863	0.124	0.175
Fever in last two weeks	-	0.3544	0.0241	0.068	2.192	1.481	618	863	0.306	0.403
Oral rehydration therapy with continued feeding	3.8	0.2136	0.0265	0.124	1.079	1.039	185	260	0.161	0.266
Antibiotic treatment of suspected pneumonia	3.10	0.3097	0.0345	0.111	0.729	0.854	92	132	0.241	0.379
Anti-malarial treatment of children under age 5	3.18	0.1407	0.0233	0.166	1.370	1.170	219	305	0.094	0.187
Attendance to early childhood education	6.7	0.0283	0.0114	0.403	1.329	1.153	204	282	0.005	0.051
Birth registration	8.1	0.1726	0.0143	0.083	1.237	1.112	618	863	0.144	0.201

(*): the number of unweighted observations is less than 50

Table SE.12: Sampling errors: Western Equatoria

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8130	0.0204	0.025	2.442	1.563	732	895	0.772	0.854
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6129	0.0385	0.063	5.900	2.429	4355	944	0.536	0.690
Use of improved sanitation	4.3	0.2254	0.0178	0.079	1.716	1.310	4355	944	0.190	0.261
Secondary school net attendance rate (adjusted)	7.5	0.0394	0.0147	0.372	1.202	1.096	178	213	0.010	0.069
Prevalence of children with one or both parents dead	9.18	0.1741	0.0175	0.100	5.720	2.392	2254	2697	0.139	0.209
School attendance of orphans	9.19	*	*	*	*	*	22	27	*	*
School attendance of non-orphans	9.20	0.5881	0.0382	0.065	2.433	1.560	337	404	0.512	0.665
WOMEN										
Pregnant women	-	0.1064	0.0082	0.077	0.675	0.822	778	953	0.090	0.123
Intermittent preventive treatment for malaria	3.20	0.2295	0.0301	0.131	1.289	1.135	212	252	0.169	0.290
Early childbearing	5.2	0.3350	0.0476	0.142	1.796	1.340	150	178	0.240	0.430
Contraceptive prevalence	5.3	0.0254	0.0071	0.280	1.411	1.188	563	693	0.011	0.040
Unmet need	5.4	0.2945	0.0225	0.076	1.689	1.300	563	693	0.249	0.340
Antenatal care coverage - at least once by skilled personnel	5.5a	0.6460	0.0315	0.049	1.405	1.185	270	325	0.583	0.709
Antenatal care coverage – at least four times by any provider	5.5b	0.2631	0.0313	0.119	1.636	1.279	270	325	0.201	0.326
Skilled attendant at delivery	5.7	0.3528	0.0265	0.075	0.993	0.997	270	325	0.300	0.406
Institutional deliveries	5.8	0.1153	0.0231	0.200	1.693	1.301	270	325	0.069	0.161
Caesarean section	5.9	0.0000	0.0000	0.000	NA	NA	270	325	0.000	0.000
Literacy rate among young women	7.1	0.1434	0.0330	0.230	2.833	1.683	266	320	0.077	0.209
Marriage before age 18	8.7	0.4977	0.0230	0.046	1.715	1.310	662	811	0.452	0.544
Polygyny	8.9	0.2652	0.0278	0.105	2.736	1.654	563	693	0.210	0.321
Comprehensive knowledge about HIV prevention among young people	9.2	0.2156	0.0281	0.130	1.487	1.219	266	320	0.159	0.272
Knowledge of mother- to-child transmission of HIV	9.3	0.2344	0.0185	0.079	1.812	1.346	778	953	0.197	0.271
Accepting attitudes towards people living with HIV	9.4	0.1766	0.0155	0.088	1.418	1.191	708	862	0.146	0.208

Table SE.12: Sampling errors: Western Equatoria cont...										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.1816	0.0178	0.098	2.026	1.423	778	953	0.146	0.217
Sexually active young women who have been tested for HIV and know the results	9.7	0.1701	0.0324	0.190	1.833	1.354	205	248	0.105	0.235
Sex before age 15 among young women	9.11	0.2306	0.0307	0.133	1.693	1.301	266	320	0.169	0.292
UNDER-5s										
Underweight prevalence	2.1a	0.2676	0.0263	0.098	2.305	1.518	540	652	0.215	0.320
Stunting prevalence	2.2a	0.3709	0.0257	0.069	1.657	1.287	485	585	0.319	0.422
Wasting prevalence	2.3a	0.1604	0.0219	0.137	2.097	1.448	488	590	0.117	0.204
Exclusive breastfeeding under 6 months	2.6	0.4572	0.0455	0.100	0.777	0.881	79	94	0.366	0.548
Age-appropriate breastfeeding	2.14	0.3885	0.0275	0.071	1.004	1.002	267	317	0.334	0.443
Tuberculosis immunization coverage	-	0.4119	0.0260	0.063	0.368	0.607	112	133	0.360	0.464
Received polio immunization	-	0.1695	0.0291	0.172	0.769	0.877	108	129	0.111	0.228
Received DPT immunization	-	0.1809	0.0466	0.258	1.890	1.375	110	130	0.088	0.274
Received measles immunization	-	0.3260	0.0383	0.118	0.903	0.950	114	136	0.249	0.403
Received Hepatitis B immunization	-	0.0471	0.0247	0.524	1.750	1.323	110	130	0.000	0.096
Diarrhoea in the previous 2 weeks	-	0.3295	0.0204	0.062	1.452	1.205	644	771	0.289	0.370
Illness with a cough in the previous 2 weeks	-	0.1806	0.0148	0.082	1.141	1.068	644	771	0.151	0.210
Fever in last two weeks	-	0.3589	0.0204	0.057	1.389	1.178	644	771	0.318	0.400
Oral rehydration therapy with continued feeding	3.8	0.1482	0.0235	0.159	1.122	1.059	212	257	0.101	0.195
Antibiotic treatment of suspected pneumonia	3.10	0.3697	0.0298	0.081	0.527	0.726	116	139	0.310	0.429
Anti-malarial treatment of children under age 5	3.18	0.3846	0.0515	0.134	3.148	1.774	231	282	0.282	0.488
Attendance to early childhood education	6.7	0.0879	0.0280	0.318	2.571	1.603	220	264	0.032	0.144
Birth registration	8.1	0.5579	0.0323	0.058	3.261	1.806	644	771	0.493	0.623

(*): the number of unweighted observations is less than 50

Table SE.13: Sampling errors: Central Equatoria

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8305	0.0300	0.036	6.030	2.456	1224	944	0.770	0.890
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6994	0.0349	0.050	5.570	2.360	7336	963	0.630	0.769
Use of improved sanitation	4.3	0.1267	0.0187	0.148	3.041	1.744	7336	963	0.089	0.164
Secondary school net attendance rate (adjusted)	7.5	0.0792	0.0191	0.242	1.560	1.249	404	312	0.041	0.117
Prevalence of children with one or both parents dead	9.18	0.1531	0.0106	0.069	2.555	1.598	3831	2956	0.132	0.174
School attendance of orphans	9.19	*	*	*	*	*	36	28	*	*
School attendance of non-orphans	9.20	0.6729	0.0291	0.043	1.824	1.351	614	474	0.615	0.731
WOMEN										
Pregnant women	-	0.0947	0.0119	0.125	1.506	1.227	1264	917	0.071	0.118
Intermittent preventive treatment for malaria	3.20	0.2094	0.0330	0.158	1.932	1.390	406	295	0.143	0.275
Early childbearing	5.2	0.2926	0.0285	0.097	0.735	0.857	259	188	0.236	0.350
Contraceptive prevalence	5.3	0.1259	0.0160	0.127	1.584	1.259	947	686	0.094	0.158
Unmet need	5.4	0.3287	0.0176	0.054	0.964	0.982	947	686	0.293	0.364
Antenatal care coverage - at least once by skilled personnel	5.5a	0.7222	0.0215	0.030	0.837	0.915	503	363	0.679	0.765
Antenatal care coverage – at least four times by any provider	5.5b	0.3502	0.0250	0.072	0.998	0.999	503	363	0.300	0.400
Skilled attendant at delivery	5.7	0.3871	0.0277	0.072	1.170	1.082	503	363	0.332	0.443
Institutional deliveries	5.8	0.2417	0.0340	0.141	2.287	1.512	503	363	0.174	0.310
Caesarean section	5.9	0.0186	0.0094	0.504	1.738	1.318	503	363	0.000	0.037
Literacy rate among young women	7.1	0.2775	0.0274	0.099	1.271	1.127	469	341	0.223	0.332
Marriage before age 18	8.7	0.4129	0.0262	0.063	2.157	1.469	1053	764	0.361	0.465
Polygyny	8.9	0.3569	0.0163	0.046	0.795	0.891	947	686	0.324	0.390
Comprehensive knowledge about HIV prevention among young people	9.2	0.2302	0.0244	0.106	1.140	1.068	469	341	0.181	0.279
Knowledge of mother- to-child transmission of HIV	9.3	0.1766	0.0149	0.084	1.393	1.180	1264	917	0.147	0.206
Accepting attitudes towards people living with HIV	9.4	0.1261	0.0137	0.108	1.454	1.206	1181	858	0.099	0.153

Table SE.13: Sampling errors: Central Equatoria cont...										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.1541	0.0140	0.091	1.387	1.178	1264	917	0.126	0.182
Sexually active young women who have been tested for HIV and know the results	9.7	0.1092	0.0199	0.182	0.755	0.869	258	187	0.069	0.149
Sex before age 15 among young women	9.11	0.1284	0.0181	0.141	0.991	0.995	469	341	0.092	0.165
UNDER-5s										
Underweight prevalence	2.1a	0.3039	0.0235	0.077	1.420	1.192	848	543	0.257	0.351
Stunting prevalence	2.2a	0.3354	0.0246	0.073	1.290	1.136	742	475	0.286	0.385
Wasting prevalence	2.3a	0.1637	0.0135	0.082	0.618	0.786	729	466	0.137	0.191
Exclusive breastfeeding under 6 months	2.6	0.4231	0.0410	0.097	0.537	0.733	124	79	0.341	0.505
Age-appropriate breastfeeding	2.14	0.4083	0.0264	0.065	0.931	0.965	507	323	0.355	0.461
Tuberculosis immunization coverage	-	0.5798	0.0560	0.097	2.033	1.426	253	159	0.468	0.692
Received polio immunization	-	0.3308	0.0506	0.153	1.610	1.269	223	140	0.229	0.432
Received DPT immunization	-	0.3186	0.0535	0.168	2.100	1.449	254	160	0.211	0.426
Received measles immunization	-	0.4514	0.0591	0.131	2.246	1.499	254	160	0.333	0.570
Received Hepatitis B immunization	-	0.1951	0.0385	0.197	1.499	1.224	254	160	0.118	0.272
Diarrhoea in the previous 2 weeks	-	0.3115	0.0151	0.048	0.701	0.837	1036	662	0.281	0.342
Illness with a cough in the previous 2 weeks	-	0.2259	0.0257	0.114	2.500	1.581	1036	662	0.174	0.277
Fever in last two weeks	-	0.3907	0.0226	0.058	1.420	1.191	1036	662	0.345	0.436
Oral rehydration therapy with continued feeding	3.8	0.3061	0.0299	0.098	0.869	0.932	323	208	0.246	0.366
Antibiotic treatment of suspected pneumonia	3.10	0.4713	0.0387	0.082	0.899	0.948	234	151	0.394	0.549
Anti-malarial treatment of children under age 5	3.18	0.4239	0.0312	0.074	1.033	1.016	405	260	0.361	0.486
Attendance to early childhood education	6.7	0.1579	0.0419	0.265	2.717	1.648	325	207	0.074	0.242
Birth registration	8.1	0.6131	0.0341	0.056	3.241	1.800	1036	662	0.545	0.681

(*): the number of unweighted observations is less than 50

Table SE.14: Sampling errors: Eastern Equatoria

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, South Sudan, 2010

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.7361	0.0245	0.033	2.883	1.698	1092	933	0.687	0.785
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.8406	0.0314	0.037	7.031	2.652	6056	955	0.778	0.903
Use of improved sanitation	4.3	0.0451	0.0109	0.243	2.651	1.628	6056	955	0.023	0.067
Secondary school net attendance rate (adjusted)	7.5	0.0610	0.0131	0.216	0.764	0.874	288	254	0.035	0.087
Prevalence of children with one or both parents dead	9.18	0.1724	0.0124	0.072	3.238	1.799	3519	3026	0.148	0.197
School attendance of orphans	9.19	*	*	*	*	*	31	30	*	*
School attendance of non-orphans	9.20	0.3366	0.0533	0.158	7.101	2.665	655	560	0.230	0.443
WOMEN										
Pregnant women	-	0.0858	0.0167	0.195	2.927	1.711	1012	824	0.052	0.119
Intermittent preventive treatment for malaria	3.20	0.3713	0.0302	0.081	0.648	0.805	196	167	0.311	0.432
Early childbearing	5.2	0.1837	0.0302	0.165	0.927	0.963	186	153	0.123	0.244
Contraceptive prevalence	5.3	0.0418	0.0100	0.239	1.681	1.297	829	676	0.022	0.062
Unmet need	5.4	0.2774	0.0217	0.078	1.583	1.258	829	676	0.234	0.321
Antenatal care coverage - at least once by skilled personnel	5.5a	0.4082	0.0379	0.093	1.952	1.397	398	329	0.332	0.484
Antenatal care coverage – at least four times by any provider	5.5b	0.1664	0.0202	0.122	0.969	0.984	398	329	0.126	0.207
Skilled attendant at delivery	5.7	0.2072	0.0328	0.158	2.148	1.465	398	329	0.142	0.273
Institutional deliveries	5.8	0.1509	0.0273	0.181	1.912	1.383	398	329	0.096	0.206
Caesarean section	5.9	0.0107	0.0061	0.567	1.138	1.067	398	329	0.000	0.023
Literacy rate among young women	7.1	0.1573	0.0243	0.154	1.222	1.105	335	276	0.109	0.206
Marriage before age 18	8.7	0.4650	0.0226	0.049	1.438	1.199	863	701	0.420	0.510
Polygyny	8.9	0.5002	0.0212	0.042	1.212	1.101	829	676	0.458	0.543
Comprehensive knowledge about HIV prevention among young people	9.2	0.1773	0.0293	0.165	1.617	1.272	335	276	0.119	0.236
Knowledge of mother- to-child transmission of HIV	9.3	0.1181	0.0137	0.116	1.476	1.215	1012	824	0.091	0.145
Accepting attitudes towards people living with HIV	9.4	0.1576	0.0171	0.108	1.035	1.017	546	471	0.123	0.192

Table SE.14: Sampling errors: Eastern Equatoria cont…										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
Women who have been tested for HIV and know the results	9.6	0.0875	0.0145	0.165	2.157	1.469	1012	824	0.059	0.116
Sexually active young women who have been tested for HIV and know the results	9.7	0.0908	0.0256	0.282	1.446	1.202	221	183	0.040	0.142
Sex before age 15 among young women	9.11	0.1009	0.0178	0.177	0.963	0.981	335	276	0.065	0.137
UNDER-5s										
Underweight prevalence	2.1a	0.3506	0.0188	0.054	1.020	1.010	753	659	0.313	0.388
Stunting prevalence	2.2a	0.3854	0.0266	0.069	1.760	1.326	676	592	0.332	0.439
Wasting prevalence	2.3a	0.2115	0.0228	0.108	1.891	1.375	696	607	0.166	0.257
Exclusive breastfeeding under 6 months	2.6	0.4236	0.0645	0.152	1.346	1.160	93	80	0.295	0.553
Age-appropriate breastfeeding	2.14	0.3357	0.0218	0.065	0.678	0.823	362	320	0.292	0.379
Tuberculosis immunization coverage	-	0.3952	0.0486	0.123	1.589	1.260	182	162	0.298	0.492
Received polio immunization	-	0.1324	0.0341	0.258	1.339	1.157	151	133	0.064	0.201
Received DPT immunization	-	0.1920	0.0343	0.179	1.182	1.087	178	157	0.123	0.261
Received measles immunization	-	0.2470	0.0406	0.164	1.418	1.191	181	161	0.166	0.328
Received Hepatitis B immunization	-	0.0903	0.0265	0.293	1.330	1.153	178	157	0.037	0.143
Diarrhoea in the previous 2 weeks	-	0.4366	0.0196	0.045	1.170	1.082	862	753	0.397	0.476
Illness with a cough in the previous 2 weeks	-	0.2438	0.0215	0.088	1.879	1.371	862	753	0.201	0.287
Fever in last two weeks	-	0.4584	0.0224	0.049	1.514	1.231	862	753	0.414	0.503
Oral rehydration therapy with continued feeding	3.8	0.2833	0.0268	0.095	1.151	1.073	376	327	0.230	0.337
Antibiotic treatment of suspected pneumonia	3.10	0.3239	0.0427	0.132	1.490	1.221	210	180	0.238	0.409
Anti-malarial treatment of children under age 5	3.18	0.3508	0.0389	0.111	2.287	1.512	395	345	0.273	0.429
Attendance to early childhood education	6.7	0.0807	0.0104	0.129	0.396	0.629	313	271	0.060	0.102
Birth registration	8.1	0.4522	0.0380	0.084	4.382	2.093	862	753	0.376	0.528

(*): the number of unweighted observations is less than 50

Appendix C. Data Quality Tables

Table DQ.1: Age distribution of household population
Single-year age distribution of household population by sex, South Sudan, 2010

Age	Sex			
	Male		Female	
	Number	Percent	Number	Percent
0	984	3.7	1015	3.4
1	935	3.5	806	2.7
2	1193	4.5	1102	3.7
3	1058	4.0	1089	3.7
4	905	3.4	947	3.2
5	1162	4.4	1163	3.9
6	1398	5.3	1441	4.9
7	1078	4.1	1040	3.5
8	1223	4.6	1235	4.2
9	865	3.3	820	2.8
10	1267	4.8	1272	4.3
11	530	2.0	511	1.7
12	941	3.6	840	2.8
13	603	2.3	588	2.0
14	917	3.5	807	2.7
15	404	1.5	467	1.6
16	365	1.4	384	1.3
17	298	1.1	319	1.1
18	441	1.7	626	2.1
19	231	0.9	359	1.2
20	461	1.7	738	2.5
21	179	0.7	298	1.0
22	241	0.9	392	1.3
23	195	0.7	304	1.0
24	222	0.8	392	1.3
25	410	1.6	716	2.4
26	231	0.9	433	1.5
27	222	0.8	391	1.3
28	352	1.3	718	2.4
29	171	0.6	303	1.0
30	495	1.9	874	3.0
31	143	0.5	182	0.6
32	265	1.0	346	1.2
33	130	0.5	184	0.6
34	130	0.5	183	0.6
35	482	1.8	570	1.9
36	217	0.8	237	0.8
37	175	0.7	168	0.6
38	298	1.1	439	1.5
39	168	0.6	214	0.7

Table DQ.1: Age distribution of household population cont….				
Age	Sex			
	Male		Female	
	Number	Percent	Number	Percent
40	421	1.6	424	1.4
41	79	0.3	63	0.2
42	156	0.6	136	0.5
43	92	0.3	72	0.2
44	49	0.2	56	0.2
45	369	1.4	274	0.9
46	121	0.5	82	0.3
47	91	0.3	72	0.2
48	203	0.8	167	0.6
49	168	0.6	90	0.3
50	485	1.8	805	2.7
51	127	0.5	212	0.7
52	181	0.7	259	0.9
53	90	0.3	150	0.5
54	114	0.4	122	0.4
55	194	0.7	215	0.7
56	132	0.5	121	0.4
57	57	0.2	74	0.3
58	103	0.4	146	0.5
59	64	0.2	82	0.3
60	315	1.2	336	1.1
61	44	0.2	44	0.1
62	78	0.3	59	0.2
63	43	0.2	47	0.2
64	45	0.2	45	0.2
65	119	0.5	114	0.4
66	19	0.1	21	0.1
67	31	0.1	29	0.1
68	56	0.2	70	0.2
69	33	0.1	30	0.1
70	100	0.4	93	0.3
71	20	0.1	10	0.0
72	23	0.1	20	0.1
73	14	0.1	7	0.0
74	7	0.0	10	0.0
75	33	0.1	20	0.1
76	13	0.0	10	0.0
77	6	0.0	3	0.0
78	16	0.1	13	0.0
79	9	0.0	8	0.0
80+	85	0.3	84	0.3
DK/missing	1	0.0	2	0.0
Total	26392	100.0	29609	100.0

Table DQ.2: Age distribution of eligible and interviewed women

Household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed, by five-year age groups, South Sudan, 2010

Age	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed (Completion rate)
	Number	Number	Percent	
10-14	4018			
15-19	2154	1350	14.8	62.6
20-24	2124	1590	17.5	74.9
25-29	2561	2078	22.8	81.1
30-34	1768	1498	16.5	84.7
35-39	1628	1405	15.4	86.3
40-44	752	630	6.9	83.8
45-49	685	556	6.1	81.2
50-54	1548			
Total (15-49)	11673	9107	100.0	78.0

Ratio of 5 to 4	1.26

Table DQ.3: Age distribution of under-5s in household and under-5 questionnaires

Household population of children age 0-7, children age 0-4 whose mothers/caretakers were interviewed, and percentage of under-5 children whose mothers/caretakers were interviewed, by single ages, South Sudan, 2010

Age	Household population of children 0-7 years	Interviewed under-5 children		Percentage of eligible under-5s interviewed (Completion rate)
	Number	Number	Percent	
0	1999	1553	18.7	77.7
1	1741	1505	18.1	86.4
2	2295	1913	23.1	83.3
3	2147	1827	22.0	85.1
4	1852	1499	18.1	80.9
5	2324			
6	2839			
7	2118			
Total (0-4)	10035	8297	100.0	82.7

Ratio of 5 to 4	1.26

Table DQ.4: Women's completion rates by socio-economic characteristics of households

Household population of women age 15-49, interviewed women age 15-49, and percentage of eligible women who were interviewed, by selected social and economic characteristics of the household, South Sudan, 2010

	Household population of women age 15-49 years		Interviewed women age 15-49 years		Percent of eligible women interviewed (Completion rates)
State					
Upper Nile	1400	12.0	1039	11.4	74.2
Jonglei	1672	14.3	1319	14.5	78.8
Unity	764	6.5	570	6.3	74.5
Warap	1639	14.0	1318	14.5	80.4
Northern Bahr El Ghazal	1002	8.6	898	9.9	89.6
Western Bahr El Ghazal	416	3.6	342	3.8	82.3
Lakes	848	7.3	695	7.6	82.0
Western Equatoria	1001	8.6	786	8.6	78.5
Central Equatoria	1627	13.9	1186	13.0	72.9
Eastern Equatoria	1303	11.2	955	10.5	73.3
Residence					
Urban	2988	25.6	2262	24.8	75.7
Rural	8685	74.4	6845	75.2	78.8
Household size					
1-3	7439	63.7	928	10.2	88.0
4-6	2425	20.8	3904	42.9	84.4
7+	1808	15.5	4275	46.9	71.4
Education of household head					
None	8936	76.6	6975	76.6	78.1
Primary	1500	12.9	1165	12.8	77.7
Secondary +	1222	10.5	959	10.5	78.4
Missing/DK	14	0.1	8	0.1	53.4
Wealth index quintiles					
Poorest	2229	19.1	1759	19.3	78.9
Second	2284	19.6	1785	19.6	78.2
Middle	2328	19.9	1820	20.0	78.2
Fourth	2316	19.8	1854	20.4	80.1
Richest	2516	21.6	1889	20.7	75.1
Total	11673	100.0	9107	100.0	78.0

Table DQ.5: Completion rates for under-5 questionnaires by socio-economic characteristics of households

Household population of under-5 children, under-5 questionnaires completed, and percentage of under-5 children for whom interviews were completed, by selected socio-economic characteristics of the household, South Sudan, 2010

	Household population of under-5 children		Interviewed under-5 children		Percent of eligible under-5s with completed under-5 questionnaires (Completion rates)
State					
Upper Nile	1163	11.6	881	10.6	75.7
Jonglei	1509	15.0	1286	15.5	85.2
Unity	764	7.6	655	7.9	85.6
Warap	1415	14.1	1223	14.7	86.4
Northern Bahr El Ghazal	987	9.8	916	11.0	92.8
Western Bahr El Ghazal	392	3.9	335	4.0	85.3
Lakes	744	7.4	623	7.5	83.8
Western Equatoria	775	7.7	643	7.7	82.9
Central Equatoria	1247	12.4	858	10.3	68.8
Eastern Equatoria	1038	10.3	878	10.6	84.6
Residence					
Urban	2458	24.5	1971	23.8	80.2
Rural	7577	75.5	6326	76.2	83.5
Household size					
1-3	715	7.1	390	4.7	88.4
4-6	4832	48.2	3713	44.8	86.9
7+	4488	44.7	4194	50.5	78.8
Education of household head					
None	7768	77.4	6424	77.4	82.7
Primary	1289	12.8	1070	12.9	83.0
Secondary +	973	9.7	801	9.7	82.3
Missing/DK	5	0.0	2	0.0	44.1
Wealth index quintiles					
Poorest	2070	20.6	1763	21.2	85.1
Second	2022	20.2	1668	20.1	82.5
Middle	1972	19.7	1659	20.0	84.1
Fourth	2060	20.5	1716	20.7	83.3
Richest	1910	19.0	1492	18.0	78.1
Total	10035	100.0	8297	100.0	82.7

Table DQ.6: Completeness of reporting

Percentage of observations that are missing information for selected questions and indicators, South Sudan, 2010

	Percent with missing/ incomplete information*	Number of cases
Age	0	55973
Salt testing	1.4	9369
Starting time of interview	15.7	9369
Ending time of interview	9.0	9369
Date of birth: Only month	4.3	8338
Date of birth: Both month and year	0.1	8338
Anthropometric measurements: Weight	19.3	8338
Anthropometric measurements: Height	24.3	8338
Anthropometric measurements: Both weight and height	18.3	8338
Starting time of interview	7.8	8338
Ending time of interview	1.6	8338

Table DQ.7: Completeness of information for anthropometric indicators

Distribution of children under 5 by completeness of information for anthropometric indicators, South Sudan, 2010

	Valid weight and height	Reason for exclusion from analysis							Total	Percent of children excluded from analysis	Number of children under 5
		Weight not measured	Height not measured	Incomplete date of birth	Weight not measured, incomplete date of birth	Height not measured, incomplete date of birth,	Weight and height not measured, incomplete date of birth	Flagged cases (outliers)			
Weight by age											
<6 months	35.0	0.2	26.0	.8	0.0	0.3	0.1	4.7	100.0	32.2	877
6-11 months	67.5	0.3	8.5	1.6	0.0	0.2	0.0	3.9	100.0	14.6	870
12-23 months	73.9	0.9	4.3	2.9	0.0	0.1	0.0	3.3	100.0	11.5	1683
24-35 months	73.7	1.0	2.4	3.9	0.0	0.1	0.0	2.8	100.0	10.2	1971
36-47 months	72.6	1.1	1.5	4.7	0.1	0.1	0.1	2.8	100.0	10.4	1798
48-59 months	72.1	1.1	2.0	2.6	0.1	.2	0.0	3.8	100.0	9.7	1139
Total	68.6	.9	5.7	3.1	0.0	0.1	0.0	3.3	100.0	13.2	8338

Table DQ.8: Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for decimals, South Sudan, 2010

Digits	Weight		Height	
	Number	Percent	Number	Percent
0	1155	17.1	2265	33.3
1	549	8.2	449	6.6
2	748	11.1	682	10.0
3	666	9.9	604	8.9
4	537	8.0	429	6.3
5	917	13.6	1050	15.4
6	546	8.1	436	6.4
7	490	7.3	330	4.8
8	566	8.4	281	4.1
9	561	8.3	284	4.2
0 or 5	2072	30.8	3315	48.7
Total	6735	100.0	6810	100.0

Table DQ.9: Observation of women's health card

Percent distribution of women with a live birth in the last 2 years by presence of a health card, and the percentage of health cards seen by the interviewers, South Sudan, 2010

	Woman does not have health card	Woman has health card		Missing/DK	Total	Percent of health cards seen by the interviewer (1)/(1+2)*100	Number of women with a live birth in the last two years
		Seen by the interviewer (1)	Not seen by the interviewer (2)				
State							
Upper Nile	61.8	8.6	26.8	1.0	100.0	24.3	395
Jonglei	55.5	9.4	28.1	2.0	100.0	25.0	299
Unity	58.5	10.9	25.7	1.4	100.0	29.8	284
Warap	59.0	4.4	18.2	1.0	100.0	19.3	390
Northern Bahr El Ghazal	53.8	11.5	28.8	1.6	100.0	28.6	364
Western Bahr El Ghazal	41.2	14.9	36.2	0.8	100.0	29.2	362
Lakes	48.9	9.4	28.6	2.0	100.0	24.7	405
Western Equatoria	43.4	14.2	39.4	0.9	100.0	26.4	325
Central Equatoria	17.9	27.8	50.7	0.6	100.0	35.4	363
Eastern Equatoria	61.8	8.6	26.8	1.0	100.0	24.3	395
Residence							
Urban	33.5	18.6	41.0	1.1	100.0	31.2	996
Rural	54.8	10.0	27.5	1.2	100.0	26.8	2520
Wealth index quintiles							
Poorest	63.5	6.1	23.9	1.6	100.0	20.2	627
Second	59.0	9.2	23.4	.6	100.0	28.2	675
Middle	52.6	10.5	28.2	1.1	100.0	27.1	705
Fourth	44.4	13.7	35.0	0.9	100.0	28.1	759
Richest	28.0	21.3	43.6	1.7	100.0	32.9	750
Total	48.7	12.5	31.3	1.2	100.0	28.5	3516

Table DQ.10: Observation of under-5s birth certificates

Percent distribution of children under 5 by presence of birth certificates, and percentage of birth calendar seen, South Sudan, 2010

	Child does not have birth certificate	Child has birth certificate		Missing/DK	Total	Percent of birth certificates seen by the interviewer (1)/(1+2)*100	Number of children under age 5
		Seen by the interviewer (1)	Not seen by the interviewer (2)				
State							
Upper Nile	72.3	6.4	20.1	1.2	100.0	24.2	827
Jonglei	72.1	4.4	23.3	.2	100.0	15.8	825
Unity	67.0	2.8	28.9	1.3	100.0	8.8	900
Warap	79.2	1.8	18.8	.2	100.0	8.7	950
Northern Bahr El Ghazal	83.9	3.6	12.0	.5	100.0	23.2	967
Western Bahr El Ghazal	72.3	4.9	21.7	1.1	100.0	18.3	820
Lakes	83.7	0.9	14.9	0.5	100.0	5.8	863
Western Equatoria	53.2	8.3	37.1	1.4	100.0	18.3	771
Central Equatoria	54.8	15.0	29.5	0.8	100.0	33.7	662
Eastern Equatoria	59.1	13.3	27.2	0.4	100.0	32.8	753
Residence							
Urban	63.5	9.0	26.5	1.0	100.0	25.4	2174
Rural	73.2	4.6	21.6	0.7	100.0	17.4	6164
Child's age							
0	73.0	7.4	19.1	0.4	100.0	28.0	1586
1	70.5	6.7	22.3	0.5	100.0	23.1	1526
2	71.0	5.2	23.4	0.5	100.0	18.1	1921
3	69.6	4.8	24.5	1.2	100.0	16.3	1848
4	69.2	4.8	24.8	1.2	100.0	16.2	1457
Total	70.7	5.7	22.9	0.8	100.0	20.0	8338

Table DQ.11: Presence of mother in the household and the person interviewed for the under-5 questionnaire

Distribution of children under five by whether the mother lives in the same household, and the person interviewed for the under-5 questionnaire, South Sudan, 2010

	Mother in the household	Mother not in the household				Total	Number of children under 5
	Mother interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed	Other person interviewed		
Age							
0	94.6	0.5	4.6	0.2	0.1	100.0	1999
1	93.5	0.5	5.8	0.0	0.2	100.0	1741
2	91.3	0.6	7.7	0.3	0.1	100.0	2295
3	90.1	0.6	8.9	0.4	0.1	100.0	2147
4	89.0	0.8	9.6	0.4	0.2	100.0	1852
Total	91.6	0.6	7.4	0.3	0.1	100.0	10035

Table DQ.12: School attendance by single age

Distribution of household population age 5-24 by educational level attended in the most recent school year and highest grade completed, South Sudan, 2010

Age at the begining of a school year		Preschool	Primary											Secondary					Post secondary diploma	University	Post University	Khalwa	Adult education	DK	Total	Number of household members
			Grade 1 incomplete	1	2	3	4	5	6	7	8	DK	Missing	Grade 1 incomplete	1	2	3	Missing								
5	89.0	3.7	1.1	4.1	1.3	.5	.1	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	100.0	2839
6	82.5	3.1	1.0	8.2	3.2	1.2	.3	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	100.0	2118
7	80.6	1.9	1.1	6.6	5.7	2.4	1.0	.2	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	100.0	2457
8	73.8	2.0	.9	8.5	7.7	4.5	1.9	.2	.0	.0	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.2	100.0	1685
9	71.9	1.1	1.6	6.8	7.5	5.9	3.4	.7	.4	.2	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.1	100.0	2539
10	63.8	1.2	1.2	6.8	8.5	7.4	5.9	3.5	.7	.2	.0	.1	.1	.0	.0	.0	.0	.0	.0	.1	.2	.0	.0	.2	100.0	1042
11	65.8	.6	.9	5.0	6.9	8.1	6.0	3.5	1.7	.7	.2	.2	.0	.0	.0	.2	.1	.0	.1	.1	.0	.0	.1	.1	100.0	1780
12	61.6	.6	1.1	3.7	5.9	7.4	9.0	5.0	2.8	1.6	.4	.1	.0	.0	.0	.2	.2	.0	.1	.2	.0	.1	.0	.1	100.0	1191
13	61.5	.7	1.2	3.1	3.5	6.1	8.0	5.4	4.3	3.0	1.2	.1	.1	.0	.3	.2	.4	.0	.3	.1	.1	.0	.1	.3	100.0	1724
14	58.6	.5	1.2	1.9	3.7	6.5	5.5	6.1	6.0	4.6	2.9	.0	.1	.0	.7	.2	.6	.0	.4	.0	.3	.0	.1	.0	100.0	871
15	59.2	.2	.7	1.8	3.7	4.1	6.1	7.1	5.4	5.1	2.1	.1	.0	.0	1.2	1.2	.3	.1	.7	.2	.0	.0	.3	.4	100.0	749
16	57.7	.3	.5	1.5	2.5	3.8	3.6	6.2	4.8	7.6	3.2	.0	.0	.2	1.5	3.0	1.3	.0	1.4	.3	.0	.2	.0	.4	100.0	617
17	68.8	.2	1.0	1.3	1.4	1.5	2.7	3.1	4.7	3.4	4.3	.2	.0	.1	1.2	2.1	2.2	.0	1.3	.3	.1	.0	.2	.1	100.0	1066
18	73.9	.1	.6	1.2	1.3	1.0	1.6	3.7	3.4	3.3	3.3	.0	.0	.0	.2	2.8	2.2	.0	.2	.2	.3	.3	.0	.2	100.0	590
19	83.1	.0	.4	1.0	.9	1.0	1.2	1.0	1.0	2.2	2.0	.2	.0	.1	.5	1.7	1.8	.0	1.2	.3	.1	.0	.2	.2	100.0	1198
20	77.7	.0	.6	.9	1.5	2.6	1.3	1.3	2.5	1.8	1.2	.0	.0	.0	1.7	1.4	1.6	.3	2.4	.8	.3	.0	.0	.2	100.0	477
21	84.0	.0	.9	.7	.5	.6	.7	1.5	1.1	1.9	1.5	.0	.1	.2	.5	1.6	2.0	.0	1.5	.5	.1	.1	.0	.1	100.0	634
22	85.5	.4	.4	.8	.4	1.5	.9	.5	.8	1.5	1.5	.0	.0	.0	.6	1.2	1.0	.0	1.2	1.2	.3	.0	.0	.2	100.0	499
23	90.0	.0	.3	.7	.5	.7	.2	.2	1.0	.4	.7	.0	.4	.0	.8	1.2	1.1	.0	1.2	.4	.1	.0	.0	.0	100.0	614

Table DQ.13: Sex ratio at birth among children ever born and living

Sex ratio (number of males per 100 females) among children ever born (at birth), children living, and deceased children, by age of women, South Sudan, 2010

	Children Ever Born			Children Living			Children Deceased			Number of women
	Number of sons ever born	Number of daughters ever born	Sex ratio	Number of sons living	Number of daughters living	Sex ratio	Number of deceased sons	Number of deceased daughters	Sex ratio	
15-19	240	250	0.96	220	234	0.94	20	16	1.25	1360
20-24	1401	1385	1.01	1262	1254	1.01	139	131	1.06	1612
25-29	3391	3232	1.05	3030	2960	1.02	361	272	1.33	2097
30-34	3224	2983	1.08	2839	2676	1.06	385	307	1.25	1468
35-39	3561	3339	1.07	3070	2936	1.05	491	403	1.22	1370
40-44	1630	1566	1.04	1318	1318	1.00	312	248	1.26	620
45-49	1480	1305	1.13	1186	1085	1.09	294	220	1.34	542
Total	14927	14060	1.05	12925	12463	1.02	2002	1597	1.24	9069

Table DQ.14: Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living, dead, and total children (weighted, unimputed), South Sudan, 2010

	Number of births			Percent with complete birth date**			Sex ratio at birth***			Calendar year ratio****		
Year of birth	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
2010*	536	29	565	92.8	76.5	92.0	96.3	67.4	94.6	na	na	na
2009	2018	116	2134	92.5	84.6	92.1	100.4	135.9	102.1	na	na	na
2008	2000	130	2130	89.1	68.7	87.8	109.4	95.1	108.5	104.0	113.9	104.5
2007	1829	113	1942	83.6	74.5	83.0	100.5	150.1	102.9	101.3	82.2	100.0
2006	1611	143	1754	81.7	72.4	80.9	93.6	146.6	97.1	90.2	127.9	92.5
2005	1741	112	1853	69.9	78.3	70.4	98.8	81.5	97.6	97.8	78.2	96.4
2004	1949	143	2091	71.6	69.3	71.4	100.6	137.9	102.7	118.2	118.4	118.2
2003	1556	129	1685	69.8	71.8	69.9	113.8	122.5	114.5	85.7	103.2	86.8
2002	1682	107	1790	69.6	71.8	69.8	102.1	123.6	103.2	124.3	94.6	122.0
2001	1151	98	1248	69.6	72.7	69.9	98.7	127.6	100.7	71.5	81.1	72.1
2000	1538	134	1672	70.9	69.3	70.8	109.7	183.4	114.2	159.9	151.9	159.2
1999	773	79	852	71.0	62.0	70.2	89.4	160.9	94.3	60.8	55.3	60.2
1998	1005	150	1156	66.5	63.0	66.1	106.9	83.7	103.6	132.4	189.6	137.8
1997	745	80	825	69.9	73.9	70.3	103.6	141.0	106.7	80.8	70.1	79.6
1996	840	78	918	63.8	75.4	64.8	111.0	89.4	109.0	132.5	97.3	128.5
1995	523	80	603	69.0	66.5	68.6	100.1	139.7	104.6	80.6	90.6	81.8
1994	457	99	556	70.4	70.4	70.4	113.0	87.4	107.9	110.6	142.3	115.2
1993	304	59	363	68.4	78.9	70.1	118.0	116.4	117.7	70.2	69.6	70.1
1992	409	70	479	65.5	62.8	65.1	101.7	102.7	101.9	159.3	135.9	155.4
1991	209	44	254	73.3	70.5	72.9	133.2	186.9	141.0	56.8	62.2	57.7
1990	329	72	401	63.6	59.8	63.0	113.7	182.5	123.4	8.0	25.0	9.1
2006-2010	7993	531	8525	87.5	74.8	86.7	100.9	124.7	102.2	na	na	na
2001-2005	8079	588	8667	70.2	72.6	70.4	102.6	117.6	103.6	na	na	na
1996-2000	4902	520	5423	68.7	68.0	68.6	105.0	123.0	106.6	na	na	na
1991-1995	1903	351	2254	68.9	69.4	69.0	109.5	115.6	110.4	na	na	na
<1991	1242	314	1556	65.0	69.7	65.9	125.9	171.2	133.8	na	na	na
DK/missing	1380	1280	2661	.0	0.0	14.3	105.3	126.0	114.7	na	na	na
Total	25500	3585	29085	71.2	45.8	69.3	104.2	126.2	106.7	na	na	na

*
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***

DQ.15: Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, by 5-year periods preceding the survey (weighted, unimputed), South Sudan, 2010

	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
Age at death (days)					
0	28	6	11	3	48
1	41	29	21	13	105
2	22	11	4	3	41
3	11	18	4	3	36
4	5	5	7	8	25
5	4	7	3	2	16
6	6	6	4	2	18
7	10	6	10	10	36
8	6	6	0	0	11
9	7	1	3	1	12
10	4	2	3	2	11
11	1	1	1	1	4
12	4	0	1	3	8
13	2	3	1	0	6
14	0	3	0	0	3
15	0	0	2	0	2
16	2	0	0	1	2
17	0	1	1	0	1
18	1	0	1	0	2
20	2	3	0	0	4
21	0	2	0	0	2
22	1	1	0	0	2
23	1	3	2	1	6
25	1	2	0	0	3
26		0	0	0	
28	1	0	2	0	3
30	0	1	0	0	1
Age at death (days)					
1.00	158	116	81	53	408
Percent early neonatal*	73.7	71.7	68.0	66.1	71.0
*** <7 days / <31 days**					

DQ.16: Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, by 5-year periods preceding the survey (weighted, unimputed), South Sudan, 2010

Background characteristics	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
Age at death (months)					
0	169	140	96	59	464
1	24	25	19	9	77
2	28	16	23	16	83
3	44	27	35	23	129
4	18	11	13	6	48
5	14	9	8	1	32
6	15	13	10	5	43
7	12	14	15	7	48
8	9	12	9	9	39
9	17	13	12	7	49
10	5	5	10	4	24
11	7	3	4	2	16
12	1	5	4	4	14
13	1	2	0	0	3
14	3	3	1	1	8
15	0	1	2	0	3
16	0	1	1	1	3
17	1	2	0	0	3
18	2	0	1	0	3
19	1	0	0	1	2
20	2	0	0	4	6
21	0	0	1	0	1
22	0	2	2	0	4
24	0	1	1	1	3
25	1	0	0	0	1
27	1	0	1	0	2
30	0	1	0	0	1
Reported as 1 year	35	35	30	18	118
Total 0-11	382	306	274	162	1,124
Percent neonatal*	46.7	48.6	37.8	39.9	44.1

*** <1 month / <1 year**

Appendix D. MICS4 Indicators: Numerators and Denominators

MICS4 INDICATOR[M]		Module[12]	Numerator	Denominator	MDG[13]
1. MORTALITY					
1.1	Under-five mortality rate[14]	CM - BH	Probability of dying before turning age 5 years		MDG 4.1
1.2	Infant mortality rate[15]	CM - BH	Probability of dying before turning age 1 year		MDG 4.2
1.3	Neonatal mortality rate	BH	Probability of dying within the first month of life, during the 5-year period preceding the survey		
1.4	Post-neonatal mortality rate	BH	Difference between infant and neonatal mortality rates, during the 5-year period preceding the survey		
1.5	Child mortality rate	BH	Probability of dying between exact ages one andfive, during the 5-year period preceding the survey		

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
2. NUTRITION					
2.1a 2.1b	Underweight prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for age of the WHO standard	Total number of children under age 5	MDG 1.8
2.2a 2.2b	Stunting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median height for age of the WHO standard	Total number of children under age 5	
2.3a 2.3b	Wasting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for height of the WHO standard	Total number of children under age 5	
2.4	Children ever breastfed	MN	Number of women with a live birth in the 2 years preceding the survey who breastfed the child at any time	Total number of women with a live birth in the 2 years preceding the survey	

[M]Indicates that the indicator is also calculated for men, for the same age group, in surveys where the Questionnaire for Individual Men has been included. Calculations are carried out by using modules in the Men's Questionnaire

[12]Some indicators are constructed by using questions in several modules. In such cases, only the module(s) which contains most of the necessary information is indicated.

[13]MDG indicators as of February 2010

[14]Indicator is defined as "Probability of dying between birth and fifth birthday, during the 5-year period preceding the survey" when estimated from the birth history

[15]Indicator is defined as "Probability of dying between birth and the first birthday, during the 5-year period preceding the survey" when estimated from the birth history

[M]Indicates that the indicator is also calculated for men, for the same age group, in surveys where the Questionnaire for Individual Men has been included. Calculations are carried out by using modules in the Men's Questionnaire

[16]Some indicators are constructed by using questions in several modules. In such cases, only the module(s) which contains most of the necessary information is indicated.

[17]MDG indicators as of February 2010

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
2.5	Early initiation of breastfeeding	MN	Number of women with a live birth in the 2 years preceding the survey who put the newborn infant to the breast within 1 hour of birth	Total number of women with a live birth in the 2 years preceding the survey	
2.6	Exclusive breastfeeding under 6 months	BF	Number of infants under 6 months of age who are exclusively breastfed[18]	Total number of infants under 6 months of age	
2.7	Continued breastfeeding at 1 year	BF	Number of children age 12-15 months who are currently breastfeeding	Total number of children age 12-15 months	
2.8	Continued breastfeeding at 2 years	BF	Number of children age 20-23 months who are currently breastfeeding	Total number of children age 20-23 months	
2.9	Predominant breastfeeding under 6 months	BF	Number of infants under 6 months of age who received breast milk as the predominant source of nourishment[19] during the previous day	Total number of infants under 6 months of age	
2.10	Duration of breastfeeding	BF	The age in months when 50 percent of children age 0-35 months did not receive breast milk during the previous day		
2.11	Bottle feeding	BF	Number of children age 0-23 months who were fed with a bottle during the previous day	Total number of children age 0-23 months	
2.12	Introduction of solid, semi-solid or soft foods	BF	Number of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day	Total number of infants age 6-8 months	
2.13	Minimum meal frequency	BF	Number of children age 6-23 months receiving solid, semi-solid and soft foods (plus milk feeds for non-breastfed children) the minimum times[20] or more, according to breastfeeding status, during the previous day	Total number of children age 6-23 months	
2.14	Age-appropriate breastfeeding	BF	Number of children age 0-23 months appropriately fed[21] during the previous day	Total number of children age 0-23 months	
2.15	Milk feeding frequency for non-breastfed children	BF	Number of non-breastfed children age 6-23 months who received at least 2 milk feedings during the previous day	Total number of non-breastfed children age 6-23 months	
2.16	Iodized salt consumption	SI	Number of households with salt testing 15 parts per million or more of iodide/iodate	Total number of households in which salt was tested or with no salt	
2.17	Vitamin A supplementation (children under age 5)	IM	Number of children age 6-59 months who received at least one high-dose vitamin A supplement in the 6 months preceding the survey	Total number of children age 6-59 months	

3. CHILD HEALTH					
3.1	Tuberculosis immunization coverage	IM	Number of children age 12-23 months[22] who received BCG vaccine before their first birthday	Total number of children age 12-23 months	

[18] Infants receiving breast milk, and not receiving any other fluids or foods, with the exception of oral rehydration solution, vitamins, mineral supplements and medicines

[19] Infants who receive breast milk and certain fluids (water and water-based drinks, fruit juice, ritual fluids, oral rehydration solution, drops, vitamins, minerals, and medicines), but do not receive anything else (in particular, non-human milk and food-based fluids)

[20] Breastfeeding children: Solid, semi-solid, or soft foods, two times for infants age 6-8 months, 3 times for children 9-23 months; Non-breastfeeding children: Solid, semi-solid, or soft foods, or milk feeds, four times for children age 6-23 months

[21] Infants age 0-5 who are exclusively breastfed, and children age 6-23 months who are breastfed and ate solid, semi-solid or soft foods

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
3.2	Polio immunization coverage	IM	Number of children age 12-23 months who received OPV3 vaccine before their first birthday	Total number of children age 12-23 months	
3.3	Immunization coverage for diphtheria, pertussis and tetanus (DPT)	IM	Number of children age 12-23 months who received DPT3 vaccine before their first birthday	Total number of children age 12-23 months	
3.4	Measles immunization coverage	IM	Number of children age 12-23 months who received measles vaccine before their first birthday	Total number of children age 12-23 months	MDG 4.3
3.5	Hepatitis B immunization coverage	IM	Number of children age 12-23 months who received the third dose of Hepatitis B vaccine before their first birthday	Total number of children age 12-23 months	
3.6	Neonatal tetanus protection	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who were given at least two doses of tetanus toxoid vaccine within the appropriate interval[23] prior to giving birth	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
3.7	Oral rehydration therapy with continued feeding	CA	Number of children under age 5 with diarrhoea in the previous 2 weeks who received ORT (ORS packet or recommended homemade fluid or increased fluids) and continued feeding during the episode of diarrhoea	Total number of children under age 5 with diarrhoea in the previous 2 weeks	
3.8	Care-seeking for suspected pneumonia	CA	Number of children under age 5 with suspected pneumonia in the previous 2 weeks who were taken to an appropriate health provider	Total number of children under age 5 with suspected pneumonia in the previous 2 weeks	

[22]Indicators 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6 may be calculated for an older age group, such as 15-26 months or 18-29 months, depending on the immunization schedule

[23]See MICS4 manual for a detailed description

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
3.9	Antibiotic treatment of suspected pneumonia	CA	Number of children under age 5 with suspected pneumonia in the previous 2 weeks who received antibiotics	Total number of children under age 5 with suspected pneumonia in the previous 2 weeks	
3.10	Solid fuels	HC	Number of household members in households that use solid fuels as the primary source of domestic energy to cook	Total number of household members	
3.11	Household availability of insecticide-treated nets (ITNs)[24]	TN	Number of households with at least one insecticide treated net (ITN)	Total number of households	
3.12	Malaria diagnostics usage	ML	Number of children under age 5 reported to have had fever in the previous 2 weeks who had a finger or heel stick for malaria testing	Total number of children under age 5 reported to have had fever in the previous 2 weeks	
3.13	Anti-malarial treatment of children under age 5 the same or next day	ML	Number of children under age 5 reported to have had fever in the previous 2 weeks who were treated with any anti-malarial drug within the same or next day of onset of symptoms	Total number of children under age 5 reported to have had fever in the previous 2 weeks	
3.14	Anti-malarial treatment of children under age 5	ML	Number of children under age 5 reported to have had fever in the previous 2 weeks who received any antimalarial treatment	Total number of children under age 5 reported to have had fever in the previous 2 weeks	MDG 6.8
3.15	Intermittent preventive treatment for malaria	MN	Number of women age 15-49 years who received at least 2 doses of SP/Fansidar to prevent malaria during antenatal care visits for their last pregnancy leading to a live birth in the 2 years preceding the survey	Total number of women age 15-49 years who have had a live birth in the 2 years preceding the survey	
4. WATER AND SANITATION					
4.1	Use of improved drinking water sources	WS	Number of household members using improved sources of drinking water	Total number of household members	MDG 7.8
4.2	Water treatment	WS	Number of household members using unimproved drinking water who use an appropriate treatment method	Total number of household members in households using unimproved drinking water sources	
4.3	Use of improved sanitation	WS	Number of household members using improved sanitation facilities which are not shared	Total number of household members	MDG 7.9
4.4	Safe disposal of child's faeces	CA	Number of children age 0-2 years whose last stools were disposed of safely	Total number of children age 0-2 years	
5. REPRODUCTIVE HEALTH					
5.1	Adolescent birth rate[25]	CM - BH	Age-specific fertility rate for women age 15-19 years for the one year period preceding the survey		MDG 5.4
5.2	Early childbearing	CM - BH	Number of women age 20-24 years who had at least one live birth before age 18	Total number of women age 20-24 years	
5.3	Contraceptive prevalence rate	CP	Number of women age 15-49 years currently married or in union who are using (or whose partner is using) a (modern or	Total number of women age 15-49 years who are currently married or in union	MDG 5.3

[24] An ITN is (a) a factory treated net which does not require any treatment, (b) a pretreated net obtained within the past 12 months, or (c) a net that has been soaked with or dipped in insecticide within the past 12 months

[25] Indicator is defined as "Age-specific fertility rate for women age 15-19 years, for the 3-year period preceding the survey" when estimated from the birth history

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
			traditional) contraceptive method		
5.4	Unmet need[26]	UN	Number of women age 15-49 years who are currently married or in union who are fecund and want to space their births or limit the number of children they have and who are not currently using contraception	Total number of women age 15-49 years who are currently married or in union	MDG 5.6
5.5a 5.5b	Antenatal care coverage	MN	Number of women age 15-49 years who were attended during pregnancy in the 2 years preceding the survey (a) at least once by skilled personnel (b) at least four times by any provider	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.5
5.6	Content of antenatal care	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who had their blood pressure measured and gave urine and blood samples during the last pregnancy	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
5.7	Skilled attendant at delivery	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who were attended during childbirth by skilled health personnel	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.2
5.8	Institutional deliveries	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who delivered in a health facility	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
5.9	Caesarean section	MN	Number of last live births in the 2 years preceding the survey who were delivered by caesarean section	Total number of last live births in the 2 years preceding the survey	

[26] See MICS4 manual for a detailed description

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
7. LITERACY AND EDUCATION					
7.1	Literacy rate among young women [M]	WB	Number of women age 15-24 years who are able to read a short simple statement about everyday life or who attended secondary or higher education	Total number of women age 15-24 years	MDG 2.3
7.2	School readiness	ED	Number of children in first grade of primary school who attended pre-school during the previous school year	Total number of children attending the first grade of primary school	
7.3	Net intake rate in primary education	ED	Number of children of school-entry age who enter the first grade of primary school	Total number of children of school-entry age	
7.4	Primary school net attendance rate (adjusted)	ED	Number of children of primary school age currently attending primary or secondary school	Total number of children of primary school age	MDG 2.1
7.5	Secondary school net attendance rate (adjusted)	ED	Number of children of secondary school age currently attending secondary school or higher	Total number of children of secondaryschool age	
7.6	Children reaching last grade of primary	ED	Proportion of children entering the first grade of primary school who eventually reach last grade		MDG 2.2
7.7	Primary completion rate	ED	Number of children attending the last grade of primary school (excluding repeaters)	Total number of children of primary school completion age (age appropriate to final grade of primary school)	
7.8	Transition rate to secondary school	ED	Number of children attending the last grade of primary school during the previous school year who are in the first grade of secondary school during the current school year	Total number of children attending the last grade of primary school during the previous school year	
7.9	Gender parity index (primary school)	ED	Primary school net attendance rate(adjusted) for girls	Primary school net attendance rate(adjusted) for boys	MDG 3.1
7.10	Gender parity index (secondary school)	ED	Secondary school net attendance rate(adjusted) for girls	Secondary school net attendance rate(adjusted) for boys	MDG 3.1

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
8. CHILD PROTECTION					
8.1	Birth registration	BR	Number of children under age 5 whose births are reported registered	Total number of children under age 5	
8.2	Marriage before age 15[M]	MA	Number of women age 15-49 years who were first married or in union by the exact age of 15	Total number of women age 15-49 years	
8.3	Marriage before age 18[M]	MA	Number of women age 20-49 years who were first married or in union by the exact age of 18	Total number of women age 20-49 years	
8.4	Young women age 15-19 years currently married or in union[M]	MA	Number of women age 15-19 years who are currently married or in union	Total number of women age 15-19 years	
8.5	Polygyny[M]	MA	Number of women age 15-49 years who are in a polygynous union	Total number of women age 15-49 years who are currently married or in union	
8.6	Attitudes towards domestic violence [M]	DV	Number of women who state that a husband/partner is justified in hitting or beating his wife in at least one of the following circumstances: (1) she goes out without telling him, (2) she neglects the children, (3) she argues with him, (4) she refuses sex with him, (5) she burns the food	Total number of women age 15-49 years	
8.7	Children's living arrangements	HL	Number of children age 0-17 years not living with a biological parent	Total number of children age 0-17 years	
8.8	Prevalence of children with one or both parents dead	HL	Number of children age 0-17 years with one or both parents dead	Total number of children age 0-17 years	
9. HIV/AIDS, SEXUAL BEHAVIOUR AND ORPHANS					
9.1	Comprehensive knowledge about HIV prevention[M]	HA	Number of women age 15-49 years who correctly identify two ways of preventing HIV infection[27], know that a healthy looking person can have HIV, and reject the two most common misconceptions about HIV transmission	Total number of women age 15-49 years	
9.2	Comprehensive knowledge about HIV prevention among young people[M]	HA	Number of women age 15-24 years who correctly identify two ways of preventing HIV infection[12], know that a healthy looking person can have HIV, and reject the two most common misconceptions about HIV transmission	Total number of women age 15-24 years	MDG 6.3
9.3	Knowledge of mother-to-child transmission of HIV [M]	HA	Number of women age 15-49 years who correctly identify all three means[28] of mother-to-child transmission of HIV	Total number of women age 15-49 years	
9.4	Accepting attitudes towards people living with HIV[M]	HA	Number of women age 15-49 years expressing accepting attitudes on all four questions[29] toward people living with HIV	Total number of women age 15-49 years who have heard of HIV	

[27] Using condoms and limiting sex to one faithful, uninfected partner

[28] Transmission during pregnancy, during delivery, and by breastfeeding

[29] Women (1) who think that a female teacher with the AIDS virus should be allowed to teach in school, (2) who would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus, (3) who would not want to keep it as a secret if a family member became infected with the AIDS virus, and (4) who would be willing to care for a family member who became sick with the AIDS virus

MICS4 INDICATOR[M]		Module[16]	Numerator	Denominator	MDG[17]
9.5	Women who know where to be tested for HIV[M]	HA	Number of women age 15-49 years who state knowledge of a place to be tested for HIV	Total number of women age 15-49 years	
9.6	Women who have been tested for HIV and know the results [M]	HA	Number of women age 15-49 years who have been tested for HIV in the 12 months preceding the survey and who know their results	Total number of women age 15-49 years	
9.7	Sexually active young women who have been tested for HIV and know the results [M]	HA	Number of women age 15-24 years who have had sex in the 12 months preceding the survey, who have been tested for HIV in the 12 months preceding the surveyand who know their results	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.8	HIV counselling during antenatal care	HA	Number of women age 15-49 years who gave birth in the 2 years preceding the survey and received antenatal care, reporting that they received counselling on HIV during antenatal care	Total number of women age 15-49 years who gave birth in the 2 years preceding the survey	
9.9	HIV testing during antenatal care	HA	Number of women age 15-49 years who gave birth in the 2 years preceding the surveyand received antenatal care, reporting that they were offered and accepted an HIV test during antenatal care and received their results	Total number of women age 15-49 years who gave birth in the 2 years preceding the survey	
9.10	Young women who have never had sex[M]	SB	Number of never married women age 15-24 years who have never had sex	Total number of never married women age 15-24 years	
9.11	Sex before age 15 among young women[M]	SB	Number of women age 15-24 years who have had sexual intercourse before age 15	Total number of women age 15-24 years	
9.12	Age-mixing among sexual partners[M]	SB	Number of women age 15-24 years who had sex in the 12 months preceding the survey with a partner who was 10 or more years older	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.13	Sex with multiple partners[M]	SB	Number of women age 15-49 years who have had sexual intercourse with more than one partner in the 12 months preceding the survey	Total number of women age 15-49 years	
9.14	Condom use during sex with multiple partners[M]	SB	Number of women age 15-49 years who report having had more than one sexual partner in the 12 months preceding the surveywho also reported that a condom was used the last time they had sex	Total number of women age 15-49 years who reported having had more than one sexual partner in the 12 months preceding the survey	
9.15	Sex with non-regular partners [M]	SB	Number of sexually active women age 15-24 years who have had sex with a non-marital, non-cohabitating partner in the 12 months preceding the survey	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.16	Condom use with non-regular partners[M]	SB	Number of women age 15-24 years reporting the use of a condom during sexual intercourse with their last non-marital, non-cohabiting sex partner in the 12 months preceding the survey	Total number of women age 15-24 years who had a non-marital, non-cohabiting partner in the 12 months preceding the survey	MDG 6.2

Appendix E. Questionnaires

SOUTH SUDAN HOUSEHOLD HEALTH SECOND SURVEY 2010

HOUSEHOLD QUESTIONNAIRE

HOUSEHOLD INFORMATION PANEL	**HH**
State Cluster No. HH1. Codes: ……..…….…– ☐☐ ☐☐	HH2. HOUSEHOLD NUMBER: …….. ☐☐
HH3.: Interviewer number: ☐☐ Interviewer Name: _____	HH4 Supervisor number: ☐☐ Supervisor Name: _____
HH5. Day/Month/Year of interview	Day ☐☐ Month ☐☐ Year ☐☐☐☐
HH6. AREA: Urban……1 Rural…….……2	HH7. LOCATION *County/Mahaliya* …… ☐☐ *Payam/ Administrative Unit (AU)*.. ☐☐ *Boma/ Popular AU*……..…. ☐☐☐ *Enumeration Area* …… ☐☐☐ *Town/Village name* _____

We are from the Sudan Household Health Survey 2nd round which is concerned with family health and socioeconomic indicators. I would like to talk to you about these subjects. The interview will take about (45 minutes). All the information we obtain will remain strictly confidential and your answers will never be shared with anyone other than our project team. During this time I would like to speak with the household head and all mothers or others who take care of children in the household.

May I start now?

☐ *YES, PERMISSION IS GIVEN* ⇨*GO TO HH18 TO RECORD THE TIME AND THEN BEGIN THE INTERVIEW.*

☐*NO, PERMISSION IS NOT GIVEN* ⇨*COMPLETE HH9.*

DISCUSS THIS RESULT WITH YOUR SUPERVISOR.

HH8. Name of head of household: _____HH Tel. Number (optional)……..

After all questionnaires for the household have been completed, fill in the following information:

HH9. Result of HH interview:	HH9a. Result of HH interview:	HH9b. Result of HH interview:
Circle the appropriate code	***Circle the appropriate code***	***Circle the appropriate code***
First visit	**Second visit**	**Third visit**
Completed……..…..1	Completed……..…..1	Completed……..…..1
Not at home…….2	Not at home…….2	Not at home…….2
Refused ……..….3	Refused ……..….3	Refused ……..….3
Partly completed……....4	Partly completed……....4	Partly completed……....4
Other(*SPECIFY*)……..…6	Other(*SPECIFY*)……..…6	Other(*SPECIFY*)……..…6

HH10. Respondent to HH questionnaire: Household Line No. (from HL1): ☐☐ Name: __	HH11. Total # of household members: ☐☐
HH12. # of women age 15-49 years: ☐☐	HH13. # of women questionnaires completed: ☐☐
HH13a. # of men age 15-49 years: ☐☐	HH13b. # of men questionnaires completed: ☐☐
HH14. # of children under age 5: ☐☐	HH15. # of child questionnaires completed: ☐☐
HH16. Field Editor name and number: Name _____ ☐☐	HH17. Data entry clerk name and number: Name_____ ☐☐

HH18. RECORD THE TIME: HOUR..... __ __ MINUTES ..... __ __

HOUSEHOLD LISTING FORM & EDUCATION MODULE

FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES HERE, STARTING WITH THE HEAD OF THE HOUSEHOLD. *List the head of the household in line 01. List all household members (HL2), their relationship to the household head (HL3), and their sex (HL4). For each question, use the appropriate code for answer.*

Then ask: ARE THERE ANY OTHERS WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW? (THESE MAY INCLUDE CHILDREN IN SCHOOL OR AT WORK). *If yes, complete listing. Probe especially for any infants or small children not listed, and others who may not be members of the family (such as servants, friends) but who usually live in the household.* Add a continuation sheet if there are more than 20 household members.

Tick here if continuation sheet used: ☐

Then, ask questions starting with HL6 for each person at a time.

For all HH members					*HH AGE 12 YEARS OR OVER*	Eligible for:			*For all household members*					If 15 years and over, ask HL15.	HH 2-9	For household members age 5 and above				*For household members age 5-24 years*							
						Woman Interview	Man Interview	Under 5 Interview																			
HL1.	HL2.	HL3.	HL4.	HL6.	HL6A	HL7.	HL7A.	HL9.	HL10.	HL11.	HL12.	HL13.	HL14.	HL15.	HL15A	ED0.	ED3.	ED4.		ED5.	ED6.		ED7.	ED8.		
Household Line No.	*Name*	RELATIONSHIP OF (NAME) TO THE HEAD OF THE HOUSEHOLD? ** See the key list*	IS (NAME) MALE OR FEMALE? 1 MALE 2 Female	HOW OLD WAS (*name*) ON HIS/HER LAST BIRTHDAY? Record in completed years; if age less than one year record as 00 if age 96 years or older, record as 96. 98 DK	WHAT IS THE MARITAL STATUS OF (*name*)? 1 NEVER MARRIED 2 MARRIED 3 WITH PARTNER 4 WIDOWED 5 DIVORCED 6 SEPARATED *Record the number of the answer in the box*	If woman is **15-49 years,** CIRCLE THE LINE NUMBER BELOW	If Man is **15-49 years,** CIRCLE THE LINE NUMBER BELOW	If child is **under 5 years**: WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? Record Line number. of mother/ caretaker.	DID (*name*) STAY HERE LAST NIGHT? 1 Yes 2 No *Circle the number of the answer below*	IS (*name's*) NATURAL MOTHER ALIVE? 1 YES 2 NO ⇨**HL13** 8 DK ⇨**HL13** *Circle the number of the answer below*	*If alive*: DOES (*name's*) NATURAL MOTHER LIVE IN THIS HOUSEHOLD? If yes, record Line no. *of mother If no, write "00".*	IS (*name's*) NATURAL FATHER ALIVE? 1 YES 2 NO ⇨**HL15** 8 DK⇨**HL15** *Circle the number of the answer below*	*If alive*: DOES (*name's*) NATURAL FATHER LIVE IN THIS HOUSEHOLD? If yes, record Line no. *of father* If no, write "00".	HOW HAS (*name*) SPENT (*his/her*) TIME DURING THE PAST 3 MONTHS? WAS (*name*): 01.WORKING FOR PAY 02.WORKING FOR SUBSISTENCE ONLY 03.WORKING FOR PAY AND SUBSISTENCE 04.WORKING AS A VOLUNTEER 05.WORKING FOR FOOD 06.NOT WORKING 07.IN SCHOOL 08.SELF-EMPLOYED 09.RETIRED 10.HOUSEWIFE 98..DK	If child is **2-9 years:** If Yes Circle Line number *of this child*	CAN THIS PERSON READ AND WRITE IN ANY LANGUAGE? 1 YES 2 NO 8 DK *Circle the number of the answer below*	HAS (*name*) EVER ATTENDED SCHOOL OR ANY OTHER EDUCATIONAL INSTITUTION AT ANY TIME? 1 YES 2 NO ⇨ NEXT MODULE 8 DK ⇨ NEXT MODULE *Circle the number of the answer below*	WHAT IS THE HIGHEST LEVEL OF SCHOOL(*name*)ATTENDED? Level: 00 Preschool 01. Primary 02.Intermediate 03. Secondary 04. Post secondary diploma 05. University 06. Post university 07. Khalwa 08.adult education 98.DK **IF LEVEL = 0, 4, 5, 6, 7, 8 OR 98⇨ ED5** RECORD THE NUMBER OF THE ANSWER IN THE BOX	**IF LEVEL = 1, 2 OR 3:** WHAT IS THE HIGHEST GRADE (*NAME*)COMPLETED AT THIS LEVEL? Grade: 98 DK *If less than 1 grade, enter 00.*	DURING THE SCHOOL YEAR ***(2009-2010)*** THAT ENDED IN FEBRUARY 2010 DID(*name*)ATTEND SCHOOL OR ANY OTHER EDUCATIONAL INSTITUTION AT ANY TIME? 1 YES 2 NO ⇨ ED7 8 DK ⇨ ED7 *Circle the number below*	DURING THAT SCHOOL YEAR (2009-2010), WHICH LEVEL WAS(*name*)ATTENDING? Level: 0 Preschool 1. Primary 2.Secondary 3.Post secondary diploma 4.University 5. Post university 6.Khalwa 7.adult education 8.DK **IF LEVEL = 0, 3, 4, 5, 6, 7 OR 8⇨ ED7** RECORD THE NUMBER OF THE ANSWER IN THE BOX	**IF LEVEL = 1 OR 2:** WHAT IS THE HIGHEST GRADE (*NAME*)COMPLETED AT THIS LEVEL? Grade: 98 DK *If less than 1 grade, enter 00.00.*	DURING THE PREVIOUS SCHOOL YEAR (2008-2009) THAT ENDED IN FEB 2009, DID(*name*)ATTEND SCHOOL OR ANY OTHER EDUCATIONAL INSTITUTION AT ANY TIME? 1 YES 2 NO⇨ NEXT MODULE 8 DK⇨ NEXT MODULE *Circle the number of the answer below*	DURING THAT PREVIOUS SCHOOL YEAR, (2008-2009) WHICH LEVEL (*name*) ATTEND? Level: 0 Preschool 1. Primary 2.Secondary 3.Post secondary diploma 4.University 5. Post university 6.Khalwa 7.adult education 8.DK **If level = 0, 3, 4, 5, 6, 7 or 8⇨** NEXT MODULE RECORD THE NUMBER OF THE ANSWER IN THE BOX	**IF LEVEL = 1 OR 2:** WHAT IS THE HIGHEST GRADE (*NAME*)ATTENDED AT THIS LEVEL? Grade: 98 DK *If less than 1 grade, enter 00.*
LINE	**NAME**	**REL.**	**M F**	**AGE**	**MARITAL STATUS**	**WOMEN 15-49**	**MEN 15-49**	**MOTHER/CARETAKER**	**Y N**	**Y N DK**	**MOTHER**	**Y N DK**	**FATHER**	**EMPLOYMENT STATUS**	**CHILD**	**Y N DK**	**Y N DK**	**LEVEL**	**GRADE**	**Y N DK**	**LEVEL**	**GRADE**	**Y N DK**	**LEVEL**	**GRADE**	
01		01	1 2			01	01		1 2	1 2 8		1 2 8			01	1 2 8	1 2 8			1 2 8			1 2 8			
02			1 2			02	02		1 2	1 2 8		1 2 8			02	1 2 8	1 2 8			1 2 8			1 2 8			
03			1 2			03	03		1 2	1 2 8		1 2 8			03	1 2 8	1 2 8			1 2 8			1 2 8			
04			1 2			04	04		1 2	1 2 8		1 2 8			04	1 2 8	1 2 8			1 2 8			1 2 8			
05			1 2			05	05		1 2	1 2 8		1 2 8			05	1 2 8	1 2 8			1 2 8			1 2 8			
06			1 2			06	06		1 2	1 2 8		1 2 8			06	1 2 8	1 2 8			1 2 8			1 2 8			
07			1 2			07	07		1 2	1 2 8		1 2 8			07	1 2 8	1 2 8			1 2 8			1 2 8			
08			1 2			08	08		1 2	1 2 8		1 2 8			08	1 2 8	1 2 8			1 2 8			1 2 8			
09			1 2			09	09		1 2	1 2 8		1 2 8			09	1 2 8	1 2 8			1 2 8			1 2 8			
10			1 2			10	10		1 2	1 2 8		1 2 8			10	1 2 8	1 2 8			1 2 8			1 2 8			
11			1 2			11	11		1 2	1 2 8		1 2 8			11	1 2 8	1 2 8			1 2 8			1 2 8			
12			1 2			12	12		1 2	1 2 8		1 2 8			12	1 2 8	1 2 8			1 2 8			1 2 8			
13			1 2			13	13		1 2	1 2 8		1 2 8			13	1 2 8	1 2 8			1 2 8			1 2 8			

* Codes for HL3: Relationship tohead of the household:

01 Head	06 Parent	11 Niece / Nephew by blood
02 Wife / Husband	07 Parent-In-Law	12 Other relative
03 Son / Daughter	08 Brother / Sister	13 Adopted / Foster / Stepchild
04 Son-In-Law / Daughter-In-Law	09 Brother-In-Law / Sister-In-Law	14 Not related
05 Grandchild	10 Uncle / Aunt	15 partner
		16 Niece / Nephew by marriage
		98 Don't know

Check HL7. Enter the number of women age 15-49 here (copy to HH12) ☐☐

Check HL7A. Enter the number of men age 15-49 here (copy to HH13a) ☐☐

Check HL9. Enter the number of children under age 5 here (copy to HH14) ☐☐

WATER AND SANITATION MODULE		WS
WS1. What is the main source of drinking water for members of your household? *if more than one source; record **the main source** that is mainly used*	**Piped water (network):** Piped into dwelling 11 Piped into yard or plot 12 Public tap/standpipe 14 **Water yard/hand pump 21** **Dug well:** Protected/covered well 31 Unprotected well 32 **Spring:** Protected spring 41 Unprotected spring 42 **Surface water:** Filtered (river, stream, dam, hafir, lake, pond, canal or rain water) 51 Unfiltered (river, stream, dam, hafir, lake, pond, canal or rain water)……..……52 **Transported water by tankers/carts:** From the water sources with the following codes (11,12,14, 21, 31, 41, 51) ……..61 From the water sources with the following codes (32, 42, 52)…….. 62 Bottled water 91 **Other(*specify*)** 96	11⇨WS6 12⇨WS6 ⇨WS4 61⇨WS6 62⇨WS6 91 ⇨WS2 96 ⇨WS4
WS2. What is the **main source of water** used by your household for COOKING and other purposes such as hand washing? *if more than one source; record **the main source** that is mainly used*	**Piped water** Piped into dwelling..... 11 Piped into compound, yard or plot..... 12 Public tap / standpipe ..... 14 Tube Well, Borehole..... 21 **Dug well** Protected well..... 31 Unprotected well..... 32 **Water from spring** Protected spring ..... 41 Unprotected spring ..... 42 **Surface water:** Filtered rainwater, hafir, dam, river water……...51	11⇨WS6 12⇨WS6

	Unfiltered rainwater, hafir, dam, river, stream, lake, pond, channel water ……52 **Transported water by tankers/carts:** From the water sources with the following codes (11,12,14, 21, 31, 41, 51)……..….61 From the water sources with the following codes (32, 42, 52)…….. ……... 62 Other (*specify*) _____ 96	61⇨WS6 62⇨WS6
WS4. By foot, how long does it take to go there, get water, and come back?	Number of minutes ☐☐☐ DK 998	
WS4A. WHAT IS THE DISTANCE TO THE WATER SOURCE FROM YOUR RESIDENCE?	Distance to water source: Less than or equal 1 km…….1 More than 1 km…….2 DK 8	
WS5. Who usually goes to this source to collect the water for your household? Probe: Is this person under age 15? What sex? Circle code that best describes this person.	Adult woman 1 Adult man 2 Female child (under 15) 3 Male child (under 15) 4 DK 8	
WS6. Do you treat your water in any way to make it safer to drink?	Yes 1 No 2 DK 8	2⇨WS8 8⇨WS8
WS7. What do you usually do to the water to make it safer to drink? Probe: Anything else? Record all items mentioned.	Boil ..... A Add bleach / chlorine..... B Strain it through a cloth..... C Use water filter (ceramic, sand, composite, etc.)..... D Solar disinfection..... E Let it stand and settle ..... F Other (*specify*) _____ X DK Z	
WS8. What kind of facility do members of your household usually use to ease themselves / dispose of human waste? *If "flush" or "pour flush", probe:* Where does it flush to? If necessary, ask permission to observe the facility.	Flush / pour flush Flush to piped sewer system ..... 11 Flush to septic tank..... 12 Flush to pit (latrine)..... 13 Flush to somewhere else..... 14 Flush to unknown place/not sure/DK.... 15 Ventilated Improved Pit latrine (VIP) ..... 21 Pit latrine with slab ..... 22 Pit latrine without slab / open pit ..... 23 Composite toilet ..... 31 Bucket..... 41	

	Hanging toilet/hanging latrine ..... 51 No facilities or bush or field..... 95 Other (*specify*) 96	95⇨WS11A
WS9. Do you share this facility with others who are not members of your household?	Yes 1 No 2	2⇨ WS11A
WS10. DO YOU SHARE THIS FACILITY ONLY WITH MEMBERS OF OTHER HOUSEHOLDS THAT YOU KNOW, OR IS THE FACILITY OPEN TO THE USE OF THE GENERAL PUBLIC?	Other households only (not public) ..... 1 Public facility 2	2⇨ WS11 A
WS11. How many households in total use this facility?	No. of households (if less than 10)...0 ☐☐ Ten or more households 10 DK 98	
WS11A WHAT do you do to get rid of household garbage?	Through garbage collection trucks……..1 Throwing outside the whole resedential area.2 Throwing outsdie the house……..3 Burning…… …..4 Dumping ……5 Other (specify)……..96	

State Name: **Segment Number:** **Household Number:**

_____ ___ ___ - ___ ___ ___ ___ ___

HOUSEHOLD CHARACTERISTICS MODULE		**HC**
HC02. How many rooms/verandas/ tukuls belong to this household?	No. of rooms/ tukuls Belong to this household……. ☐☐	
HC2. How many rooms/verandas/ tukuls are used for sleeping?	Used for sleeping…… ☐☐	
HC2a. What type of dwelling does this Household live in? Record observation.	Tent ..... 01 Dwelling of straw mats……..…..02 Tukul/gottiya – mud……...03 Tukul/gottiya – sticks……..…04 Flat or apartment……..…05 Villa……..…06 House of one floor – mud……..…07 House of one floor – brick……..,,08 House of one floor – concrete…….....09 House constructed of wood…….... 10 Multi-storey house……....11 Incomplete……..…12 Other(*specify*)……..……96	
HC6. What type of fuel does your household **mainly** use for cooking?	Electricity ..... 01 Gas..... 03 Biogas..... 04 Kerosene ..... 05 Charcoal ..... 07 Wood ..... 08 Straw/shrubs/grass ..... 09 Animal dung..... 10 Agricultural crop residue..... 11 No food cooked in household .....95 Other (*specify*)..... 96	01⇨HC8 95⇨HC8
HC7. Is the cooking usually done in the house, in a separate room/tukul, or outdoors? *IF 'IN THE HOUSE', PROBE*: is it done in a separate room used as a kitchen?	In the house In a separate room used as kitchen ..... 1 Elsewhere in the house ..... 2 In a separate building..... 3 Outdoors..... 4 Other (*specify*) _____ 6	
HC8. DOES YOUR HOUSEHOLD HAVE ANY OF THE FOLLOWING: (READ ALOUD, AND CIRCLE EITHER "1" FOR YES OR "2" FOR NO FOR EACH ITEM?) [A] Electricity? [B] A radio? [C] A television? [D] A non-mobile telephone? [E] A refrigerator? [F] A Computer? [G] Internet? [H] A Digital Receiver?	Yes No HC8A. Electricity..... 1 2 HC8B. Radio..... 1 2 HC8C. Television..... 1 2 HC8D. Non-mobile telephone..... 1 2 HC8E. Refrigerator..... 1 2 HC8F. A Computer……1 2 HC8G. Internet……1 2 HC8H. Digital Receiver……...1 2	
HC9. DOES ANY MEMBER OF YOUR HOUSEHOLD OWN:READ ALOUD, AND CIRCLE EITHER "1" FOR YES OR "2" FOR NO FOR EACH ITEM.	YesNo HC9A. Watch 1 2	

[A] A watch? [B] A mobile telephone? [C] A bicycle? [D] A motorcycle or scooter? [E] An animal-drawn cart? [F] A car or truck? [G] A boat with a motor?	HC9B. Mobile telephone..... 1 2 HC9C. Bicycle..... 1 2 HC9D. Motorcycle / Scooter ..... 1 2 HC9E. Animal drawn-cart..... 1 2 HC9F. Car / Truck..... 1 2 HC9G. Boat with motor..... 1 2	
HC10. DO YOU OR SOMEONE LIVING IN THIS HOUSEHOLD OWN THIS DWELLING? *IF "NO", THEN ASK:* DO YOU RENT THIS DWELLING FROM SOMEONE NOT LIVING IN THIS HOUSEHOLD? *IF "RENTED FROM SOMEONE ELSE", CIRCLE "2". FOR OTHER RESPONSES, CIRCLE "3".*	Own ..... 1 Rent..... 2 Other; specify (Not owned or rented) 3	
HC11. Does any member of this household own land for farming, grazing, or fishing?	Yes 1 No 2	2 ⇨HC 13
HC12. HOW MANY FADDANS OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN? *If less than 1, record "00".If 95 or more, record '95'.If unknown, record '98'.*	FADANs.....___ ___	
HC13. Does this household own or have any livestock, herds, or farm animals?	Yes 1 No 2	2 ⇨NEXT MODULE

HC14. HOW MANY OF THE FOLLOWING DOES THIS HOUSEHOLD HAVE?

[A] CATTLE?
[C] GOATS?
[D] SHEEP?
[E] CHICKENS, PIGEONS AND DUCKS?

Circle the corresponding answer

ANIMALS / BIRDS	0	1 - 10	11 - 20	21 - 50	50 +	DK
CATTELE	0	1	2	3	4	98
GOATS	0	1	2	3	4	98
SHEEP	0	1	2	3	4	98
CHICKENS/PIGONS/DUCKS	0	1	2	3	4	98

HC14A. HOW MANY OF THE FOLLOWING ANIMALS DOES THIS HOUSEHOLD HAVE?

[A] MILK COWS
[B] HORSES, DONKEYS, OR MULES?
[G] CAMELS?
[F] PIGS?

Circle the corresponding answer

ANIMALS	0	1 - 4	5 - 9	10 - 14	15 +	DK
MILK COWS	0	1	2	3	4	98
HORSES, DONKEYS, OR MULES	0	1	2	3	4	98
CAMELS	0	1	2	3	4	98

INSECTICIDE-TREATED NET MODULE		TN
TN1. DOES YOUR HOUSEHOLD HAVE ANY MOSQUITO NETS THAT CAN BE USED WHILE SLEEPING?	Yes ..... 1 No..... 2	2⇨HH19
TN2. HOW MANY AND WHAT KIND OF MOSQUITO NETS DOES YOUR HOUSEHOLD HAVE? *If respondent does not know whether or not net(s) have been treated, count as "other."*	TN2A. Number of long lasting treated nets .. ☐☐ DK .....98 TN2B. Number of treated nets..... ☐☐ DK .....98 TN2C. Number of untreated nets..... ☐☐ DK .....98 TN2D. Number of other/unknown nets..... ☐☐ DK 98	TN2C AND/OR TN2D ONLY ⇨ TN11
TN6. HOW MANY MONTHS AGO DID YOUR HOUSEHOLD GET THE MOST RECENT TREATED MOSQUITO NET? *If less than one month, record "00"*	Months ago.....___ ___ More than 36 mo. ago ...95 DK / Not sure 98	

	PIGS	0	1	2	3	4	98	

TN11. DID ANYONE SLEEP UNDER THE MOSQUITO NET LAST NIGHT?	Yes ..... 1 No..... 2 DK / Not sure 8	2 ⇨ HH19 8⇨ HH19

TN12. WHO SLEPT UNDER THIS MOSQUITO NET LAST NIGHT *Record the person's name and line number from the household listing form, Circle the type of net* *If someone not in the household list slept under the mosquito net, record "00", Circle the type of net*	Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK	Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK Name and Line number…… ___ ___ Type: 1 = LLIN, 2 = TN , 3 = UN TN, 4= UK

HH19. *Record the time.*	Hour and minutes ..... __ __ : __ _	⇨NEXT MODULE

SALT IODIZATION MODULE		**SI**
SI1. We would like to check whether the salt used in your household is iodized. May i see a sample of the salt used to cook the main meal eaten by members of your household last night? Once you have examined the salt, circle number that corresponds to test outcome.	Not iodized 0 PPM 1 Less than 15 PPM 2 15 PPM or more 3 Salt not tested 4 No salt in home 5	5 ⇨ NEXT MODULE
SI2. WHERE DID YOU ACQUIRE THIS SALT?	Local market.....1 Food Aid.....2 Other or indigenous (*specify*) .....6 DK.....8	

HH20. Does any eligible woman age 15-49 reside in the household?
Check HL7. You should have entered the total number of women in the household who are between the ages of 15 and 49 years old. Begin a separate questionnaire for each eligible woman (check HL7) by filling in the Information Panel.

☐ Yes. ⇨ Go to WOMAN'S QUESTIONNAIRE
to administer the questionnaire to the first eligible woman.

☐ No. ⇨ Continue.

HH21. Does any child under the age of 5 reside in the household?
Check household listing, column HL9. You should have a questionnaire with the Information Panel filled in for each eligible child.

☐ Yes. ⇨ Go to UNDER 5 QUESTIONNAIRE
to administer the questionnaire to caretaker of the first eligible child.

☐ *No. ⇨ Continue*

HH21A. *DOES ANY ELIGIBLE MAN AGE 15-49 RESIDE IN THE HOUSEHOLD?*

Check household listing, column HL7A for any eligible man.
You should have a questionnaire with the Information Panel filled in for each eligible man.

☐ *Yes. ⇨ Go to QUESTIONNAIRE FOR MEN*
to administer the questionnaire to the first eligible man.

☐ *No. ⇨. End the interview by thanking the respondent for his/her cooperation.*
Gather together all questionnaires for this household and tally the number of interviews completed on the cover page.

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

M

SOUTH SUDAN HOUSEHOLD HEALTH SURVEY 2

QUESTIONNAIRE FOR INDIVIDUAL WOMEN

WOMAN'S INFORMATION PANEL WM

This questionnaire is to be administered to all women age 15 through 49 (see column HL7of HH listing). Fill in one form for each eligible woman. Fill in the segment and household number, and the name and household line number of the woman in the space below. Fill in your name, number, and the date.

State Cluster No. WM1. CODES……..…… ☐☐ ☐☐	WM2. HOUSEHOLD NUMBER: ☐☐
WM3. Woman's Name : **Name :** _____	**WM4. Woman's Household Line Number:** ☐☐
WM5. Interviewer Name and Number: _____ ☐☐	
WM6. Day/Month/Year of interview: ☐☐ / ☐☐ / ☐☐☐☐	

Repeat greeting **IF NOT ALREADY READ***to this woman:*

We are from the Sudan Household Health Survey 2nd round which is concerned with family health and socioeconomic indicators. I would like to talk to you about this. The interview will take about40 minutes. All the information we obtain will remain strictly confidential and your answers will never be identified.

May I start now?

☐ *YES, PERMISSION IS GIVEN ⇨GO TO WM10 TO RECORD THE TIME AND THEN BEGIN THE INTERVIEW.*

☐ *No, permission is not given ⇨Complete WM7. Discuss this result with your supervisor* FOR A FUTURE REVISIT

WM7. Result of women's interview:	**WM7a. Result of women's interview:**	**WM7b. Result of women's interview:**
Circle the appropriate code	*Circle the appropriate code*	*Circle the appropriate code*
First visit	**Second visit**	**Third visit**
Completed……1	Completed……..1	Completed……1
Not at home……2	Not at home……2	Not at home……...2
Refused ……..3	Refused ……...3	Refused ……..3
Partly completed……...4	Partly completed……...4	Partly completed……..4
Incapacitated ……5	Incapacitated ……..5	Incapacitated ……5
Other(*SPECIFY*)……6	Other(*SPECIFY*)……..6	Other(*SPECIFY*)……6

WM8. Field edited by (Name and number): Name _____ ___ ___	WM9. Data entry clerk (Name and number): Name _____ ___ ___

WM10. *Record the starting time.*	Hour and minutes __ __ : __ __

WOMAN'S BACKGROUND		*WB*
WB2. HOW OLD ARE YOU? *Probe:* HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	Age (in completed years) ..... __ __	
WB3. HAVE YOU EVER ATTENDED SCHOOL?	Yes.....1 No 2	 2⇨WB7
WB4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED: PRIMARY, SECONDARY, OR HIGHER?	Preschool .....0 Primary …….. .....1 Intermediate……..…...2 Secondary .....3 University/Higher institutes……..…….4 Adult education……5 Khalwa / Sunday Education 6	0 ⇨WB7 4 ⇨ NEXT MODULE 5 ⇨WB7 6 ⇨WB7
WB5. WHAT IS THE HIGHEST GRADE YOU COMPLETED AT THAT LEVEL? *If less than 1 grade, enter "00"*	Grade ..... ☐☐	
WB6. *Check WB4:* ☐*Secondary ⇨ Go to Next Module* ☐Primary or intermediate ⇨ *Continue with WB7*		
WB 7. NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME: *SHOW SENTENCES TO RESPONDENTS.* *IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE:* CAN YOU READ PART OF THE SENTENCE TO ME? *EXAMPLE OF SENTENCES FOR LITERACY* 1. *THE CHILD IS READING A BOOK.* 2. *THE RAINS CAME LATE THIS YEAR.* 3. *PARENTS MUST CARE FOR THEIR CHILDREN.* 4. *FARMING IS HARD WORK.*	Cannot read at all .....1 Able to read only parts of sentence .....2 Able to read whole sentence .....3 No sentence in required language_____4 *(specify language)* Blind / visually / speech impaired 5	

MARRIAGE/UNION MA **THIS MODULE SHOULD BE ADDRESSED TO ALL WOMEN AGED 15- 49 YEARS**		
MA1. ARE YOU CURRENTLY MARRIED OR LIVING TOGETHER WITH A MAN AS IF MARRIED?	Yes, currently married ..... 1 Yes, living with a man..... 2 No, not in union..... 3	 3⇨MA5
MA3. BESIDES YOURSELF, DOES YOUR HUSBAND/PARTNER HAVE ANY OTHER WIVES OR PARTNERS OR DOES HE LIVE WITH OTHER WOMEN AS IF MARRIED?	Yes ..... 1 No..... 2 DK …….. 98	 ⇨MA9 ⇨MA9
MA4. HOW MANY OTHER WIVES OR PARTNERS DOES HE HAVE?	Number.....__ __ DK 98	⇨MA9 98⇨MA9
MA5. HAVE YOU EVER BEEN MARRIED OR LIVED TOGETHER WITH A MAN AS IF MARRIED?	Yes, formerly married..... 1 Yes, formerly lived with a man..... 2 No..... 3	 3 ⇨CP Module
MA6. WHAT IS YOUR MARITAL STATUS NOW: ARE YOU WIDOWED, DIVORCED OR SEPARATED?	Widowed..... 1 Divorced ..... 2 Separated 3	
MA9. HOW OLD WERE YOU WHEN YOU STARTED LIVING WITH YOUR FIRST HUSBAND/PARTNER?	Age in years.....__ __	

REPRODUCTION AND CHILD SURVIVAL (CHILD MORTALITY)		CM
This Module is to be administered to currently or ever married or in union women in the age group 15-49 ***All questions refer only to LIVE births.***		
CM1. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH TO A **LIVE BABY**? I MEAN THAT THE CHILD HAS SHOWN ANY SIGNS OF LIFE; CRIED, BREATHED OR MOVED HIS/HER LIMBS.	Yes ..... 1 No 2	2⇨CP MODULE
CM3. HOW MANY YEARS AGO DID YOU HAVE YOUR FIRST BIRTH? I MEAN THE VERY FIRST TIME YOU GAVE BIRTH, EVEN IF THE CHILD IS NO LONGER LIVING, OR WHOSE FATHER IS NOT YOUR CURRENT PARTNER.	Completed years since first birth.....	
CM4. DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE NOW LIVING WITH YOU?	Yes ..... 1 No 2	2⇨CM6
CM5. HOW MANY SONS LIVE WITH YOU? HOW MANY DAUGHTERS LIVE WITH YOU? *If none, record '00'.*	Sons at home..... Daughters at home.....	
CM6. DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE ALIVE BUT DO NOT LIVE WITH YOU?	Yes ..... 1 No 2	2⇨CM8
CM7. HOW MANY SONS ARE ALIVE BUT DO NOT LIVE WITH YOU? HOW MANY DAUGHTERS ARE ALIVE BUT DO NOT LIVE WITH YOU? *If none, record '00'.*	Sons elsewhere..... Daughters elsewhere	
CM8. HAVE YOU EVER GIVEN BIRTH TO A BOY OR GIRL WHO WAS BORN ALIVE BUT LATER DIED? *If "No" probe by asking:* I MEAN, TO A CHILD WHO EVER BREATHED OR CRIED OR SHOWED OTHER SIGNS OF LIFE – EVEN IF HE OR SHE LIVED ONLY A FEW MINUTES OR HOURS?	Yes ..... 1 No 2	2⇨CM 10

CM9. HOW MANY BOYS HAVE DIED? HOW MANY GIRLS HAVE DIED? *If none, record '00'.*	Boys dead ..... Girls dead .....
CM10. *Sum answers to CM5, CM7, and CM9.*	Sum .....__ __

CM 11 **.JUST TO MAKE SURE THAT I HAVE THIS RIGHT:**

SO YOU HAVE HAD IN TOTAL ☐☐ ***…LIVE BIRTHS (*sum CM5, CM7 and CM9*).***

IF *YES* ⇨ *Continue with CM12*

IF *No* **CHECK CM4, CM6, CM8 and** ***ACCORDINGLY CORRECT*** **CM10 and CM11**

CM12. OF THESE (*total number*) BIRTHS YOU HAVE HAD, WHEN DID YOU DELIVER THE LAST ONE (EVEN IF HE OR SHE HAS DIED)? *Month and year must be recorded.*	Date of last birth Day ..... DK day ..... 98 Month..... Year .....

CM13. *Check CM12: Last birth occurred within the last 2 years, that is, since (MARCH-APRIL**2008)***

☐ *No live birth in last 2 years.* ⇨ *Go to LIVE BIRTH HISTORY TABLE.*

☐*Yes, live birth in last 2 years.* ⇨ *Ask for the name of the child*

*Name of child*_____

If child has died, take special care when referring to this child by name in the following modules.

DESIRE FOR LAST BIRTH — DB

This module is to be administered to all women with a live birth in the 2 years preceding date of interview. Check child mortality module CM13 and record name of last-born child here _____. Use this child's name in the following questions, where indicated.

DB1. WHEN YOU GOT PREGNANT WITH (*name*), DID YOU WANT TO GET PREGNANT AT THAT TIME?	Yes ..... No.....	1⇨Next Module
DB2. DID YOU WANT TO HAVE A BABY LATER ON, OR DID YOU NOT WANT ANY (MORE) CHILDREN?	Later ..... No more.....	2⇨Next Module
DB3. HOW MUCH LONGER DID YOU WANT TO WAIT?	Month.....1 __ __ Years.....2 __ __ DK.....998	

LIVE BIRTH HISTORY TABLE BH

NOW I WOULD LIKE TO RECORD THE NAMES OF ALL YOUR BIRTHS, WHETHER THE CHILD IS STILL ALIVE OR NOT. I WOULD LIKE TO START WITH THE FIRST ONE YOU HAD.

Record names of all births; if name not given, record 'x'. Record twins and triplets on separate lines.

	BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	BH9
Live birth Line No.	*Name* ALL CHILDREN, WHETHER ALIVE OR DEAD:	**WERE ANY OF THESE BIRTHS TWINS?** **1 SINGLE** **2 MULTIPLE**	**IS *(name)* MALE OR FEMALE?** **1 MALE** **2 FEMALE**	**IN WHAT MONTH AND YEAR WAS (*name*) BORN?** ***Probe:* WHAT IS HIS/HER BIRTHDAY?** ***If they don't know write "98" for months and "9998" for year***	**IS (*name*) STILL ALIVE?** **1 YES** **2 NO → BH9**	***If alive* HOW OLD WAS (*name*) ON HIS/HER LAST BIRTHDAY?** *Record age in completed years. If less than 1 year record (00)* 98 DK	***If alive:*** **IS (*name*) LIVING WITH YOU?** **1 YES** **2 NO**	**If alive** *Record household line number of child (from HL1).* *Write "00" if child is not listed on household listing form (HL module).*	**HOW OLD WAS (*name*) WHEN HE/SHE DIED?** *Record age at death.* *If less than 1 month, record days.* *If less than 2 years, record months.* *If more than 2 years, record years.*
LINE	**NAME**	**S M**	**M F**	**MONTH & YEAR**	**Y N**	**AGE**	**Y N**	**HH LINE NO.**	**AGE AT DEATH**
01	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
02	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
03	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
04	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
05	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
06	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
07	_____	1 2	1 2	**MONTH YEAR**	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS**

LIVE BIRTH HISTORY TABLE BH

NOW I WOULD LIKE TO RECORD THE NAMES OF ALL YOUR BIRTHS, WHETHER THE CHILD IS STILL ALIVE OR NOT. I WOULD LIKE TO START WITH THE FIRST ONE YOU HAD.

Record names of all births; if name not given, record 'x'. Record twins and triplets on separate lines.

	BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	BH9
Live birth Line No.	*Name* ALL CHILDREN, WHETHER ALIVE OR DEAD:	**WERE ANY OF THESE BIRTHS TWINS?** **1 SINGLE** **2 MULTIPLE**	**IS *(name)* MALE OR FEMALE?** **1 MALE** **2 FEMALE**	**IN WHAT MONTH AND YEAR WAS (*name*) BORN?** ***Probe:* WHAT IS HIS/HER BIRTHDAY?** ***If they don't know write "98" for months and "9998" for year***	**IS (*name*) STILL ALIVE?** **1 YES** **2 NO → BH9**	***If alive* HOW OLD WAS (*name*) ON HIS/HER LAST BIRTHDAY?** *Record age in completed years. If less than 1 year record (00)* 98 DK	***If alive:*** **IS (*name*) LIVING WITH YOU?** **1 YES** **2 NO**	**If alive** *Record household line number of child (from HL1).* *Write "00" if child is not listed on household listing form (HL module).*	**HOW OLD WAS (*name*) WHEN HE/SHE DIED?** *Record age at death.* *If less than 1 month, record days.* *If less than 2 years, record months.* *If more than 2 years, record years.*
LINE	**NAME**	**S M**	**M F**	**MONTH & YEAR**	**Y N**	**AGE**	**Y N**	**HH LINE NO.**	**AGE AT DEATH**
				☐☐☐☐☐☐					☐☐☐☐☐☐
08	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
09	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
10	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
11	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐
12	_____	1 2	1 2	**MONTH YEAR** ☐☐☐☐☐☐	1 2	☐☐	1 2	☐☐	**DAYS MONTHS YEARS** ☐☐☐☐☐☐

CHECK THE TOTAL OF BH1, WHETHER IT IS EQUAL TO CM10
YES, GO TO THE NEXT MODULE
NO, REVIEW CM5 THROUGH CM9 AND BH2 TO RESOLVE

MATERNAL AND NEWBORN HEALTH;	MN	
*This module is to be administered to all women WHO WERE PREGNANT **in the 2 years preceding date** of interview (March – April 2008).* *Check child mortality module CM13 and record name of last-born child here _____.* Use this child's name in the following questions, where indicated.		
MN 00. CONFIRMATION QUESTION **HAVE YOU BEEN PREGNANT DURING THE LAST 2 YEARS?**	Yes ..... 1 No..... .2 DK……..3	**2 ⇨ CP** **3⇨ CP**
MN 01. HOW MANY PREGNANCIES DID YOU HAVE DURING THE PAST TWO YEARS?	**The Number of pregnancies: ……...** ☐	
MN 02. HOW DID THESE PREGNANCIES END? *Ask for each outcome and record conclusion for each pregnancy reported in MN 01.* *Check that total number is equal to the number of pregnancies reported in MN 01. If Different, probe for MN 01 and correct if necessary.*	MN 02A. LIVE BIRTH: ……A☐ MN 02B. STILL BIRTH: ……B☐ MN 02C. MISCARRIAGE:……..C☐ MN02D. Currently pregnant…….D	**A** ⇨MN 1 **B** ⇨MN 1 **IF D only and/or C only** ⇨CP
FOR THE NEXT FEW QUESTIONS, I WILL BE ASKING ABOUT YOUR LAST COMPLETED PREGNANCY (LIVE OR STILL BIRTH).		
MN1. BEFORE YOU GAVE BIRTH TO THIS CHILD, DID YOU SEE ANYONE FOR ANTENATAL CARE?	Yes ..... 1 No..... 2	2⇨MN5
MN2. WHOM DID YOU SEE? *Probe:* ANYONE ELSE? **PROBE FOR THE TYPE OF PERSON SEEN AND CIRCLE ALL ANSWERS GIVEN.**	Health professional: Doctor ..... A Nurse midwife ..... B Health Visitor…… ..... C Midwife……..... D Other person: Traditional birth attendant..... E Community health worker..... F Relative/Friend..... G Other *(specify)* X	
MN3. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	Number of times..... DK 98	

MN4. AS PART OF YOUR ANTENATAL CARE, WERE ANY OF THE FOLLOWING DONE AT LEAST ONCE? **MN4A. WAS YOUR BLOOD PRESSURE MEASURED?** **MN4B. DID YOU GIVE A URINE SAMPLE?** **MN4C. DID YOU GIVE A BLOOD SAMPLE?**	MN4A. Blood pressure Yes ..... 1 No ..... 2 MN4B. Urine sample Yes ..... 1 No ..... 2 MN4C. Blood sample Yes ..... 1 No 2	
MN4D. AS PART OF YOUR ANTENATAL CARE, WAS THE MODE AND/OR PLACE OF DELIVERY DISCUSSED WITH YOU?	MN4DA. MODE OF DELIVERY *(Normal/CS)* Yes ..... 1 No ..... 2 MN4DB. PLACE OF DELIVERY Yes ..... 1 No..... 2	
MN4E. DURING THIS PREGNANCY, DID YOU RECEIVE IRON OR FEFOL TABLETS?	Yes ..... 1 No..... 2 DK 8	
MN5. DO YOU HAVE A CARD OR OTHER DOCUMENT WITH YOUR OWN IMMUNIZATIONS LISTED? MAY I SEE IT PLEASE? *If a card is presented, use it to assist with answers to the following questions.*	Yes (card seen)..... 1 Yes (card not seen)..... 2 No..... 3 DK 8	
MN6. **During this pregnancy**, DID YOU RECEIVE ANY INJECTION IN THE ARM OR SHOULDER TO PREVENT THE BABY FROM GETTING TETANUS, THAT IS CONVULSIONS AFTER BIRTH?	Yes ..... 1 No..... 2 DK 8	2⇨MN9 8⇨MN9
MN7. HOW MANY TIMES DID YOU RECEIVE THIS TETANUS INJECTION **During this pregnancy**? *If 7 or more times, record '7.*	Number of times..... DK 8	8⇨MN9
MN8. *How many tetanus injections during last pregnancy were reported in MN7?* ☐*At least two tetanus injections during last pregnancy. ⇨ Go to MN13* ☐FEWER THAN TWO TETANUS INJECTIONS DURING LAST PREGNANCY. ⇨ CONTINUE WITH MN9		

MN9. DID YOU RECEIVE ANY TETANUS INJECTION AT ANY TIME BEFORE YOUR LAST PREGNANCY, EITHER TO PROTECT YOURSELF OR ANOTHER BABY?	Yes ..... 1 No..... 2 DK 8	 2⇨MN13 8⇨MN13
MN10. HOW MANY TIMES DID YOU RECEIVE A TETANUS INJECTION BEFORE YOUR LAST PREGNANCY? *If 7 or more times, record '7'.*	Number of times.....__ DK 8	
MN11. HOW MANY YEARS AGO DID YOU RECEIVE THE LAST TETANUS INJECTION BEFORE YOUR LAST PREGNANCY?	Years ago .....__ __	
MN13. DURING ANY OF THESE ANTENATAL VISITS FOR THE PREGNANCY, DID YOU TAKE ANY MEDICINE IN ORDER TO PREVENT YOU FROM GETTING MALARIA?	Yes ..... 1 No..... 2 DK 8	 2⇨MN16A 8⇨MN16A
MN14. WHICH MEDICINES DID YOU TAKE TO PREVENT MALARIA? *Circle all medicines taken. If type of medicine is not determined, show typical anti-malarial to respondent.*	SP / Fansidar ..... A Chloroquine ..... B Other (*specify*) _____ X DK ..... Z	
MN15. *Check MN14 for medicine taken:* ☐ *SP / Fansidar taken.⇨ Continue with MN16* ☐SP / FANSIDAR NOT TAKEN.⇨ GO TO MN16A		
MN16. DURING THIS PREGNANCY, HOW MANY TIMES DID YOU TAKE SP/ FANSIDAR? *SHOW FANSIDAR TO RESPONDENT*	Number of times.....__ __ DK 98	
MN16A WHAT SIGNS AND SYMPTOMS DO YOU KNOW THAT TELLS SOMETHING IS WRONG DURING PREGNANCY, CHILDBIRTH/POSTPARTUM PERIOD THAT WOMAN SHOULD CONTACT HER CAREGIVER OR SEEK HEALTH CARE? *Probe:* ANY OTHER CAUSE? *Circle all answers given*	**High fever……..…..A** **Severe headache/ blurred vision……..……B** **High blood pressure……..C** **Convulsions, fainting……D** **Vaginal bleeding……..…..E** **Decreased or no fetal movements……..…..F** **Green or brown fluid leaking from vagina…G** **Foul smelling discharge from the vagina…...H** **Difficult breathing……..…I** **Severe lower abdominal/back pain…….J** **Lower Limb pain/redness……**……**K** **DK……..Z** **Other (Specify)……..X**	

MN17. WHO ASSISTED WITH THE DELIVERY OF YOUR LAST COMPLETED PREGNANCY? *Probe:* ANYONE ELSE? *Probe for the type of person assisting and circle all answers given.* ***If respondent says no one assisted, probe to determine whether any adults were present at the delivery.***	Health professional: Doctor ..... A Health visitor ……..B Nurse midwife ..... C Village Midwife……...D Medical Assistant……...E Other person: Traditional birth attendant..... F Community health worker.....G Other *(specify)*..... X **No one** ..... Y	
MN18. WHERE DID YOU GIVE BIRTH TO YOUR LAST CHILD *(EITHER LIVE OR STILL BIRTH)*? *Probe to identify the type of source.* *If unable to determine the typewrite the name of the place.* _____ *(Name of place)*	Home..... 1 PHCF (Primary Health Care Facility) ..... 2 Hospital..... 4 Other (specify)……...6	
MN19. PLEASE TELL ME THE MODE OF DELIVERY OF YOUR LAST CHILD *(LIVE OR STILL BIRTH).*	Vaginal..... 1 Forceps/extractor ..... 2 Caesarian Section..... 3 DK 8	
MN19A WHAT ARE THE SIGNS AND SYMPTOMS YOU KNOW, THAT ALERTS A MOTHER TO SEEK HEALTH CARE FOR HER NEWBORN? *Probe:* ANY OTHER CAUSE?	Fever ……...A Convulsions……..……B Jaundice (yellowing of skin)……...C Very sleepy or not able to wake…….…...D Not suckling……..…..….E White spots in mouth or tongue……..…….. F Vomiting/spitting a lot or shooting out……G Diarrhea……...H Less than six wet diapers per day……...I skin rash……..……...K DK……..…….. .Z Other (Specify)……...X	
MN23. HAS YOUR MENSTRUAL PERIOD RETURNED SINCE THE BIRTH OF (*name*)?	Yes ..... 1 No..... 2	

MN23A. IN THE FIRST 6 WEEKS AFTER THE LAST DELIVERY, DID YOU SEE/WERE YOU VISITED BY ANYONE FOR A CHECK-UP ON YOUR HEALTH? ***If yes*: WHOM DID YOU SEE/ WERE YOU VISITED BY?** *Probe for the type of person and circle all answers given.*	Health professional: Doctor ..... A Health visitor ..... B Nurse midwife ..... C Village Midwife..... D Medical Assistant..... E Other person: Traditional birth attendant ..... F Community health worker ..... G Other *(specify)*..... X **No one** ..... Y	
MN23B. IN THE FIRST 6 WEEKS AFTER THE LAST DELIVERY, DID YOU RECEIVE A VITAMIN A DOSE LIKE THIS? *Show 200,000 IU capsule or dispenser.*	Yes ..... 1 No ..... 2 Don't know 8	

MN23C. AT ANY TIME DURING PREGNANCY, LABOUR OR WITHIN 42 DAYS AFTER DELIVERY OF YOUR LAST COMPLETED PREGNANCY, DID YOU EXPERIENCE ANY OF THE FOLLOWING?

Read aloud each and circle the corresponding answer in the box.

YES 1
NO2
DK 8

	Pregnancy			Labour / postpartum		
	YES	NO	DK	YES	NO	DK
MN23C A. Excessive vaginal bleeding	**1**	**2**	**8**	**1**	**2**	**8**
MN23C B. High blood pressure	**1**	**2**	**8**	**1**	**2**	**8**
MN23C C. Convulsions	**1**	**2**	**8**	**1**	**2**	**8**
MN23C D. High Fever	**1**	**2**	**8**	**1**	**2**	**8**
MN23C E. Painful Urination	**1**	**2**	**8**	**1**	**2**	**8**
MN23C F.Lower Abdominal/Back Pain	**1**	**2**	**8**	**1**	**2**	**8**
MN23C G. Foul-smelling vaginal discharge	**1**	**2**	**8**	**1**	**2**	**8**
MN23C h. Jaundice	**1**	**2**	**8**	**1**	**2**	**8**
MN23C I. Prolonged labour lasting more than 12 hours				**1**	**2**	**8**
MN23C J. Swelling, pain and redness in legs				**1**	**2**	**8**
MN23C K. Swollen, painful breast				**1**	**2**	**8**
MN23C L. Dribbling of urine				**1**	**2**	**8**

CONTRACEPTION MODULE		CP
NOW I WOULD LIKE TO TALK ABOUT FAMILY PLANNING, THE VARIOUS WAYS OR METHODS THAT A COUPLE CAN USE TO DELAY OR AVOID PREGNANCY. *(THIS QUESTION TO BE ASKED TO ALL WOMEN AGE 15 – 49 YEARS)*		
CP00. SOME PEOPLE USE METHODS TO DELAY OR AVOID PREGNANCY. HAVE YOU EVER HEARD ABOUT THESE METHODS OF FAMILY PLANNING?	Yes ..... 1 No 2	**2 ⇨CP02**
CP01. WHICH METHODS TO AVOID OR DELAY PREGNANCY THAT YOU KNOW ABOUT? *List and describe methods. Circle each method known by respondent.* If mentioned male condom skip CP02	**CP1A. Condom (male) ..... A** **CP1B. Diaphragm/Cervical cap/ Female condom ..... B** **CP1C. Spermicides/Cream/Jelly/Foam/ Vaginal pills/Suppositories ..... C** **CP1D. IUD ..... D** **CP1E. Oral hormonal contraceptives (pills) ..... E** **CP1F. Hormonal injections ..... F** **CP1G. Hormonal implants ..... G** **CP1H. Emergency contraception ..... H** **CP1I. Lactation amenorrhea method ..... I** **CP1J. Withdrawal ..... J** **CP1K. Calendar method ..... K** **CP1L. Abstinence ..... L** **CP1M. Douching ..... M** **CP1N. Tubal ligation (female sterilization) ..... N** **CP1O. Vasectomy (male sterilization) ..... O** **CP1X. Other methods ..... X** **CP1Z. DK/difficult answer……..Z**	**A ⇨CP03**
CP02. HAVE YOU EVER HEARD OF A MALE CONDOM?	Yes ..... 1 No 2	**2 ⇨CP05**
CP03. DO YOU KNOW OF A PLACE WHERE A PERSON CAN GET CONDOMS?	Yes ..... 1 No 2	
CP04. IF YOU WANTED TO, COULD YOU YOURSELF GET A CONDOM?	Yes ..... 1 No 2	

CPO5: Check Marital/Union Status (MA1).

IfMA5 = (***NEVER MARRIED/IN UNION***) ⇨***FG Module/*** *FG17*

If MA5 = ***FORMERLY MARRIED OR FORMERLY LIVED WITH A MAN***⇨*answer* CP06 AND ⇨***FG***

IfMA1 = ***CURRENTLY MARRIED OR LIVING WITH MAN***⇨ *continue with* CP1

FOR EVER MARRIED/IN UNION WOMEN: **CP06. HAVE YOU EVER USED ANYTHING OR TRIED IN ANY WAY TO DELAY OR AVOID GETTING PREGNANT?**	Yes ..... 1 No 2	**1 ⇨FG** **2 ⇨FG**
CP1: **FOR CURRENTLY MARRIED/IN UNION WOMEN:** ARE YOU PREGNANT NOW?	Yes, currently pregnant ..... 1 No..... 2 Unsure or DK 8	1⇨UN
CP2. COUPLES USE VARIOUS WAYS OR METHODS TO DELAY OR AVOID A PREGNANCY. ARE YOU CURRENTLY DOING SOMETHING OR USING ANY METHOD TO DELAY OR AVOID GETTING PREGNANT?	Yes ..... 1 No..... 2	2⇨UN
CP3. WHAT ARE YOU DOING TO DELAY OR AVOID A PREGNANCY? *Do not prompt.* *If more than one method is mentioned, circle each one.*	Female sterilization ..... A Male sterilization ..... B IUD ..... C Injectables..... D Implants ..... E Pill..... F Male condom ..... G Female condom ..... H Diaphragm ..... I Foam / Jelly ..... J Lactation amenorrhoeamethod (LAM)..... K Periodic abstinence/Rhythm ..... L Withdrawal ..... M Other (*specify*)_____X	**A⇨ UN 13** **B⇨ UN 13**

UNMET NEED		**UN**
UN1. *Check whether the woman is Currently pregnant or not (CP1 IF CP module filled.)?* ☐ *Yes, currently pregnant ⇨ Continue with UN2* ☐*No, unsure or DK ⇨ Go to UN5*		
UN2. NOW I WOULD LIKE TO TALK TO YOU ABOUT YOUR CURRENT PREGNANCY. WHEN YOU GOT PREGNANT, DID YOU WANT TO GET PREGNANT AT THAT TIME?	Yes ..... 1 No 2	1⇨UN4
UN3. WHEN YOU GOT PREGNANT, DID YOU WANT TO HAVE A BABY LATER ON OR DID YOU NOT WANT ANY (MORE) CHILDREN?	Later ..... 1 No more 2	 2⇨UN13
UN4. NOW I WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE FUTURE. AFTER THE CHILD YOU ARE NOW EXPECTING, WOULD YOU LIKE TO HAVE ANOTHER CHILD, OR WOULD YOU PREFER NOT TO HAVE ANY MORE CHILDREN?	Have another child ..... 1 No more / None ..... 2 Undecided / Don't know 8	1⇨UN7 2⇨UN13 8⇨UN13
UN5. *Check CP3. Currently using "Female sterilization"?* ☐ *Yes. ⇨ Go to UN13* ☐ *No. ⇨ Continue with UN6*		
UN6. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE FUTURE. WOULD YOU LIKE TO HAVE (A/ANOTHER) CHILD, OR WOULD YOU PREFER NOT TO HAVE ANY (MORE) CHILDREN?	Have (a/another) child ..... 1 No more / None ..... 2 Says she cannot get pregnant ..... 3 Undecided / Don't know 8	 2⇨UN9 3⇨UN11 8⇨UN9
UN7. HOW LONG WOULD YOU LIKE TO WAIT BEFORE THE BIRTH OF (A/ANOTHER) CHILD?	Months ..... 1 __ __ Years ..... 2 __ __ Soon / Now ..... 993 Says she cannot get pregnant ..... 994 Other ..... 996 Don't know 998	 994⇨UN11
UN8. *Check CP1. Currently pregnant?* ☐ *Yes, currently pregnant ⇨ Go to UN13* ☐ *No, unsure or DK ⇨ Continue with UN9*		

UN9. *Check CP2. Currently using a method?* ☐ *Yes.* ⇨ *Go to UN13* ☐ *No* ⇨ *Continue with UN10*		
UN10. DO YOU THINK YOU ARE PHYSICALLY ABLE TO GET PREGNANT AT THIS TIME?	Yes ..... 1 No ..... 2 DK 8	1 ⇨UN13 8 ⇨UN13
UN11. WHY DO YOU THINK YOU ARE NOT PHYSICALLY ABLE TO GET PREGNANT?	Infrequent sex / No sex ..... A Menopausal ..... B Never menstruated ..... C Hysterectomy (surgical removal of uterus) ..... D Has been trying to get pregnant for 2 years or more without result ..... E Postpartum amenorrheic ..... F Breastfeeding ..... G Too old ..... H Fatalistic ..... I Other (*specify*) _____ X Don't know ..... Z	
UN12. *Check UN11. "Never menstruated" mentioned?* ☐ *Yes.* ⇨ *Go to Next Module* ☐ *No* ⇨ *Continue with UN13*		
UN13. WHEN DID YOUR LAST MENSTRUAL PERIOD START?	Days ago ..... 1 __ __ Weeks ago ..... 2 __ __ Months ago ..... 3 __ __ Years ago ..... 4 __ __ In menopause / Has had hysterectomy ..... 994 Before last birth ..... 995 Never menstruated 996	

FEMALE GENITAL MUTILATION/CUTTING		**FG**
FG9.*Check CM5 and CM7, Child Mortality Module: Woman has living daughter?* ☐*Yes.* ⇨ *Continue with FG00* ☐ *No.* ⇨ *Go to FG17*		
FG00. DO YOU INTEND TO CIRCUMCISE YOUR DAUGHTERS WHO ARE NOT YET BEEN CIRCUMCISED; IF ANY?	Yes .....1 No..... 2 DK.....8	
FG17. DO YOU THINK THIS PRACTICE SHOULD BE CONTINUED OR SHOULD IT BE DISCONTINUED?	Continued .....1 Discontinued.....2 Depends .....3 DK 8	

ATTITUDES TOWARD DOMESTIC VIOLENCE	**DV**			
DV1. SOMETIMES A HUSBAND IS ANNOYED OR ANGERED BY THINGS THAT HIS WIFE DOES. IN YOUR OPINION, IS A HUSBAND JUSTIFIED IN HITTING OR BEATING HIS WIFE IN THE FOLLOWING SITUATIONS:		Yes	No	DK
[A] IF SHE GOES OUT WITHOUT TELLING HIM?	Goes out without telling	1	2	8
[B] IF SHE NEGLECTS THE CHILDREN?	Neglects children	1	2	8
[C] IF SHE ARGUES WITH HIM?	Argues	1	2	8
[D] IF SHE REFUSES TO HAVE SEX WITH HIM?	Refuses sex	1	2	8
[E] IF SHE BURNS THE FOOD?	Burns food.....	1	2	8

HIV/AIDS		HA
HA1. NOW I WOULD LIKE TO TALK WITH YOU ABOUT SOMETHING ELSE. HAVE YOU EVER HEARD OF AN ILLNESS CALLED AIDS?	Yes.....1 No 2	 2⇨STI
HA2. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY HAVING JUST ONE UNINFECTED SEX PARTNER WHO HAS NO OTHER SEX PARTNERS?	Yes.....1 No .....2 DK 8	
HA3. CAN PEOPLE GET THE AIDS VIRUS BECAUSE OF WITCHCRAFT OR OTHER SUPERNATURAL MEANS?	Yes.....1 No .....2 DK 8	
HA4. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY USING A CONDOM EVERY TIME THEY HAVE SEX?	Yes.....1 No .....2 DK 8	
HA5. CAN PEOPLE GET THE AIDS VIRUS FROM MOSQUITO BITES?	Yes.....1 No .....2 DK 8	
HA6. CAN PEOPLE GET THE AIDS VIRUS BY SHARING FOOD WITH A PERSON WHO HAS AIDS?	Yes.....1 No .....2 DK 8	
HA7. IS IT POSSIBLE FOR A HEALTHY-LOOKING PERSON TO HAVE THE AIDS VIRUS?	Yes.....1 No .....2 DK 8	
HA8. CAN THE VIRUS THAT CAUSES AIDS BE TRANSMITTED FROM A MOTHER TO HER BABY: [A] DURING PREGNANCY? [B] DURING DELIVERY? [C] BY BREASTFEEDING?	Yes No DK During pregnancy ..... 1 2 8 During delivery..... 1 2 8 By breastfeeding..... 1 2 8	
HA9. IN YOUR OPINION, IF A FEMALE TEACHER HAS THE AIDS VIRUS BUT IS NOT SICK, SHOULD SHE BE ALLOWED TO CONTINUE TEACHING IN SCHOOL?	Yes.....1 No .....2 DK / Not sure / Depends 8	
HA10. WOULD YOU BUY FRESH VEGETABLES FROM A SHOPKEEPER OR VENDOR IF YOU KNEW THAT THIS PERSON HAD THE AIDS VIRUS?	Yes.....1 No .....2 DK / Not sure / Depends 8	
HA11. IF A MEMBER OF YOUR FAMILY GOT INFECTED WITH THE AIDS VIRUS, WOULD YOU WANT IT TO REMAIN A SECRET?	Yes.....1 No .....2 DK / Not sure / Depends 8	
HA12. IF A MEMBER OF YOUR FAMILY BECAME SICK WITH AIDS, WOULD YOU BE WILLING TO CARE FOR HER OR HIM IN YOUR OWN HOUSEHOLD?	Yes.....1 No .....2 DK / Not sure / Depends 8	

HA13. *Check CM13: Any live birth in last 2 years?* ☐ *No live birth in last 2 years. ⇨ Go to HA24.* ☐*Yes, live birth in last 2 years. ⇨ Continue with HA14.*		
HA14. *Check MN1: Received antenatal care?* ☐ *Yes, antenatal care received.⇨ Continue with HA15* ☐ *No antenatal care received ⇨ Go to HA24*		
HA15. DURING ANY OF THE ANTENATAL VISITS FOR YOUR PREGNANCY WITH (*name*), WERE YOU GIVEN ANY INFORMATION ABOUT AIDS OR THE AIDS VIRUS?	Yes.....1 No .....2 DK 8	
HA16. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR THE AIDS VIRUS AS PART OF YOUR ANTENATAL CARE?	Yes.....1 No .....2 DK 8	 2⇨HA19 8⇨HA19
HA17. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes.....1 No .....2 DK 8	 2⇨HA22 8⇨HA22
HA18. REGARDLESS OF THE RESULT, ALL WOMEN WHO ARE TESTED ARE SUPPOSED TO RECEIVE COUNSELING AFTER GETTING THE RESULT. AFTER YOU WERE TESTED, DID YOU RECEIVE COUNSELLING?	Yes.....1 No .....2 DK 8	1⇨HA22 2⇨HA22 8⇨HA22
HA19. *Check MN17: Birth delivered by health professional (A, B or C)?* ☐ *Yes, birth delivered by health professional⇨ Continue with HA20* ☐ *No, birth not delivered by health professional⇨ Go to HA24*		
HA20. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR THE AIDS VIRUS BETWEEN THE TIME YOU WENT FOR DELIVERY BUT BEFORE THE BABY WAS BORN?	Yes.....1 No 2	 2⇨HA24
HA21. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes.....1 No 2	
HA22. HAVE YOU BEEN TESTED FOR THE AIDS VIRUS SINCE THAT TIME YOU WERE TESTED DURING YOUR PREGNANCY?	Yes.....1 No 2	
HA23. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED FOR THE AIDS VIRUS?	Less than 12 months ago.....1 12-23 months ago.....2 2 or more years ago.....3	1⇨STI 2⇨STI 8⇨STI
HA24. I DON'T WANT TO KNOW THE RESULTS, BUT HAVE YOU EVER BEEN TESTED TO SEE IF YOU HAVE THE AIDS VIRUS?	Yes.....1 No 2	 2⇨HA27

HA25. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED?	Less than 12 months ago.....1 12-23 months ago.....2 2 or more years ago.....3	
HA26. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes.....1 No .....2 DK 8	1⇨STI 2⇨STI 8⇨STI
HA27. DO YOU KNOW OF A PLACE WHERE PEOPLE CAN GO TO GET TESTED FOR THE AIDS VIRUS?	Yes.....1 No 2	

SEXUALLY TRANSMITTED INFECTIONS		**STI**
STI1. CHECK MA1-MA5: ☐ **NEVER MARRIED/IN UNION ⇨ GO TO SB** ☐ **CURRENTLY/ EVER MARRIED ⇨ CONTINUE WITH STI2**		
STI2. *SOMETIMES WOMEN EXPERIENCE A BAD SMELLING ABNORMAL GENITAL DISCHARGE* DURING THE LAST 12 MONTHS, HAVE YOU HAD AN ABNORMAL GENITAL DISCHARGE?	Yes.....1 No 2	
STI3SOMETIMES WOMEN HAVE A GENITAL SORE OR ULCER. DURING THE LAST 12 MONTHS, HAVE YOU HAD A GENITAL SORE OR ULCER?	Yes.....1 No 2	
STI 4. CHECK STI2 AND STI3: □ EXPERIENCED GENITAL DISCHARGE OR SORE/ULCER ➔CONTINUE WITH STI 5 □ NO EXPERIENCE OF GENITAL DISCHARGE OR SORE/ULCER ➔ NEXT MODULE		
STI5. THE LAST TIME YOU HAD A GENITAL SORE OR *ABNORMAL GENITAL DISCHARGE*; DID YOU SEEK ANY KIND OF ADVICE OR TREATMENT?	Yes.....1 No 2	

SEXUAL BEHAVIOUR (SOUTH SPECIFIC)		**SB**
CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, ENSURE PRIVACY.		
SB1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT SEXUAL ACTIVITY IN ORDER TO GAIN A BETTER UNDERSTANDING OF SOME IMPORTANT LIFE ISSUES. THE INFORMATION YOU SUPPLY WILL REMAIN STRICTLY CONFIDENTIAL. HOW OLD WERE YOU WHEN YOU HAD SEXUAL INTERCOURSE FOR THE VERY FIRST TIME?	Never had intercourse.....00 Age in years.....__ __ First time when started living with (first) husband/partner.....95 DK / Don't remember.....98	00⇨WM 11
SB2. THE FIRST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes.....1 No.....2 DK / Don't remember.....8	
SB3. WHEN WAS THE LAST TIME YOU HAD SEXUAL INTERCOURSE? *Record 'years ago' only if last intercourse was one or more years ago. If 12 months or more the answer must be recorded in years.*	Days ago.....1 __ __ Weeks ago.....2 __ __ Months ago.....3 __ __ Years ago.....4 __ __	4⇨SB11
SB4. THE LAST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes.....1 No.....2	
SB5. WHAT WAS YOUR RELATIONSHIP TO THIS PERSON WITH WHOM YOU LAST HAD SEXUAL INTERCOURSE? *If person is 'boyfriend' or 'fiancée', ask:* WERE YOU LIVING TOGETHER AS IF MARRIED? *If 'yes', circle '01'. If 'no', circle' 02'.*	Current spouse.....01 Current cohabiting partner.....02 Ex-spouse.....03 Ex-cohabiting partner.....04 Boyfriend / Fiancée.....05 Casual acquaintance.....06 Sex worker.....07 Other (*specify*) _____ 96	01⇨SB7 02⇨SB7
SB6. HOW OLD IS THIS PERSON? *If response is DK, probe:* ABOUT HOW OLD IS THIS PERSON?	Age of sexual partner.....__ __ DK.....98	
SB7. HAVE YOU HAD SEXUAL INTERCOURSE WITH ANY OTHER PERSON IN THE LAST 12 MONTHS?	Yes.....1 No.....2	2⇨SB11
SB8. IN TOTAL, WITH HOW MANY DIFFERENT PEOPLE HAVE YOU HAD SEXUAL INTERCOURSE IN THE LAST 12 MONTHS?	Number of partners.....__ __	
SB9. FOR WOMEN: THINK ABOUT THE MALE SEXUAL PARTNERS YOU'VE HAD IN THE LAST 12 MONTHS. HOW MANY WERE: #YOUR SPOUSE(S) OR LIVE-IN SEXUAL PARTNERS ("REGULAR" PARTNERS)	NUMBER OF SPOUSE(S) OR LIVE-IN SEXUAL PARTNERS ("REGULAR" PARTNERS) ...|___|___| NUMBER OF NOT MARRIED TO AND HAVE NEVER LIVED WITH AND DID NOT PAY PARTNERS ("NON-REGULAR" PARTNERS) .....|___|___|	

# SEXUAL PARTNERS WHO YOU ARE NOT MARRIED TO, HAVE NEVER LIVED WITH AND DID NOT PAY FOR SEX ("NON-REGULAR" PARTNERS) # PARTNERS WITH WHOM YOU HAD SEX IN EXCHANGE FOR MONEY ("PAID" PARTNERS) *(SHOULD MATCH WITH THE NUMBER OF SEXUAL PARTNERS IN LAST 12 MONTHS)*	NUMBER OF SEX IN EXCHANGE FOR MONEY PARTNERS (PAID PARTNERS) .....|___|___|	
SB10. IN THE LAST 12 MONTHS WAS CONDOM USED EVERY TIME YOU HAD SEXUAL INTERCOURSE WITH ALL YOUR PARTNER(S) WHO YOU ARE NOT MARRIED TO, HAVE NEVER LIVED WITH?	Yes.....1 No 2	
SB11. IN TOTAL, WITH HOW MANY DIFFERENT PEOPLE HAVE YOU HAD SEXUAL INTERCOURSE IN YOUR LIFETIME? *If a non-numeric answer is given, probe to get an estimate.* *If number of partners is 95 or more, write '95'.*	Number of lifetime partners.....__ __ DK 98	

WM11. *Record the time*.	Hour and minutes.....__ __ : __ __	

FINAL WOMAN'S QUESTIONNAIRE INSTRUCTIONS	FW
WM12. *Is the respondent the mother or caretaker of any child age 0-4 living in this household? Check household listing, column HL9.* ☐ *Yes.* ⇨ *Go to QUESTIONNAIRE FOR CHILDREN UNDER FIVE for that child and start the interview with this Respondent.* ☐ *No.* ⇨ *End the interview with this respondent by thanking her for her cooperation.*	
W12A. *Do any other eligible women reside in the household? Check household listing column. HH7.* ☐ Yes. ⇨ Go to the next WOMAN'S QUESTIONNAIRE to administer the questionnaire to the next eligible woman. ☐ *No.* ⇨ *End the interview by thanking the respondent for her cooperation.* Gather together all questionnaires for this household and tally the number of interviews completed on the cover page on the household questionnaire.	

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

SOUTH SUDAN HOUSEHOLD HEALTH SECOND SURVEY 2010

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

UNDER-FIVE CHILD INFORMATION PANEL **UF**

This questionnaire is to be administered to all mothers or caretakers (see household listing, column HL9) who care for a child that lives with them and that is under the age of 5 years (see household listing, column HL9).
A separate questionnaire should be used for each eligible child. Fill in the cluster and household number, and names and line numbers of the child and the mother/caretaker in the space below. Insert your own name and number, and the date.

UF0. CODES OF : State ☐☐

UF1.: ☐☐ Cluster Number	UF2 HOUSEHOLD NUMBER: ☐☐
UF3. Child's Name _____ :	F4.Child's Line Number ☐☐
UF5. Mother's/Caretaker's Name _____	UF6.Mother's/Caretaker's Line Number (from HL1) ☐☐
UF7. Interviewer Name and Number: ☐☐ _____	UF8. Day/Month/Year of interview ☐☐/☐☐/☐☐☐☐

Repeat greeting if not already read to this respondent:
We are from the Sudan Household Health Survey 2nd round which is concerned with family health and socioeconomic indicators. I would like to talk to you about this. The interview will take about30 minutes. All the information we obtain will remain strictly confidential and your answers will never be identified.

May I start now?

☐ *YES, PERMISSION IS GIVEN ⇨GO TO UF12 TO RECORD THE TIME AND THEN BEGIN THE INTERVIEW.*

☐ *No, permission is not given ⇨Complete UF9. Discuss this result with your supervisor*

UF9. Result of interview for children under 5	UF9a. Result of interview for children under 5	UF9b. Result of interview for children under 5
Codes refer to mother/caretaker. *Circle the appropriate code* **First visit** Completed……...1 Not at home…….2 Refused ……..3 Partly completed…….4 Incapacitated ……..5 Other(*SPECIFY*)……6	Codes refer to mother/caretaker. *Circle the appropriate code* **Second visit** Completed……....1 Not at home……...2 Refused ……....3 Partly completed……....4 Incapacitated ……5 Other(*SPECIFY*)……...6	Codes refer to mother/caretaker. *Circle the appropriate code* **Third visit** Completed……..1 Not at home…….2 Refused ……..3 Partly completed…….4 Incapacitated ……....5 Other(*SPECIFY*)……6

UF10. Field edited by (Name and number): Name_____ ___ ___	UF11. Data entry clerk (Name and number): Name _____ ___ ___

UF12. *RECORD THE TIME*	**Hour and minutes** __ __ : __ __	

AGE **AG**		
AG1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE HEALTH OF EACH CHILD UNDER THE AGE OF 5 IN YOUR CARE, AND WHO LIVES WITH YOU NOW. NOW I WANT TO ASK YOU ABOUT (*name*). IN WHAT MONTH AND YEAR WAS (*name*) BORN? *Probe:* WHAT IS HIS/HER DATE OF BIRTH? *If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day. Month and Year should be recorded*	Date of birth: Day ..... ☐☐ DK day..... 98 Month ..... ☐☐ ..... Year ..... ☐☐☐☐	
AG2. HOW OLD IS (*name*) NOW? *Probe*: HOW OLD WAS (*name*) AT HIS / HER LAST BIRTHDAY? *Record age in completed years and months.* *Record '0' if less than 1 year.* *Compare and correct AG1 and/or AG2 if inconsistent.*	Age in completed years ..... ☐☐ Age in completed months..... ☐☐	

BIRTH REGISTRATION MODULE		**BR**
BR1. DOES *(name)*HAVE A BIRTH CERTIFICATE? MAY I SEE IT?	Yes, seen ..... 1 Yes, not seen ..... 2 No ..... 3 DK..... 8	1 ⇨EC 2 ⇨EC
BR2. HAS (*name*)'S BIRTH BEEN REGISTERED?	Yes ..... 1 No ..... 2 DK..... 8	1 ⇨EC
BR3. DO YOU KNOW HOW TO REGISTER YOUR CHILD'S BIRTH?	Yes ..... 1 No 2	2 ⇨EC
BR4. WHY DOES *(name)*NOT HAVE A BIRTH CERTIFICATE?	Costs too much ....1 Must travel too far..... 2 Did not know child should have birth certificate ... 3 Did not want to pay fine ..... 4 Does not know where to get birth certificate ..... 5 Other(*specify*) ..... 6 DK..... 8	

EARLY CHILDHOOD DEVELOPMENTEC		
EC4. *Check AG2: Age of child* ☐ *Child age 3 or 4 ⇨ Continue with EC5* ☐ **CHILD AGE 0, 1 OR 2 ⇨ GO TO NEXT MODULE**		
EC5. DOES (*name*) ATTEND ANY ORGANIZED LEARNING OR EARLY CHILDHOOD EDUCATION PROGRAMME, SUCH AS A PRIVATE OR GOVERNMENT FACILITY, INCLUDING KINDERGARTEN OR COMMUNITY CHILD CARE?	Yes……..1 No……..2 DK……..8	2 ⇨Next Module 8 ⇨NextModule
EC6. WITHIN THE LAST WEEK OF THE LAST SCHOOL YEAR (2009-2010), ABOUT HOW MANY DAYS DID (*name*) ATTEND?	Number of days…….__ __	

CARE FOR ILLNESS MODULE		CA
CA1. HAS (*name*) HAD DIARRHOEA IN THE LAST TWO WEEKS, THAT IS, SINCE (*day of the week*) OF THE WEEK BEFORE LAST? *Diarrhoea is determined as perceived by mother or caretaker, or as more than usual/loose or watery stools per day, or blood in stool.*	Yes.....1 No .....2 DK.....8	 2⇨CA7 8⇨CA7
CA1A. DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS FROM ANY SOURCE?	Yes.....1 No .....2 DK.....8	 2⇨CA2 8⇨CA2
CA1B. FROM WHERE DID YOU SEEK CARE (ADVICE OR TREATMENT? *Probe:* ANYWHERE ELSE? *Circle all providers mentioned, but do NOT prompt with any suggestions.* *Probe to identify the type of source and circle the appropriate code.* *If unable to determine if public or private sector, write the name of the place.* _____ *(Name of place)*	**Public sector:** Govt. hospital..... A Govt. health centre..... B Govt. health Unit ..... C Village health worker..... D Mobile/outreach clinic..... E Other public sector(*specify*).....F **Private medical sector:** Private hospital/clinic..... G Private physician..... H Private pharmacy .....I Mobile clinic (private) .....J Other private sector(*specify*)..... K **Other source:** Religious healer .....L Traditional healer .....M Relative or friend..... N Other (*specify*)..…… ……X	

CA2. I WOULD LIKE TO KNOW HOW MUCH (*name*) WAS GIVEN TO DRINK DURING THE DIARRHOEA (INCLUDING BREASTMILK). DURING THE TIME (*name*) HAD DIARRHOEA, WAS HE/SHE GIVEN LESS THAN USUAL TO DRINK, ABOUT THE SAME AMOUNT, OR MORE THAN USUAL?	less than usual.....1 About the same .....3 Morethan usual.....4 Nothing to drink .....5 DK.....8	
CA3. DURING THE TIME (*name*) HAD DIARRHOEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT?	less than usual.....1 About the same .....3 Morethan usual.....4 Stopped food .....5 Exclusively breast fed.....6 DK.....8	
CA4. DURING THIS LAST EPISODE OF DIARRHEA, WAS (*name*) GIVEN TO DRINK ANY OF THE FOLLOWING: *Read each item aloud and record response before proceeding to the next item.* CA 4A. A FLUID MADE FROM A SPECIAL PACKET CALLED ORS (ORADEX)? CA 4B. RECOMMENDED HOMEMADE FLUID?	<u>CA4A. Fluid from ORS packet</u> Yes.....1 No .....2 DK.....8 <u>CA4B. Homemade fluid</u> Yes.....1 No .....2 DK.....8	1 ⇨CA4C 2⇨CA5 8 ⇨CA5 ⇨CA5
CA4C. FROM WHERE DID YOU GET THE FLUID MADE FROM A SPECIAL PACKET CALLED ORS (ORADEX)?*Probe:* ANYWHERE ELSE? *Circle all providers mentioned, but do NOT prompt with any suggestions.* *Probe to identify the type of source and circle the appropriate code.* *If unable to determine if public or private sector, write the name of the place.* _____ *(Name of place)*	**Public sector:** Govt. hospital..... A Govt. health centre..... B Govt. PHC unit..... C Community health worker..... D Mobile/outreach clinic..... E Other public sector(*specify*).....F **Private medical sector:** Private hospital/clinic..... G Private physician..... H Private pharmacy .....I Mobile clinic (private) .....J Other private sector(*specify*)..... K **Other source:** Relative or friend ..... N Other(*specify*).....X	
CA5. WAS ANYTHING (ELSE) GIVEN TO TREAT THE DIARRHOEA?	Yes.....1 No .....2 DK.....8	2⇨CA7 8⇨CA7

CA6. WHAT (ELSE) WAS GIVEN TO TREAT THE DIARRHOEA? *Probe*: ANYTHING ELSE? *Record all treatments given. Write brand name(s) of all medicines mentioned.* _____ *(Name)*	Pill or Syrup Antibiotic ..... A Antimotility ..... B Zinc ..... C Other (Not antibiotic, antimotility or zinc) ..... G Unknown pill or syrup ..... H Injection Antibiotic ..... L Non-antibiotic ..... M Unknown injection ..... N Intravenous ..... O Home remedy/Herbal medicine ..... Q Other (*specify*) _____ X	
CA7. HAS (*name*) HAD AN ILLNESS WITH A COUGH OR DIFFICULT BREATHING AT ANY TIME IN THE LAST TWO WEEKS, THAT IS, SINCE (*day of the week*) OF THE WEEK BEFORE LAST?	Yes ..... 1 No ..... 2 DK 8	 2⇨CA13A 8⇨CA13A
CA8. WHEN (*name*) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, QUICK BREATHS?	Yes ..... 1 No ..... 2 DK 8	
CA10. DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS FROM ANY SOURCE?	Yes ..... 1 No ..... 2 DK 8	 2⇨CA12 8⇨CA12
CA11. FROM WHERE DID YOU SEEK CARE (ADVICE OR TREATMENT? *Probe:* ANYWHERE ELSE? *Circle all providers mentioned, but do NOT prompt with any suggestions.* *Probe to identify the type of source and circle the appropriate code.* *If unable to determine if public or private sector, write the name of the place.* _____ *(Name of place)*	**Public sector:** Govt. hospital ..... A Govt. health centre ..... B Govt. health Unit ..... C Village health worker ..... D Mobile/outreach clinic ..... E Other public sector(*specify*) ..... F **Private medical sector:** Private hospital/clinic ..... G Private physician ..... H Private pharmacy ..... I Mobile clinic (private) ..... J Other private sector(*specify*) ..... K **Other source:** Religious healer ..... L Traditional healer ..... M Relative or friend ..... N Other (*specify*)..... X	
CA12. WAS (*name*) GIVEN ANY MEDICINE TO TREAT THIS ILLNESS?	Yes ..... 1 No ..... 2 DK 8	 2⇨CA13A 8⇨CA13A

CA13. WHAT MEDICINE WAS (*name*) GIVEN? *Probe:* ANY OTHER MEDICINE? *Circle all medicines given. Write brand name(s) of all medicines mentioned.* _____ *(Names of medicines)*	Antibiotic Pill / Syrup.....A Injection..... B Anti-malarials.....M Paracetamol / Panadol / Acetaminophen... P Aspirin..... Q Ibuprofen..... R Other (*specify*) _____ X DK.....Z	
Ask the following question (CA13A) ***only once*** *for each caretaker.* CA13A. SOMETIMES CHILDREN HAVE SEVERE ILLNESSES AND SHOULD BE TAKEN IMMEDIATELY TO A HEALTH FACILITY. WHAT SYMPTOMS WOULD CAUSE YOU TO TAKE YOUR CHILD TO A HEALTH FACILITY URGENTLY? *Circle all symptoms mentioned, but do NOT prompt with any suggestions.* *Keep asking for more signs or symptoms until the caretaker cannot recall any additional symptoms.*	Child not able to drink or breastfeed..... A Child becomes sicker..... B Child develops a fever ..... C Child has fast breathing ..... D Child has difficulty breathing ..... E Child has blood in stool.....F Child is drinking poorly..... G Convulsions……H Drowsiness……..I Other (s*pecify*)..……X	
CA14. *Check AG2: Child aged under 3?* ☐ *Yes. ⇨ Continue with CA15* ☐*No. ⇨ Go to Next Module*		
CA15. THE LAST TIME *(name)* PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?	Child used toilet/latrine.....01 Put / Rinsed into toilet or latrine .....02 Put / Rinsed into drain or ditch .....03 Thrown into garbage (solid waste) .....04 Buried.....05 Left in the open.....06 Other (*specify*) _____ 96 DK.....98	

MALARIA MODULE		ML
ML1. IN THE LAST TWO WEEKS, THAT IS, SINCE (*day of the week*) OF THE WEEK BEFORE LAST, HAS (*name*) BEEN ILL WITH FEVER OR MALARIA?	Yes....1 No....2 DK....8	2 ⇨ BF 1. 8 ⇨ BF1.
ML2. AT ANY TIME DURING THE ILLNESS, DID (*name*) HAVE BLOOD TAKEN FROM HIS/HER FINGER OR HEEL FOR TESTING?	Yes....1 No....2 DK....8	
ML4. WAS (NAME) TAKEN TO A HEALTH FACILITY DURING THIS ILLNESS?	Yes....1 No....2 DK....8	2 ⇨ML8 8⇨ML8
ML5. WAS (*name*) GIVEN OR ANY MEDICINE DESCRIBED FOR FEVER OR MALARIA AT THE HEALTH FACILITY?	Yes....1 No....2 DK....8	2⇨ML8 8⇨ML8
ML6. WHAT MEDICINE WAS (*name*) GIVEN OR MEDICINE DESCRIBED? *Probe:* ANY OTHER MEDICINE? *Circle all medicines mentioned. Write brand name(s) of all medicines, if given.* _____ *(Name)*	**Anti-malarials:** SP/Fansidar tablet .... A Chloroquine tablet.... B Chloroquine injection.... C Chloroquine syrup.... D Amodiaquine tablet .... E Amodiaquine injection .... F Metacalfin tablet.... G Quinine pills .... H Quinine injection .... I Artemisinin-based combinations.... J **Other medications:** Paracetamol/Panadol/Acetaminophen/ Action .... P Aspirin .... Q Ibuprofen .... R Other(*specify*) .... X DK.... Z	
ML6A. WHERE WAS THE MEDICINE OBTAINED?	**Public sector:** Govt. hospital.... A Govt. health centre.... B Govt. health Unit .... C Village health worker.... D Mobile/outreach clinic.... E Other public sector(*specify*).... F **Private medical sector:** Private hospital/clinic.... G Private physician.... H Private pharmacy .... I Mobile clinic (private) .... J Other private sector(*specify*).... K **Other source:** Religious healer .... L Traditional healer .... M Relative or friend.... N Other (*specify*)....X	
ML7. WAS (*name*) GIVEN MEDICINE FOR THE FEVER OR MALARIA BEFORE BEING TAKEN TO THE HEALTH FACILITY?	Yes....1 No....2 DK....8	1⇨ML9
ML8. WAS (*name*) GIVEN MEDICINE FOR FEVER OR MALARIA DURING THIS ILLNESS?	Yes....1 No....2 DK....8	2⇨ BF1 8⇨ BF1
	Anti-malarials:	

ML9. WHAT MEDICINE WAS (*name*) GIVEN? *Probe:* ANY OTHER MEDICINE? *Circle all medicines mentioned. Write brand name(s) of all medicines, if given.* _____ *(Name)* .	SP/Fansidar tablet ..... A Chloroquine tablet..... B Chloroquine injection..... C Chloroquine syrup..... D Amodiaquine tablet ..... E Amodiaquine injection.....F Metacalfin tablet..... G Quinine pills..... H Quinine injection .....I Artemisinin-based combinations..... J **Other medications:** Paracetamol/Panadol/Acetaminophen …….P Aspirin……..…..Q Ibuprofen ..... R Other(*specify*).....X DK.....Z	
ML10. Check ML6 & ML9: if Anti-malarial mentioned (code A - J)? ☐*Yes. ⇨Continue with ML11* ☐ *No. ⇨ Go to BF*		
ML11. HOW LONG AFTER THE FEVER STARTED DID (*name*) FIRST TAKE (*name of anti-malarial from ML6 or ML9*)? *If multiple anti-malarials mentioned in ML6 or ML9,* *Record how long after the fever started* ***the first anti-malarial was given.***	Same day .....0 Next day .....1 2 days after the fever.....2 3 days after the fever.....3 4 or more days after the fever .....4 DK.....8	

BREASTFEEDING MODULE (CHILDREN UNDER 2 YEARS OF AGE)		**BF**
Check AGE2: Child aged under 2 years? ☐ *Yes.* ⇨ *Continue with BF1* ☐ *No.* ⇨ *Go to NEXT MODULE*		
BF1. HAS (*name*) EVER BEEN BREASTFED?	Yes.....1 No .....2 DK.....8	 2⇨BF2C 8⇨BF2C
BF1A.HOW LONG AFTER BIRTH DID YOU FIRST PUT(*name*) TO BREAST *if less than one hour record "00" hours* *if less than 24 hours, record hours* *otherwise record days*	Immediately…….000 Hours……1 ____ __ Days……2 ____ ___ DK, don't remenber……..998	
BF1B. DID (*name*) RECEIVE ANY OTHER LIQUIDS OR SOLIDS BESIDES BREASTMILK IN THE FIRST 6 MONTHS? *If the child age is less than 6 months, mention the child's age instead of 6 months*	Yes.....1 No .....2 DK.....8	
BF2. IS HE/SHE STILL BEING BREASTFED?	Yes.....1 No .....2 DK.....8	1⇨BF2B
BF2A. AT WHAT AGE DID (*name*) STOP BEING BREASTFED?	Number of months…… ☐☐	
BF2B. HAS (*name*) STARTED TO HAVE FOODS BESIDES BREAST FEEDING?	Yes.....1 No .....2 DK.....8	 2⇨BF3 8⇨BF3
BF2C. AT WHAT AGE DID (*name*) BEGIN TO HAVE ADDITIONAL FOODS?	Number of months…… ☐☐	
I WOULD LIKE TO ASK YOU ABOUT LIQUIDS THAT (*name*) MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. I AM INTERESTED IN WHETHER (*name*) HAD THE ITEM EVEN IF IT WAS COMBINED WITH OTHER FOODS.		
BF3: DID (*name*) DRINK PLAIN WATER YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF4. DID (*name*) DRINK INFANT FORMULA YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	 2⇨BF6 8⇨BF6
BF5. HOW MANY TIMES DID (*name*) DRINK INFANT FORMULA?	Number of times ..... __ __	

BF6. DID (*name*) DRINK MILK, SUCH AS TINNED, POWDERED OR FRESH ANIMAL MILK YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	 2⇨BF8 8⇨BF8
BF7. HOW MANY TIMES DID (*name*) DRINK TINNED, POWDERED OR FRESH ANIMAL MILK?	Number of times ..... __ __	
BF8. DID (*name*) DRINK JUICE OR JUICE DRINKS YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF9. DID (*name*) DRINK SOUP YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF10. DID (*name*) DRINK OR EAT VITAMIN OR MINERAL SUPPLEMENTS OR ANY MEDICINES YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF11. DID (*name*) DRINK ORS (ORAL REHYDRATION SOLUTION) YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF12. DID (*name*) DRINK ANY OTHER LIQUIDS YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF13. DID (*name*) DRINK OR EAT YOGURT YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	 2⇨BF15 8⇨BF15
BF14. HOW MANY TIMES DID (*name*) DRINK OR EAT YOGURT YESTERDAY, DURING THE DAY OR NIGHT?	Number of times ..... __ __	
BF15. DID (NAME) EAT THIN PORRIDGE YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	
BF16. DID (*name*) EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY, DURING THE DAY OR NIGHT?	Yes.....1 No .....2 DK.....8	 2⇨BF18 8⇨BF18
BF17. HOW MANY TIMES DID (*name*) EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY, DURING THE DAY OR NIGHT?	Number of times ..... __ __	
BF18. YESTERDAY, DURING THE DAY OR NIGHT, DID (*name*) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE?	Yes.....1 No .....2 DK.....8	

IMMUNIZATION MODULE		**IM**
This module to be administered to mothers of children 12-23 months of age *If an immunization card is available, copy the dates in IM300 t0 IM303 for each type of immunization or vitamin A dose recorded on the card. IM6-IM16 will be used to record the vaccination not registered in the card and also will be asked when a card is not available.*		
IM1. IS THERE A VACCINATION CARD FOR (*name*)? (*If yes*) MAY I SEE IT?	Yes, seen .....1 Yes, not seen .....2 No 3	 2⇨IM6 3⇨IM6
IM3 *(a) Copy dates for each vaccination from the card.* *(b) If the card shows only part of the date, record "98" in the column for the missing information.* *(c) Write '44' in day column if card shows that vaccination was given but no date recorded.* *(d) If a vaccination was not given, leave that line blank*	Date of Immunization DAY | MONTH | YEAR	
IM3 00. BCG	☐☐ ☐☐ ☐☐☐☐	
IM301. OPV0	☐☐ ☐☐ ☐☐☐☐	
IM301A. OPV1	☐☐ ☐☐ ☐☐☐☐	
IM301B. OPV2	☐☐ ☐☐ ☐☐☐☐	
IM301C. OPV3	☐☐ ☐☐ ☐☐☐☐	
IM302. DPT HB HIB1	☐☐ ☐☐ ☐☐☐☐	
IM302A. DPT HB HIB2	☐☐ ☐☐ ☐☐☐☐	
IM302 B DPT HB HIB 3	☐☐ ☐☐ ☐☐☐☐	
IM303. MEASLES	☐☐ ☐☐ ☐☐☐☐	
IM4. *Check IM3. Are all vaccines (BCG to* MEASLES*) recorded?* ☐*Yes⇨Go to IM18* ☐*No⇨Continue with IM6*		
IM6. HAS (*name*) EVER RECEIVED ANY VACCINATIONS TO PREVENT HIM/HER FROM GETTING DISEASES (ROUTINE VACCINATION)?	Yes ..... 1 No ..... 2 DK 8	 2⇨IM18 8⇨IM18
IM7. HAS (*name*) EVER BEEN GIVEN A BCG VACCINATION AGAINST TUBERCULOSIS – THAT IS, AN INJECTION IN THE ARM?	Yes ..... 1 No ..... 2 DK 8	2⇨IM 8 8⇨IM 8
IM7A. HAS IT CAUSED A SCAR? IF YES: CAN I SEE IT?	Yes scar seen ..... 1 Yes scar not seen……2 No 3	
IM8. HAS (*name*) EVER BEEN GIVEN ANY "VACCINATION DROPS IN THE MOUTH" TO PROTECT HIM/HER FROM GETTING DISEASES – THAT IS, POLIO?	Yes ..... 1 No ..... 2 DK 8	 2⇨IM12A 8⇨IM12A

IM9. HOW OLD WAS (*name*) WHEN THE FIRST DOSE WAS GIVEN – JUST AFTER BIRTH (WITHIN TWO WEEKS) OR LATER?	Just after birth (within two weeks) ..... 1 Later ..... 2 DK..... 8	
IM10. HOW MANY TIMES HAS HE/SHE BEEN GIVEN THESE DROPS? COUNT ONLY ROUTINE VACCINATION	No. of times..... ☐☐	
IM12A. HAS (*name*) EVER BEEN GIVEN "DPT HB HIB (PENTAVALENT) VACCINATION INJECTIONS" – THAT IS, AN INJECTION IN THE THIGH – TO PREVENT HIM/HER FROM GETTING TETANUS, WHOOPING COUGH, DIPHTHERIA, HEPATITIS B, MENINGITIS? (SOMETIMES GIVEN AT THE SAME TIME AS POLIO)	Yes ..... 1 No..... 2 DK..... 8	 2⇨IM16 8⇨IM16
IM12B. HOW MANY TIMES HAS HE/SHE BEEN GIVEN DPT HB HIB VACCINATION INJECTIONS?	No. of times…… ☐	
IM16. HAS (*name*) EVER RECEIVED A MEASLES INJECTION– THAT IS, A SHOT IN THE ARM AT THE AGE OF **9** MONTHS OR OLDER - TO PREVENT HIM/HER FROM GETTING MEASLES?	Yes ..... 1 No..... 2 DK..... 8	
IM18. HAS (*name*) EVER RECEIVED A VITAMIN A CAPSULE (SUPPLEMENT) LIKE THIS ONE? *Show capsule or dispenser for different doses – 100,000 IU for those 6-11 months old, 200,000 IU for those 12-59 months old.*	Yes ..... 1 No..... 2 DK..... 8	 2⇨ IM18C 8⇨IM18C
IM18A. HOW MANY MONTHS AGO DID (*name*) TAKE THE LAST CAPSULE?	Less than 6 months ago ..... 1 More than 6 months ago..... 2 DK..... 8	
IM18B. WHERE DID YOU GET THE LAST CAPSULE FOR THE (*name*)?	On routine visit to health facility ..... 1 Sick child visit to health facility ..... 2 National Immunization Day campaign..... 3 Other(*specify*)..... 6 DK..... 8	
IM18C ASK THE MOTHER WHETHER (*name*) SUFFERING FROM ANY DIFFICULTIES IN SEEING AT NIGHT	Yes ..... 1 No..... 2 DK..... 8	

UF13. ***Record the time.***	**Hour and minutes** __ __ : __ __	

UF14. *Is the respondent the mother or caretaker of another child age less than 5 years living in this household? Check the HH listing HL9*

☐ *Yes.* ⇨ *Indicate to the respondent that you will need to measure the* ***weight and height of the child later if the childaged between 6 to 59 months.***
And the weight only for children < 6 month
Go to the next QUESTIONNAIRE FOR CHILDREN UNDER FIVE to be administered to the same respondent

☐ *No.* ⇨ *End the interview with this respondent by thanking him/her for his/her cooperation and tell her/him that you will need to measure the weight and height of the child.*

Check to see if there are other woman's or under-5 questionnaires to be administered in this household.

Move to another woman's or under-5 questionnaire, or start making arrangements for anthropometric measurements

ANTHROPOMETRY MODULE		**AN**
After questionnaires for all children under 5 are complete, the measurer weighs and measures each ***child aged 6-59 months, And the weight only for children < 6 month*** *Record weight and length/height below, taking care to record the measurements on the correct questionnaire for each child. Check the child's name and household line number (HL1) on the household listing before recording measurements.*		
AN1. Measurer's Name and identification code.	Name ..... CODE ☐☐	.
AN2. Result of height/length and weight measurement	Either or both measured ..... 1 Child not present ..... 2 Child or caretaker refused ..... 3 Other (*specify*) _____ 6	 2⇨AN6 3⇨AN6 6⇨AN6
AN3.Child's weight.	Kilograms (kg) ..... ☐☐.☐ WEIGHT not measured 99.9	
AN4.Child's length or height. *Check age of child in AG2.* ☐ *Child under 2 years old.* ⇨ *Measure length (lying down).* ☐ *Child age 2 or more years.* ⇨ *Measure height (standing up).*	Length (cm) Lying down.....L ☐☐☐.☐ Height (cm) Standing up H ☐☐☐.☐ Length/ Height not measured 9999.9	
AN5. Perform the oedema press test to both feet to determine if the child has oedema and mark the result of the test.	Child has oedema Yes ..... 1 No ..... 2 Not present ..... 3 Refused 4	

AN6. *Is there another child in the household who is eligible for measurement?*

☐ *Yes.* ⇨ *Record measurements for next child in his/her questionnaire.*

☐ *No.* ⇨ *End the interview with this household by thanking all participants for their cooperation.*
Gather together all questionnaires for this household and check that all identification numbers are inserted on each page. Tally on the Household Information Panel the number of interviews completed.

INTERVIEWER'S OBSERVATIONS

FIELD EDITOR'S OBSERVATIONS

SUPERVISOR'S OBSERVATIONS

SOUTH SUDAN HOUSEHOLD HEALTH SURVEY
QUESTIONNAIRE FOR INDIVIDUAL *MAN*

MEN'S INFORMATION PANEL	**MM**
*This questionnaire is to be administered to all men age 15 through 49 (see column **HL7A** of Household Listing Form). Fill in one form for each eligible man*	
MM1. Cluster number: ___ ___ - ___ ___	MM2. Household number: ___ ___
MM3. Man's name: Name_____	MM4. Man's line number: ___ ___
MM5. Interviewer name and number: Name_____ ___ ___	MM6. Day / Month / Year of interview: ___ ___ / ___ ___ / ___ ___ ___ ___

REPEAT GREETING IF NOT ALREADY READ TO THIS MAN:

We are from the Sudan Household Health Survey 2nd round which is concerned with family health and socioeconomic indicators. I would like to talk to you about this. The interview will take about 10 to 15 minutes. All the information we obtain will remain strictly confidential and your answers will never be identified.

May I start now?

- ☐ *Yes, permission is given* ⇨*Go to MM10 to record the time and then begin the interview.*
- ☐ *NO, PERMISSION IS NOT GIVEN* ⇨*COMPLETE MM7. DISCUSS THIS RESULT WITH YOUR SUPERVISOR.*

MM7. Result of Man's interview ***Circle the appropriate code*** **First visit**	MM7a. Result of Man's interview ***Circle the appropriate code*** **Second visit**	MM7b. Result of Man's interview ***Circle the appropriate code*** **Third visit**
Completed.....1 Not at home.....2 Refused.....3 Partly completed.....4 Incapacitated.....5 Other (*specify*)_____6	Completed.....1 Not at home.....2 Refused.....3 Partly completed.....4 Incapacitated.....5 Other (*specify*)_____6	Completed.....1 Not at home.....2 Refused.....3 Partly completed.....4 Incapacitated.....5 Other (*specify*)_____6

MM8. Field edited by (Name and number):	MM9. Data entry clerk (Name and number):
Name_____ ___ ___	Name_____ ___ ___

MM10. *RECORD THE TIME.*	Hour and minutes __ __ : __ __	

MAN'S BACKGROUND		MB
MB1. IN WHAT MONTH AND YEAR WERE YOU BORN?	Date of birth Month ..... __ __ DK month.....98 Year ..... __ __ __ __ DK year.....9998	
MB2. HOW OLD ARE YOU? *PROBE:* HOW OLD WERE YOU AT YOUR LAST BIRTHDAY? *COMPARE AND CORRECT MB1 AND/OR MB2 IF INCONSISTENT*	Age (in completed years) ..... __ __	
MB3. HAVE YOU EVER ATTENDED SCHOOL OR PRESCHOOL?	Yes.....1 No 2	 2⇨MB7
MB4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Preschool .....0 Primary …….. .....1 Intermediate……..…....2 Secondary .....3 University/Higher institutes……..……..4 Adult education……5 Khalwa / Sunday Education6	0 ⇨WB7 4 ⇨ NEXT MODULE 5 ⇨WB7 6 ⇨WB7
MB5. WHAT IS THE HIGHEST GRADE YOU COMPLETED AT THAT LEVEL? *IF LESS THAN 1 GRADE, ENTER "00"*	Grade	
MB6. *Check MB4:* ☐*Secondary ⇨ Go to Next Module* ☐*Primary or Intermediate ⇨ Continue with MB7*		
MB7. NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME. *Show sentence on the card to the respondent. If respondent cannot read whole sentence, probe:* CAN YOU READ PART OF THE SENTENCE TO ME?	Cannot read at all .....1 Able to read only parts of sentence .....2 Able to read whole sentence .....3 No sentence in required language _____ 4 *(specify language)* Blind / mute, visually / speech impaired.....5	

MARRIAGE/UNION		MA
MA1. ARE YOU CURRENTLY MARRIED OR LIVING TOGETHER WITH A WOMAN AS IF MARRIED?	Yes, currently married .....1 Yes, living with a woman .....2 No, not in union 3	 3⇨MA5
MA1A. IS YOUR WIFE/PARTNER LIVING WITH YOU NOW OR IS SHE STAYING ELSEWHERE?	LIVING TOGETHER ……..1 Staying elsewhere ……..2	
MA2. HOW OLD WAS YOUR WIFE/PARTNER ON HER LAST BIRTHDAY?	Age in years.....__ __ DK 98	
MA3. DO YOU HAVE ANY OTHER WIVES OR FEMALE PARTNERS WHO YOU LIVE WITH AS IF MARRIED?	Yes .....1 No.....2	 2⇨MA7
MA4. HOW MANY WIVES OR PARTNERS DO YOU HAVE?	Number.....	⇨MA7
	DK 98	98⇨MA7
MA5. HAVE YOU EVER BEEN MARRIED OR LIVED TOGETHER WITH A WOMAN AS IF MARRIED?	Yes, formerly married.....1 Yes, formerly lived with a woman .....2 No.....3	 3⇨NEXT MODULE
MA6. WHAT IS YOUR MARITAL STATUS NOW: ARE YOU WIDOWED, DIVORCED OR SEPARATED?	Widowed.....1 Divorced .....2 Separated.....3	
MA7. HAVE YOU BEEN MARRIED OR LIVED WITH A WOMAN ONLY ONCE OR MORE THAN ONCE?	Only once .....1 More than once.....2	
MA9. HOW OLD WERE YOU WHEN YOU STARTED LIVING WITH YOUR FIRST WIFE/PARTNER?	Age in years.....	

ATTITUDES TOWARD DOMESTIC VIOLENCE				DV
DV1. SOMETIMES A HUSBAND IS ANNOYED OR ANGERED BY THINGS THAT HIS WIFE DOES. IN YOUR OPINION, IS A HUSBAND JUSTIFIED IN HITTING OR BEATING HIS WIFE IN THE FOLLOWING SITUATIONS:	Yes	No	DK	
[A] IF SHE GOES OUT WITHOUT TELLING HIM?	Goes out without telling 1	2	8	
[B] IF SHE NEGLECTS THE CHILDREN?	Neglects children 1	2	8	
[C] IF SHE ARGUES WITH HIM?	Argues 1	2	8	
[D] IF SHE REFUSES TO HAVE SEX WITH HIM?	Refuses sex 1	2	8	
[E] IF SHE BURNS THE FOOD?	Burns food 1	2	8	

Check for the presence of others. Before continuing, ensure privacy.		
SB1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT SEXUAL ACTIVITY IN ORDER TO GAIN A BETTER UNDERSTANDING OF SOME IMPORTANT LIFE ISSUES. THE INFORMATION YOU SUPPLY WILL REMAIN STRICTLY CONFIDENTIAL. HOW OLD WERE YOU WHEN YOU HAD SEXUAL INTERCOURSE FOR THE VERY FIRST TIME?	Never had intercourse ..... 00 Age in years .....__ __ DK / Don't remember..... 98	00⇨HA
SB2. THE FIRST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes ..... 1 No ..... 2 DK / Don't remember..... 8	
SB3. WHEN WAS THE LAST TIME YOU HAD SEXUAL INTERCOURSE? *Record 'years ago' only if last intercourse was one or more years ago. If 12 months or more the answer must be recorded in years.*	Days ago.....1 __ __ Weeks ago.....2 __ __ Months ago .....3 __ __ Years ago .....4 __ __	4⇨SB11
SB4. THE LAST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes ..... 1 No 2	
SB5. WHAT WAS YOUR RELATIONSHIP TO THIS PERSON WITH WHOM YOU LAST HAD SEXUAL INTERCOURSE? *If person is 'girlfriend' or 'fiancée', ask:* WERE YOU LIVING TOGETHER AS IF MARRIED? *If 'yes', circle '01'. If 'no', circle' 02'.*	Current spouse..... 01 Current cohabiting partner..... 02 Ex-spouse ..... 03 Ex-cohabiting partner ..... 04 Girlfriend/ Fiancée..... 05 Casual acquaintance..... 06 Sex worker..... 07 Other (*specify*) _____ 96	01⇨SB7 02⇨SB7
SB6. HOW OLD IS THIS PERSON? *If response is DK, probe:* ABOUT HOW OLD IS THIS PERSON?	Age of sexual partner .....__ __ DK 98	
SB7. HAVE YOU HAD SEXUAL INTERCOURSE WITH ANY OTHER PERSON IN THE LAST 12 MONTHS?	Yes ..... 1 No 2	2⇨SB11
SB8. IN TOTAL, WITH HOW MANY DIFFERENT PEOPLE HAVE YOU HAD SEXUAL INTERCOURSE IN THE LAST 12 MONTHS?	Number of partners .....__ __	

SB9. FOR MEN: THINK ABOUT THE FEMALE SEXUAL PARTNERS YOU'VE HAD IN THE LAST 12 MONTHS. HOW MANY WERE: #YOUR SPOUSE(S) OR LIVE-IN SEXUAL PARTNERS ("REGULAR" PARTNERS) # SEXUAL PARTNERS WHO YOU ARE NOT MARRIED TO, HAVE NEVER LIVED WITH AND DID NOT PAY FOR SEX ("NON-REGULAR" PARTNERS) # PARTNERS WITH WHOM YOU HAD SEX IN EXCHANGE FOR MONEY ("PAID" PARTNERS) (SHOULD MATCH WITH THE NUMBER OF SEXUAL PARTNERS IN LAST 12 MONTHS)	Number of spouse(s) or live-in sexual partners ("regular" partners) .....|__|__| Number of not married to and have never lived with and did not pay partners ("non-regular" partners) .....|__|__| Number of sex in exchange for money partners (paid partners) .....|__|__|	
SB10. IN THE LAST 12 MONTHS WAS CONDOM USED EVERY TIME YOU HAD SEXUAL INTERCOURSE WITH ALL YOUR PARTNER(S) WHO YOU ARE NOT MARRIED TO AND/OR HAVE NEVER LIVED WITH?	Yes ..... 1 No 2	
SB10A. SEXUAL PARTNERS USE VARIOUS WAYS OR METHODS TO DELAY OR AVOID A PREGNANCY. ARE YOU AND YOUR PARTNER CURRENTLY DOING SOMETHING OR USING ANY METHOD TO DELAY OR AVOID PREGNANCY?	Yes ..... 1 No ..... 2 DK 8	2⇦SB11 8⇦SB11
SB10B. WHAT ARE YOU DOING TO DELAY OR AVOID A PREGNANCY? *Do not prompt.* *If more than one method is mentioned, circle each one.*	Female sterilization ..... A Male sterilization ..... B Pill ..... C IUD ..... D Injectables ..... E Implants ..... F Male condom ..... G Female condom ..... H Diaphragm ..... I Foam / Jelly ..... J Lactational amenorrhoea method (LAM) ..... K Periodic abstinence/Rhythm ..... L Withdrawal ..... M Other (*specify*) _____ X	
SB11. IN TOTAL, WITH HOW MANY DIFFERENT PEOPLE HAVE YOU HAD SEXUAL INTERCOURSE IN YOUR LIFETIME? *If a non-numeric answer is given, probe to get an estimate.* *If number of partners is 95 or more, write '95'.*	Number of lifetime partners ..... __ __ DK 98	

SEXUALY TRANSMITTED INFECTIONS		SI
STI 1. *Check SB 1:* ☐ *Never had sexual intercourse ⇨ Go to Next Module* ☐ *Have had sexual intercourse ⇨ Continue with STI 2*		
STI 2. *SOMETIMES MEN EXPERIENCE ABNORMAL GENITAL DISCHARGE FROM THE PENIS.* DURING THE LAST 12 MONTHS, HAVE YOU HAD AN ABNORMAL GENITAL DISCHARGE?	Yes ..... 1 No 2	
STI 3. SOMETIMES MEN HAVE A GENITAL SORE OR ULCER ON THEIR PENIS. DURING THE LAST 12 MONTHS, HAVE YOU HAD A GENITAL SORE OR ULCER?	Yes ..... 1 No 2	
STI 4. *Check ST1 2 and STI 3:* ☐ *Never had genital discharge, sore or ulcer ⇨ Go to Next Module* ☐ *Have had genital discharge, sore or ulcer ⇨ Go to STI 5*		
STI 5. THE LAST TIME YOU HAD A GENITAL SORE OR *ABNORMAL GENITAL DISCHARGE*; DID YOU SEEK ANY KIND OF ADVICE OR TREATMENT?	Yes ..... 1 No 2	

KNOWLEDGE HIV/AIDS		HA
HA1. NOW I WOULD LIKE TO TALK WITH YOU ABOUT SOMETHING ELSE. HAVE YOU EVER HEARD OF AN ILLNESS CALLED AIDS?	Yes ..... 1 No 2	 2⇨MM11
HA2. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY HAVING JUST ONE UNINFECTED SEX PARTNER WHO HAS NO OTHER SEX PARTNERS?	Yes ..... 1 No ..... 2 DK 8	
HA3. CAN PEOPLE GET THE AIDS VIRUS BECAUSE OF WITCHCRAFT OR OTHER SUPERNATURAL MEANS?	Yes ..... 1 No ..... 2 DK 8	
HA4. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY USING A CONDOM EVERY TIME THEY HAVE SEX?	Yes ..... 1 No ..... 2 DK 8	
HA5. CAN PEOPLE GET THE AIDS VIRUS FROM MOSQUITO BITES?	Yes ..... 1 No ..... 2 DK 8	
HA6. CAN PEOPLE GET THE AIDS VIRUS BY SHARING FOOD WITH A PERSON WHO HAS AIDS?	Yes ..... 1 No ..... 2 DK 8	
HA7. IS IT POSSIBLE FOR A HEALTHY-LOOKING PERSON TO HAVE THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK 8	
HA8. CAN THE VIRUS THAT CAUSES AIDS BE TRANSMITTED FROM A MOTHER TO HER BABY: [A] DURING PREGNANCY? [B] DURING DELIVERY? [C] BY BREASTFEEDING?	Yes No DK During pregnancy ..... 1 2 8 During delivery ..... 1 2 8 By breastfeeding 1 2 8	
HA9. IN YOUR OPINION, IF A FEMALE TEACHER HAS THE AIDS VIRUS BUT IS NOT SICK, SHOULD SHE BE ALLOWED TO CONTINUE TEACHING IN SCHOOL?	Yes ..... 1 No ..... 2 DK / Not sure / Depends 8	
HA10. WOULD YOU BUY FRESH VEGETABLES FROM A SHOPKEEPER OR VENDOR IF YOU KNEW THAT THIS PERSON HAD THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK / Not sure / Depends 8	
HA11. IF A MEMBER OF YOUR FAMILY GOT INFECTED WITH THE AIDS VIRUS, WOULD YOU WANT IT TO REMAIN A SECRET?	Yes ..... 1 No ..... 2 DK / Not sure / Depends 8	
HA12. IF A MEMBER OF YOUR FAMILY BECAME SICK WITH AIDS, WOULD YOU BE WILLING TO CARE FOR HER OR HIM IN YOUR OWN HOUSEHOLD?	Yes ..... 1 No ..... 2 DK / Not sure / Depends 8	
HA24. I DON'T WANT TO KNOW THE RESULTS, BUT HAVE YOU EVER BEEN TESTED TO SEE IF YOU HAVE THE AIDS VIRUS?	Yes ..... 1 No 2	 2⇨HA27
HA25. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED?	Less than 12 months ago ..... 1 12-23 months ago ..... 2 2 or more years ago 3	
HA26. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes 1	1⇨MM11 2⇨MM11

	No ..... 2 DK 8	8⇨MM11
HA27. DO YOU KNOW OF A PLACE WHERE PEOPLE CAN GO TO GET TESTED FOR THE AIDS VIRUS?	Yes ..... 1 No 2	

MM11. *RECORD THE TIME*.	Hour and minutes __ __ : __ __	

INTERVIEWER'S OBSERVATIONS

FIELD EDITOR'S OBSERVATIONS

SUPERVISOR'S OBSERVATIONS

South Sudan

Household Health Survey

2010