

Kenya, Siaya County



Monitoring the situation of children and women



Multiple Indicator Cluster Survey 2011

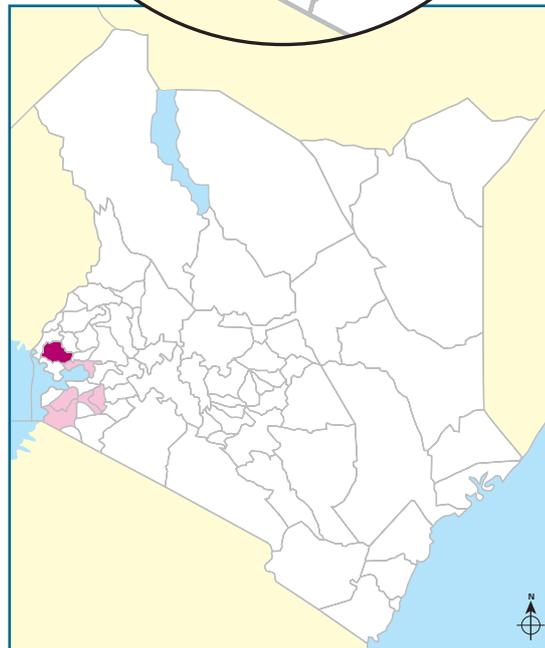
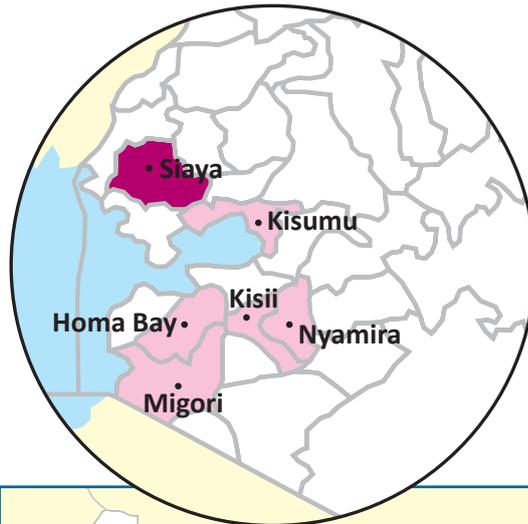


Kenya National Bureau
of Statistics



Siaya County

Multiple Indicator Cluster Survey 2011



July, 2013

The Siaya County Multiple Indicator Cluster Survey (MICS) was carried out in 2011 by Kenya National Bureau of Statistics in collaboration with County and Provincial administration. Financial and technical support was provided by the United Nations Children's Fund (UNICEF).

MICS is an international household survey programme developed by UNICEF. The Siaya County MICS 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. In Kenya, this information is important to guide the planning and implementation of new development plans targeting the new administrative county-levels of governance.

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List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
BCG	Bacillus Calmette Guerin (Tuberculosis)
C-section	Caesarian Section
CSPro	Census and Survey Processing System
DPT	Diphtheria Pertussis Tetanus
DPT-HeB-Hib	Diphtheria Pertussis Tetanus Hepatitis B Haemophyllus Influenza B
EA	Enumeration Area
ECDI	Early Childhood Development Index
EPI	Expanded Programme on Immunization
ERS	Economic Recovery Strategy
FGM/C	Female Genital Mutilation/ Cutting
GOK	Government of Kenya
GPI	Gender Parity Index
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorders
IPTp	Intermittent Preventive Treatment of Malaria in Pregnancy
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
IUD	Intrauterine Device
IYCF	Infant and Young Child Feeding Practices
JMP	Joint Monitoring Programme
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya Demographic Health Survey
KEPI	Kenya Expanded Programme on Immunization
KESSP	Kenya Education Sector Support Programme
KNBS	Kenya National Bureau of Statistics
LAM	Lactational Amenorrhea Method
LLIN	Long Lasting Insecticide Treated Nets
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
NAR	Net Attendance Rate
NPA	National Plan of Action
ORT	Oral Rehydration Therapy
OVC	Orphans and Vulnerable Children
PMTCT	Prevention of Mother to Child Transmission
ppm	Parts Per Million
PRS	Poverty Reduction Strategy
PPS	Probability proportional to Size
PSU	Primary Sampling Units
RHF	Recommended Home Made Fluids
SP	Sulphadoxine- Pyrimethamine
SPSS	Statistical Package for Social Sciences
STIs	Sexually Transmitted Infections
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
U5MR	Under-5 mortality
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
UNICEF	United Nations Children's Fund
VIP	Ventilated Improved Latrine
WFFC	World Fit For Children
WHO	World Health Organization
WSC	World Summit for Children

Foreword

The lives of children and women have improved significantly in the recent past, both at the global and national level. In spite of this, statistics and data presented at national levels often conceal disparities evident among the poor households in terms of access to basic services such as health care, education and protection. In addition, urban residents often present higher levels of achievement in most of the indicators compared to their rural counterparts. This may be attributed to their proximity to essential services ranging from infrastructure to provision of improved services like electricity and piped water.

The Multiple Indicator Cluster Survey (MICS) 2011 was conducted to provide comprehensive and disaggregated data to fill the existing gap, particularly at the county level. The survey, which was the first of its kind to be conducted at the devolved level, was a follow-up to the MICS 2008 conducted in 13 districts in Eastern Province and the 2009 Mombasa Informal Settlement Survey. The objective of Siaya MICS 2011 was to provide lower-level estimates relating to children and women residing in the six counties of the region. Particular emphasis was on reproductive health, child health and mortality, nutrition, child protection, childhood development, water and sanitation, hand washing practices, education, disability and HIV/AIDS, and orphanhood.

The results of Siaya MICS 2011 presented in this Report will therefore provide requisite baseline information and facilitate evidence-based planning and programming by policymakers and stakeholders in the development sphere.

This Report is a culmination of concerted efforts of various organizations and individuals. I acknowledge the technical and financial assistance from the United Nations Children's Fund (UNICEF). I sincerely applaud the UNICEF Kenya Country Office staff, lead by Dr. Robert Ndugwa - Research and Evaluation Specialist, for diligently managing and availing technical oversight of both the survey and report production. I also commend the hard work and dedication of Kenya National Bureau of Statistics (KNBS) staff, under the capable leadership of Mr. Macdonald Obudho – Director of Population and Social Statistics and Mr. James Gatungu- Director Production Statistics in the planning and implementation of the Survey.

I remain indebted to households for generously and voluntarily responding to survey questions and allowing the survey teams to measure the weights and heights of children below 5 years of age.

I urge all stakeholders to use the information presented in this report to impact positively on the lives of our people.



Zachary Mwangi
Director General
Kenya National Bureau of Statistics

Executive Summary

The Siaya County Multiple Indicator Survey (MICS) is a representative sample survey conducted in 2011 and was drawn using the 2009 Kenya Population and Housing Census. The urban and rural areas within Siaya County were identified as the main sampling strata and the sample was selected in two stages. The primary sampling units (PSUs) were the enumeration areas (EAs) while the households were the ultimate units. A total of 50 EAs were sampled using the Probability Proportional to Size (PPS) sampling methodology. After a household listing was carried out, a systematic sample of 25 households was drawn in each sample enumeration area. Information from a total of 1181 households was collected from 4981 household members composed of 2,378 males and 2,603 females. About 46 per cent of the sampled households' population is below 15 years, 49 per cent are aged between 15-64 years and 5 per cent are aged above 65 years.

The survey was implemented by the Kenya National Bureau of Statistics (KNBS) with support from UNICEF Kenya. The survey provides valuable information on the situation of children and women in Siaya County, and was largely based on the need for high quality and sufficiently disaggregated county level data. The summary of the findings from the survey are presented below.

Child Mortality

For the 10 years preceding the survey, the neonatal, infant, under-five mortality and child mortality rates are 32, 112, 167 and 62 deaths per 1000 live births respectively.

Nutritional Status and Breastfeeding

According to WHO standards, approximately one in seven (14 per cent) children under age five in Siaya County are moderately underweight whilst close to 4 per cent are classified as severely underweight. More than one in four (28 per cent) are moderately stunted or too short for their age whilst more than 1 in 10 (11 per cent) are severely stunted. A little more than 1 per cent of children are moderately wasted or too thin for their height, whilst approximately 3 per cent are classified as overweight.

Only 33 per cent of babies in Siaya County are promptly breastfed for the first time (within one hour of birth), and only 29 per cent per cent of children aged less than six months are being exclusively breastfed. Only a half (54 per cent) of children aged less than 2 years are appropriately fed for their age. Notably, despite the risk of contamination, bottle feeding is still occurring in Siaya County, with 11 per cent of children aged 0-23 months reported to have been fed using a bottle with a nipple.

Iodization and Vitamin A supplementation

The level of adequate iodine consumption in salt is high in Siaya County (87 per cent).

Within the six months prior to the MICS, 59 per cent of children aged 6-59 months received a high dose Vitamin A supplement.

Immunization

The percentage of children receiving recommended vaccinations by their first birthday in Siaya County is 74 per cent. Notably, 2 per cent of children have not received any of the vaccines. It is noteworthy that the proportion of children who have received the yellow fever vaccine is lower than for all other vaccines.

About 61 per cent of women who have had a live birth in the last 2 years are protected against tetanus

Care of Illness

About 1 in 5 (20 per cent) of children aged less than 5 years had diarrhoea in the two weeks preceding the survey. Only about 1 in 2 children with diarrhoea (50 per cent) receive oral rehydration solutions (ORS) or other recommended homemade fluids.

About 13 per cent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Only 55 per cent of children with suspected pneumonia

are taken to an appropriate provider. Similarly, only 56 per cent of under-5 children with suspected pneumonia received an antibiotic during the two weeks prior to the survey.

Malaria Prevention

The level of net ownership in Siaya County is high with 93 per cent of households having at least one insecticide treated net and 95 per cent having at least one mosquito net. About 83 per cent of children under the age of five slept under any mosquito net the night prior to the survey and 80 per cent slept under an insecticide treated net.

About 83 per cent of pregnant women slept under any mosquito net the night prior to the survey and 82 per cent slept under an insecticide treated net.

About 29 per cent of children under five were ill with fever in the two weeks prior to the survey. Overall, 48 per cent of children who had fever in the last two weeks were treated with artemisinin combination drugs (the recommended first line antimalarials). About 40 per cent of children receive anti-malarial drugs within 24 hours or on the next day after onset of symptoms.

Up to 43 per cent of women who gave birth in the two years preceding the survey reported receiving at least one dose of sulphadoxine –pyrimethamine (SP) for intermittent preventive therapy (IPT) of malaria in pregnancy whilst only 27 per cent received the recommended IPT dose (2 or more times).

Reproductive Health

In the three year period before the survey, the total fertility rate was 5.5 children per woman. The adolescent birth rate was 161 births per 1000 women during the same period.

The proportion of women aged 15-19 years who have begun childbearing is 31 per cent. Seven per cent of women aged 15-49 years have had a live birth before age 15 while 42 per cent of women aged 20-49 years have had a live birth before age 18.

Two out of every five (40 per cent) of the currently married use modern contraceptive method while 3 per cent use traditional methods. Injectable are by far the most popular method and are used by 24 per cent of married women.

Coverage of antenatal care by any skilled personnel is relatively high with 9 out of 10 (91 per cent) women who gave birth in the two years preceding the survey having received antenatal care, majority of whom received care from a nurse or midwife (73 per cent). Just about nine in ten mothers (85 per cent) received antenatal care more than once whilst less than half of mothers received antenatal care at least four times (45 per cent).

More than half (54 per cent) of births were delivered in a health facility in the two years preceding the survey, and 52 per cent were delivered by skilled personnel.

HIV and AIDS

All women in Siaya County have heard of AIDS. However, only 58 per cent have comprehensive knowledge of HIV prevention methods and transmission. Knowledge of mother-to-child transmission of HIV is near universal (98 per cent). However, only 60 per cent know the three main ways of HIV transmission.

Stigma and discrimination are still fairly high in Siaya County as only 17 per cent of women expressed accepting attitudes on all four indicators for attitudes toward people living with HIV namely: would care for family member sick with AIDS; would buy fresh vegetables from a vendor who was HIV positive; thinks that a female teacher who is HIV positive should be allowed to teach in school; and would not want to keep HIV status of a family member a secret.

Despite the finding that knowledge of where to go for HIV testing is nearly universal (97 per cent), only 60 per cent of women have ever been tested. Although 91 per cent of all women who gave birth in the last two years preceding the survey received HIV counselling during antenatal care, only 79 per cent were offered an HIV test and were tested

for HIV. Less than 2 per cent of women report having sex with more than one partner in the year preceding the survey, all of whom reside in the rural areas.

Orphaned and Vulnerable Children

Eighteen per cent of children below 18 years are not living with any biological parent and about 1 in 5 (22 per cent) have lost one or both parents. Eight per cent of children aged 10-14 years have lost both parents and only 92 per cent of them are currently attending school compared to 99.6 per cent of non-orphans.

Child protection

Although 50 per cent of children under five years who live in Siaya County have their births registered, at least 35 per cent do not possess birth certificates whilst only 16 per cent have birth certificates. Among those not registered, just about 1 in 5 of their mothers/caretakers knows where to register a birth.

About 3 out of 5 of children (58 per cent) aged 5-14 years in Siaya County are engaged in child labour. In Siaya County, about 4 out of 5 (89 per cent) of the children aged 2-14 years are subjected to at least one form of violent discipline method by their mothers/caretakers whilst about 7 out of 10 children (68 per cent) aged 2-14 years are subjected to some form of psychological punishment by their mothers/caretakers. Notably, 15 per cent of the 2-14 year olds have been subjected to severe physical punishment.

About 1 in 5 (22 per cent) adolescent girls of ages 15-19 years old in Siaya are currently married or in union.

Female genital mutilation/cutting (FGM/C)

About 65 per cent of women aged 15-49 years in Siaya County have heard about FGM/C. The proportion who has had any form of FGM/C is less than 1 per cent. It is noteworthy that of those

women aged 15-49 years who have heard about FGM/C, 14 per cent believe that the practice should be continued.

Domestic violence

About 7 out of 10 women feel that a husband/partner is justified in beating his wife/partner in various circumstances, particularly 'if she neglects the children' (55 per cent) or 'if she argues with him' (47 per cent).

Water and sanitation

Over half (52 per cent) of the Siaya County population uses drinking water from an improved source. The main improved sources of drinking water are protected wells and springs, whereas surface water is the most common unimproved water source. More than three quarters (76 per cent) of those who use unimproved drinking water sources use an appropriate water treatment method, the most common being adding bleach/chlorine (61 per cent).

It takes less than 30 minutes for just over a quarter of Siaya County households to get to their improved source of drinking water, and longer than 30 minutes for those who rely on unimproved sources of drinking water. In about 3 out of every 4 (74 per cent) households, an adult woman is responsible for water collection.

About 34 per cent of the population is using improved sanitation facilities, the most common being pit latrines with slabs (used in 26 per cent of households). Notably, 16 per cent of the households in Siaya County have no sanitation facilities whilst 24 per cent use either public or shared sanitation facilities. Stools of children age 0-2 years are disposed of safely in 71 per cent of cases.

Only 5 per cent of the households in Siaya County have both improved drinking water sources and improved sanitation. Whilst 3 per cent of households have designated hand washing places, soap is present in only 1 per cent of the households.

Child development

In Siaya County, 30 per cent of children aged 36-59 months are attending pre-school. Twenty seven per cent of under-five children had an adult household member engaged in more than four learning activities during the 3 days preceding the survey. Two per cent of children are living in households where at least 3 children's books are present and 22 per cent of children aged 36-59 months are developmentally on track.

Literacy and Education

In Siaya County, about 86 per cent of females aged 15-24 are literate whilst only 75 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. The primary school completion rate is 80 per cent but the transition rate to secondary school is only 67 per cent.

Summary Table of Findings

Multiple Indicator Cluster Surveys (MICS) and Millennium Development Goals (MDG) Indicators, Siaya County, 2011

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value
CHILD MORTALITY				
Child mortality	1.1	4.1	Under-five mortality rate	167 per thousand
	1.2	4.2	Infant mortality rate	111 per thousand
NUTRITION				
Nutritional status		1.8	Underweight prevalence	
	2.1a		Moderate and Severe (- 2 SD)	13.6 per cent
	2.1b		Severe (- 3 SD)	3.7 per cent
			Stunting prevalence	
	2.2a		Moderate and Severe (- 2 SD)	27.7 per cent
	2.2b		Severe (- 3 SD)	10.7 per cent
			Wasting prevalence	
	2.3a		Moderate and Severe (- 2 SD)	1.4 per cent
2.3b		Severe (- 3 SD)	0.2 per cent	
Breastfeeding and infant feeding	2.4		Children ever breastfed	96.0 per cent
	2.5		Early initiation of breastfeeding	33.2 per cent
	2.6		Exclusive breastfeeding under 6 months	28.7 per cent
	2.7		Continued breastfeeding at 1 year	83.4 per cent
	2.8		Continued breastfeeding at 2 years	52.5 per cent
	2.9		Predominant breastfeeding under 6 months	42. per cent
	2.10		Duration of breastfeeding	21.7 months
	2.11		Bottle feeding	10.5 per cent
	2.12		Introduction of solid, semi-solid or soft foods	69.8 per cent
	2.13		Minimum meal frequency	34.5 per cent
	2.14		Age-appropriate breastfeeding	54.1 per cent
	2.15		Milk feeding frequency for non-breastfed children	25.6 per cent
Salt iodization	2.16		Iodized salt consumption	87.3 per cent
Vitamin A	2.17		Vitamin A supplementation (children under age 5)	58.6 per cent
Low birth weight	2.18		Low-birth weight infants	5.6 per cent
	2.19		Infants weighed at birth	53.8 per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units
CHILD HEALTH				
Vaccinations	3.1		Tuberculosis immunization coverage	74.0 per cent
	3.2		Polio immunization coverage	72 per cent
	3.3		Immunization coverage for diphtheria, pertussis and tetanus (DPT)	74.0 per cent
	3.4	4.3	Measles immunization coverage	74.5 per cent
Tetanus toxoid	3.7		Neonatal tetanus protection	61.0 per cent
Care of illness	3.8		Oral rehydration therapy with continued feeding	46.3 per cent
	3.9		Care seeking for suspected pneumonia	54.8 per cent
	3.10		Antibiotic treatment of suspected pneumonia	56.0 per cent
Solid fuel use	3.11		Solid fuels	98.8 per cent
Malaria	3.12		Household availability of insecticide-treated nets (ITNs)	92.7 per cent
	3.13		Households protected by a vector control method	92.8 per cent
	3.14		Children under age 5 sleeping under any mosquito net	83.4 per cent
	3.15	6.7	Children under age 5 sleeping under insecticide-treated nets (ITNs)	79.6 per cent
	3.17		Antimalarial treatment of children under 5 the same or next day	40.0 per cent
	3.18	6.8	Antimalarial treatment of children under age 5	54.8 per cent
	3.19		Pregnant women sleeping under insecticide-treated nets (ITNs)	81.5 per cent
	3.20		Intermittent preventive treatment for malaria	26.7 per cent
WATER AND SANITATION				
Water and sanitation	4.1	7.8	Use of improved drinking water sources	51.7 per cent
	4.2		Water treatment	76.2 per cent
	4.3	7.9	Use of improved sanitation facilities	9.6 per cent
	4.4		Safe disposal of child's faeces	71.3 per cent
	4.5		Place for handwashing	(44.8) per cent
	4.6		Availability of soap	(93.2) per cent
REPRODUCTIVE HEALTH				
Contraception and unmet need	5.1	5.4	Adolescent birth rate	161 per 1,000
	5.2		Early childbearing	41.8 per cent
	5.3	5.3	Contraceptive prevalence rate	42.7 per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units	
Maternal and new-born health	5.5a	5.5	Antenatal care coverage by any skilled personnel	91.2 per cent	
	5.6		Content of antenatal care	56.0 per cent	
	5.7	5.2	Skilled attendant at delivery	52.0 per cent	
	5.8		Institutional deliveries	53.5 per cent	
	5.9	5.2	Caesarean section	5.6 per cent	
CHILD DEVELOPMENT					
Child development	6.1		Support for learning	27.1 per cent	
	6.2		Father's support for learning	29.9 per cent	
	6.3		Learning materials: children's books	1.8 per cent	
	6.4		Learning materials: playthings	61.3 per cent	
	6.5		Inadequate care	64.2 per cent	
	6.6		Early child development index	22.4 per cent	
	6.7		Attendance to early childhood education	30.1 per cent	
EDUCATION					
Literacy and education	7.1	2.3	Literacy rate among young women	85.9 per cent	
	7.2		School readiness	74.9 per cent	
	7.3		Net intake rate in primary education	14.7 per cent	
	7.4	2.1	Primary school net attendance ratio (adjusted)	79.8 per cent	
	7.5		Secondary school net attendance ratio (adjusted)	16.6 per cent	
	7.6	2.2	Children reaching last grade of primary	90.0 per cent	
	7.7		Primary completion rate	80.3 per cent	
	7.8		Transition rate to secondary school	67.0 per cent	
	7.9		Gender parity index (primary school)	1.03	
	7.10		Gender parity index (secondary school)	0.55	
CHILD PROTECTION					
Birth registration	8.1		Birth registration	50.2	per cent
Child labour	8.2		Child labour	58.2	per cent
	8.3		School attendance among child labourers	94.7	per cent
	8.4		Child labour among students	58.6	per cent
Child discipline	8.5		Violent discipline	88.6	per cent
Early marriage and polygyny	8.6		Marriage before age 15	9.1 per cent	
	8.7		Marriage before age 18	45.0 per cent	
	8.8		Young women age 15-19 currently married or in union	21.8 per cent	
	8.9		Polygyny	0.0 per cent	
			Spousal age difference		
	8.10a		Women age 15-19	(18.8) per cent	

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units
	8.10b		Women age 20-24	18.8 per cent
Female genital mutilation/cutting	8.11		Approval for female genital mutilation/cutting (FGM/C)	13.6 per cent
	8.12		Prevalence of female genital mutilation/cutting (FGM/C) among women	0.5 per cent
Domestic violence	8.14		Attitudes towards domestic violence	69.7 per cent
HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN				
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention	57.9 per cent
	9.2	6.3	Comprehensive knowledge about HIV prevention among young people	60.5 per cent
	9.3		Knowledge of mother-to-child transmission of HIV	60.4 per cent
	9.4		Accepting attitude towards people living with HIV	16.9 per cent
	9.5		Women who know where to be tested for HIV	96.6 per cent
	9.7		Sexually active young women who have been tested for HIV and know the results	41.2 per cent
	9.8		HIV counselling during antenatal care	91.2 per cent
	9.9		HIV testing during antenatal care	77.6 per cent
	9.9		HIV testing during antenatal care	76.8 per cent
Sexual behaviour	9.10		Young women who have never had sex	58.8 per cent
	9.11		Sex before age 15 among young women	21.3 per cent
	9.12		Age-mixing among sexual partners	16.0 per cent
	9.13		Sex with multiple partners	1.2 per cent
	9.14		Condom use during sex with multiple partners	* per cent
	9.15		Sex with non-regular partners	2.0 per cent
	9.16	6.2	Condom use with non-regular partners	* per cent
Orphaned children	9.17		Children's living arrangements	18.1 per cent
	9.18		Prevalence of children with at least one parent dead	22.2 per cent
	9.19	6.4	School attendance of orphans	91.7 per cent
	9.20	6.4	School attendance of non-orphans	99.6 per cent

I. Introduction

Background

This report is based on the Siaya County Multiple Indicator Cluster Survey, conducted in 2011 by the Kenya National Bureau of Statistics (KNBS) and the United Nations Children’s Fund (UNICEF). The survey provides valuable information on the situation of children and women in Siaya County, and was based, to large extent, 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 and are in line with Kenya’s Vision 2030 blueprint which aims to transform the country into a middle income country by 2030

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 of a World Fit For Children 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.”

Kenya is committed to improving the welfare of its people particularly women and children who are the most vulnerable to social-economic hardships. With regards to children, the Government of Kenya (GOK) formulated the National Plan of Action (NPA) for children in 1992 soon after the World Summit for Children (WSC) which was held in 1990. The main objective of this plan was to identify issues affecting children and the strategies to address them.

While adequate monitoring and evaluation of programmes are vital for tracking the country's progress towards various goals and targets, this requires a wide range of data. Moreover, as Kenya transitions from a central to a devolved governance structure in 2013, county specific MICS data will be required to appraise the performance of various domestic initiatives such as The Poverty Reduction Strategy (PRS), Economic Recovery Strategy (ERS) and the 2005-2010 Kenya Education Sector Support Programme (KESSP). The MICS data would also help to monitor overall progress towards the attainment of international targets set by the 2015 Millennium Development Goals (MDGS), the World Fit for Children, the UNICEF Country Programme, UN Development Assistance Framework, the Convention on the Rights of the Child and the Convention on the Elimination of All Forms of Discrimination against Women.

The GOK/UNICEF 2009-2013 Country Programme has a significant focus on production of high quality and sufficiently disaggregated data for effective child friendly policy formulation, equity focused resource allocation, programme implementation as well as monitoring and evaluation. Towards this end, this report summarizes the findings of the 2011 MICS in Siaya County.

Survey Objectives

The 2011 Siaya Multiple Indicator Cluster Survey has as its primary objectives:

- To provide up-to-date information for assessing the situation of children and women in Siaya County;
- 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 Siaya County 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.

II. Sample and Survey Methodology

Sample Design

The sample for the Siaya County Multiple Indicator Cluster Survey (MICS) was designed to provide estimates for a large number of indicators on the situation of children and women at county level, for urban and rural areas. The urban and rural areas within Siaya County were identified as the main sampling strata and the sample was selected in two stages. Therefore, to attain the desired sample size, a two-stage stratified sampling design was applied. The primary sampling units (PSUs) for the survey were the recently created enumeration areas (EAs) based on the 2009 Kenya Population and Housing Census while the households were the ultimate units.

A stand-alone statistical frame for Siaya County which is located within the old Nyanza province was created based on the 2009 census EAs for the purpose of MICS 4 survey. Within each stratum, a specified number of census enumeration areas were selected systematically with probability proportional to size.

A complete listing of all households in the selected EAs was undertaken by identifying and mapping all existing structures and households. The listing process ensured that the EAs had one measure of size (MoS). One MoS was defined as an EA having an average of 100 households. Prior to undertaking the fieldwork that informed the development of the frame, office processing of the EAs in the selected districts was done so that each EA with less than 50 households was amalgamated with the most convenient adjoining EA. On the other hand, the EAs with more than 149 households were segmented during household listing and eventually one segment scientifically selected and developed into a cluster. After a household listing was carried out within the selected enumeration areas, a systematic sample of 25 households was drawn in each sample enumeration area. In total there were 50 enumeration areas in Siaya County. The sample was stratified by urban and rural areas, and is not self-weighting. For reporting county level results, sample weights are used. A more detailed description of the sample design can be found in Appendix A.

Questionnaires

Three 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; and 3) 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 Listing Form
- Education
- Water and Sanitation
- Household Characteristics
- Insecticide Treated Nets
- Indoor Residual Spraying
- Child Labour
- Child Discipline
- Handwashing
- Salt Iodization
- Child disability
- Orphans and vulnerable children

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

- Women's Background
- Child Mortality
- Desire for Last Birth
- Maternal and Newborn Health
- Illness Symptoms
- Contraception
- Female Genital Mutilation/Cutting
- Attitudes Towards Domestic Violence
- Marriage/Union
- Sexual Behaviour
- HIV/AIDS

The Questionnaire for Children under Five was administered to mothers or caretakers of children under 5 years of age¹ living in the households. Normally, the questionnaire was administered to mothers of children under-5; 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:

- Age
- Birth Registration
- Early Childhood Development
- Breastfeeding
- Care of Illness
- Malaria
- Immunization
- Anthropometry

The questionnaires are based on the MICS4 model questionnaire². From the MICS4 model English version, the questionnaires were translated into Swahili and Luo which are the other commonly spoken languages in Siaya County. A copy of the MICS questionnaires used in Siaya County 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, observed the place for hand-washing 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.

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

2 The model MICS4 questionnaires can be found at www.childinfo.org

Training and Fieldwork

Training for the fieldwork was conducted for 19 days in August/September, 2011. 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 Siaya County within clusters that were not sampled for the main survey exercise.

The data were collected by 12 teams; each was comprised of 5 interviewers, one driver, one editor, one measurer and a supervisor. Two teams were allocated to cover the data collection in all selected clusters within Siaya County. Siaya was one of six counties where data collection within the province was carried out. Fieldwork began in October 2011 and concluded in December 2011.

Data Processing

Data were entered using the CSPro software. The data were entered on 43 microcomputers and carried out by 28 data entry operators and 3 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 Kisii County questionnaire were used throughout. Data processing began simultaneously with data collection in October 2011 and was completed in January 2012. 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.

III. Sample Coverage and the Characteristics of Households and Respondents

Sample Coverage

Of the 1250 households selected for the sample, 1190 were found to be occupied. Of these, 1181 were successfully interviewed resulting in a household response rate of 99.2 per cent. In the interviewed households, 992 women (age 15-49 years) were identified. Of these, 949 were successfully interviewed, yielding a response rate of 95.7 per cent within interviewed households. In addition, 805 children under age five years were listed in the household questionnaire. Questionnaires were completed for 801 of these children, which corresponds to a response rate of 99.5 per cent within interviewed households. Overall response rates of 94.9 and 98.8 are calculated for the women’s and under-5’s interviews respectively (Table HH.1).

Table HH.1: Results of household and individual interview’s

Number of households, women, and children under 5 by results of the interviews, and household, women's and under-5's response rates, Siaya County, 2011	
Households	
Sampled	1250
Occupied	1190
Interviewed	1181
Household response rate	99.2
Women	
Eligible	992
Interviewed	949
Women's response rate	95.7
Women's overall response rate	94.9
Children under 5	
Eligible	805
Mothers/caretakers interviewed	801
Under-5's response rate	99.5
Under-5's overall response rate	98.8

There are some differentials in response rates by urban and rural areas. Overall household responses rates were 98% for rural areas and 94 per cent for urban areas. The same trends was observed for overall women response rates and under-five overall response rates, in favour of rural areas. At the County levels, household response rates were all above 95 per cent, but considerable differentials were observed for women response rates across counties. Overall women response rates were lowest in Nyamira County at 83.5 per cent and highest in Siaya at 95 per cent. Given the fact that Nyamira has response rates below 85 per cent, the results for this region or residence should be interpreted with some caution, as the response rate is low. Similarly overall under-five response rates were highest in Siaya County and lowest in Nyamira County at 92.2 per cent. The reasons for the lower response rates for Nyamira County are not readily available, but a range of explanations for this lower performance includes a large section of the population who were not reachable on certain prayer days, in addition to heavy downpours that affected availability of respondents during the whole day while working on farms.

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 1181 households successfully interviewed in the survey, 4981 household members were listed. Of these, 2378 were males and 2603 were females. The age distribution from Table HH.2 shows that 46 per cent of the sampled households' population is below 15 years of age, 49 per cent are aged between 15-64 years and 5 per cent are aged above 65 years. The child population aged between 0-17 years is 54 per cent, highlighting a high dependency burden in Siaya County. The population pyramid shows an irregular structure where the population of females aged between 50 and 60 years is higher than expected.

Table HH.2: Household age distribution by sex

Per cent and frequency distribution of the household population by five-year age groups, dependency age groups, and by child (age 0-17 years) and adult populations (age 18 or more), by sex, Siaya County, 2011						
	Males		Females		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Age						
0-4	427	17.9	391	15.0	817	16.4
5-9	379	15.9	392	15.1	771	15.5
10-14	321	13.5	399	15.3	720	14.5
15-19	321	13.5	255	9.8	576	11.6
20-24	182	7.6	183	7.0	365	7.3
25-29	165	6.9	174	6.7	338	6.8
30-34	115	4.8	137	5.3	252	5.1
35-39	96	4.1	114	4.4	210	4.2
40-44	61	2.6	87	3.3	148	3.0
45-49	58	2.4	71	2.7	129	2.6
50-54	49	2.1	85	3.3	134	2.7
55-59	51	2.1	91	3.5	142	2.9
60-64	46	1.9	78	3.0	124	2.5
65-69	33	1.4	54	2.1	87	1.8
70-74	32	1.3	46	1.8	78	1.6
75-79	28	1.2	19	0.7	47	0.9
80-84	4	0.2	21	0.8	25	0.5
85+	9	0.4	9	0.3	18	0.4
Dependency age groups						
0-14	1127	47.4	1181	45.4	2308	46.3
15-64	1144	48.1	1273	48.9	2418	48.5
65+	107	4.5	148	5.7	255	5.1
Child and adult populations						
Children age 0-17 years	1336	56.2	1349	51.8	2684	53.9
Adults age 18+ years	1042	43.8	1254	48.2	2296	46.1
Total	2378	100.0	2603	100.0	4981	100.0

() Based on 25-49 unweighted cases.

Figure HH.1: Age and sex distribution of household population, Nyanza, 2011

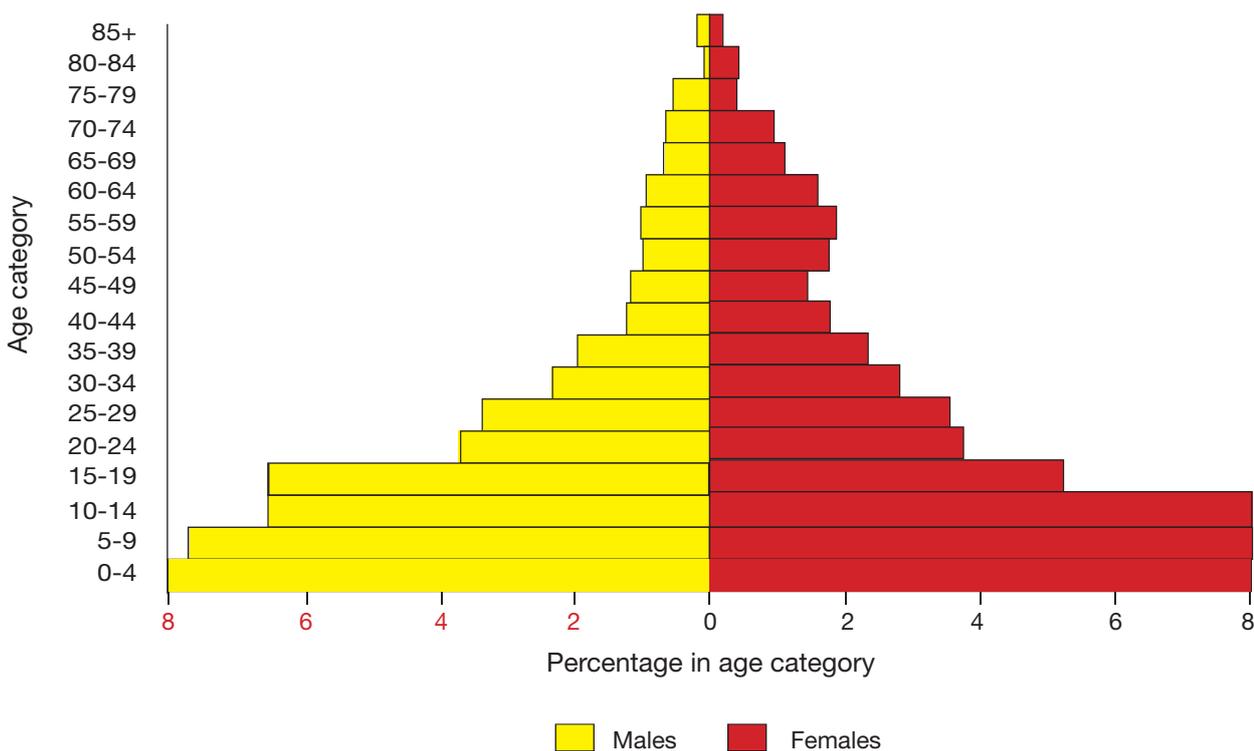


Table HH.3 - HH.5 provide basic information on the households, female respondents aged 15-49, and children under-5 by presenting the unweighted, as well as the weighted numbers. Information on the basic characteristics of households, women and children under-5 interviewed in the survey is essential for the interpretation of findings presented later in the report and can also 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, 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 sample weights were normalized (See Appendix A). The table also shows the proportions of households with at least one child under 18 years, at least one child under 5 years old, and at least one eligible woman age 15-49. The table also shows the weighted average household size estimated by the survey.

In Siaya County, about 7 per cent of the residents live in the urban areas. The mean household size is 4.1 persons. About 41 per cent of the households are reportedly headed by females and approximately 45 per cent have at least one child below 5 years of age. About 75 per cent of the households have at least one child below 18 years of age and 66 per cent have at least one female in the reproductive age group 15-49 years. About 21 per cent of the household heads do not have formal education, 60 per cent have attained primary education and 19 per cent have attained secondary education.

Table HH.3: Household composition

Per cent and frequency distribution of households by selected characteristics, Siaya County, 2011			
	Weighted per cent	Number of households	
		Weighted	Unweighted
Sex of household head			
Male	58.9	713	689
Female	41.1	497	492
Residence			
Urban	7.1	86	84
Rural	92.9	1123	1097
Number of household members			
1	15.3	185	185
2	12.3	149	148
3	16.3	197	188
4	15.8	191	186
5	13.5	164	160
6	11.4	138	135
7	6.6	80	78
8	(4.0)	48	48
9	(2.7)	33	30
10+	(2.0)	25	23
Education of household head			
None	21.4	259	253
Primary	59.5	720	702
Secondary+	18.9	228	223
Missing/DK	(*)	3	3
Total	100.0	1209	1181
Households with at least			
one child age 0-4 years	45.1	1209	1181
one child age 0-17 years	75.2	1209	1181
one woman age 15-49 years	66.2	1209	1181
Mean household size	4.1	1209	1181
Total weighted and unweighted numbers of households should be equal when normalized sample weights are used.			
() Based on 25-49 unweighted cases.			
(*) Not shown, based on less than 25 unweighted cases.			

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: Women's background characteristics

Percentage and frequency distribution of women age 15-49 years by selected background characteristics, Siaya County, 2011			
	Weighted per cent	Number of women	
		Weighted	Unweighted
Residence			
Urban	8.2	75	76
Rural	91.8	841	873
Age			
15-19	23.9	219	226
20-24	17.4	159	164
25-29	17.2	157	163
30-34	13.8	126	132
35-39	11.6	106	110
40-44	8.9	82	83
45-49	7.3	67	71
Marital/Union status			
Currently married/in union	65.3	598	617
Widowed	7.8	72	75
Divorced	0.5	5	5
Separated	3.2	29	31
Never married/in union	23.2	213	221
Motherhood status			
Ever gave birth	79.2	726	751
Never gave birth	20.8	191	198
Births in last two years			
Had a birth in last two years	34.7	318	328
Had no birth in last two years	65.3	599	621
Education			
None	5.6	51	54
Primary	73.5	674	697
Secondary+	20.9	191	198
Wealth index quintile			
Poorest	13.2	121	129
Second	17.4	159	162
Middle	25.8	236	248
Fourth	23.2	213	222
Richest	20.5	188	188
Total	100.0	916	949
<i>Total weighted and unweighted numbers of women should be equal when normalized sample weights are used.</i>			

Table HH.4 provides background characteristics of female respondents 15-49 years of age. The table includes information on the distribution of women according to residence, age, marital status, motherhood status, births in last two years, education³, and wealth index quintiles⁴.

In Siaya County, 24 per cent of the women aged 15-49 years are in the age category of 15 to 19 years. About 65 per cent of the women aged 15-49 years are currently married whilst 23 per cent report never having been married or have never been in a union. Seventy nine per cent of the women report having given birth, while 21 per cent have never given birth. Thirty five per cent of women have had a birth in the last two years. The majority of women have attained primary education (74 per cent) but only 21 per cent have attained secondary education. About 21 per cent of the women are from high wealth index households, while 13 per cent are from low wealth index households.

Some background characteristics of children under 5 are presented in Table HH.5. These include the distribution of children by several attributes including: sex, residence, age, mother's or caretaker's education, and wealth index. The results show that there is no marked variation in the proportion of male to female children aged 0-4 years. About 12 per cent of children aged below five years belong to the 0-5 months' age group while 13 per cent are in the 6-11 month age category. Majority of the children are in the middle age categories of 12 to 47 months which corresponds to 57 per cent of the sample. Seventy nine per cent of children have mothers who have attained only primary level education, while sixteen per cent have mothers who have attained at least secondary education. The distribution of children below five years by wealth index shows that 15 per cent come from lowest wealth index households, 20 per cent are from highest wealth index households, and the remaining 65 per cent are from other wealth index households.

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, persons per sleeping room, type of floor, roof, wall, cooking fuel; possession of electricity, radio, black and white Tv, colorTv, mobile phone, non-mobile phone, fridge, blender, water heater, washing machine, computer, internet, watch, bicycle, car or truck, motorcycle, boat, boat with motor, ownership of dwelling unit, land, cattle, cows, goats, sheep, chicken, horse or donkey, sewing machine, air conditioner, VCR or DVD). 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.5: Under-5's background characteristics

	Weighted per cent	Number of under-5 children	
		Weighted	Unweighted
Sex			
Male	52.2	423	420
Female	47.8	387	381
Residence			
Urban	8.5	68	66
Rural	91.5	741	735
Age			
0-5 months	12.3	100	96
6-11 months	12.8	103	103
12-23 months	16.9	137	135
24-35 months	18.8	152	151
36-47 months	21.1	171	169
48-59 months	18.1	146	147
Mother's education*			
None	(4.8)	39	39
Primary	78.8	638	631
Secondary+	16.4	133	131
Wealth index quintile			
Poorest	15.2	123	123
Second	20.4	165	159
Middle	23.4	189	193
Fourth	21.3	172	174
Richest	19.7	159	152
Total	100.0	809	801
* Mother's education refers to educational attainment of mothers and caretakers of children under 5. () Based on 25-49 unweighted cases.			

IV. Child Mortality

One of the overarching goals of the Millennium Development Goals (MDGs) is the reduction of infant and under-five mortality. The fourth MDGs specifically calls for the reduction in under-five mortality by two-thirds between 1990 and 2015. Monitoring progress towards this goal is an important but difficult objective. 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.

The Siaya County Multiple Indicator Cluster Survey utilised direct measures of child mortality from birth histories, one of the best ways of obtaining this information. The birth history obtained from women aged 15-49 years includes number of children ever born and living by sex, and date of birth of each child born. If the child is not alive at the time of the survey, information on age of the child at the time of death is also obtained. This method is being used by the Demographic and Health Surveys (DHS) worldwide including the Kenya Demographic and Health Survey (KDHS). This allows us to compare the mortality rates obtained by MICS with those of KDHS.

The Infant Mortality Rate (IMR) is the probability of dying before the first birthday. The Under-five Mortality Rate (U5MR) is the probability of dying before the fifth birthday. The neonatal mortality rate is the probability of dying before one month of life. Post neonatal mortality rate is the probability of dying between one month and one year of life. The child mortality rate refers to probability of dying between one and five year of life. All mortality rates mentioned above are expressed per 1,000 live births, except for child mortality rate, which is expressed per 1,000 children surviving up to 12 months of age.

Although direct estimates of mortality obtained from birth histories are the best, the quality of these mortality estimates depend on the completeness of information obtained in the birth histories. In many cases women tend to avoid reporting their dead children and this tends to underestimate the mortality levels

Table CM.1 provides estimates of early childhood mortality for ten year periods preceding the survey. For the ten years immediately preceding the survey, the infant mortality rate is estimated at 112 deaths per 1000 live births, while the probability of dying under age 5 (U5MR) is around 167 deaths per 1000 live births. This implies that 1 in every 9 children born in Siaya County dies before their first birthday, while 1 in every 6 does not survive to age five. The estimated neonatal mortality rate is 32 per 1000 live births while the post-neonatal mortality rate is 80 per 1000 live births, for the ten years immediately preceding the MICS survey. This shows that almost a third of infant deaths in Siaya County occur during the first month of life. The estimated child mortality rate is 62 deaths per 1000 children surviving to the first birthday, for the ten-year period preceding the survey.

Table CM.1 also shows that over the past 20 years there has been a decline in childhood mortality.

Table CM.1: Early childhood mortality rates

Neonatal, post-neonatal, Infant, child and under-five mortality rates for ten year periods preceding the survey, Siaya County, 2011					
	Neonatal mortality rate [1]	Post-neonatal mortality rate [2]	Infant mortality rate [3]	Child mortality rate [4]	Under-five mortality rate [5]
Years preceding the survey					
0-9	32	80	112	62	167
10-19	28	116	144	85	217
[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 Post-neonatal mortality rates are computed as the difference between the infant and neonatal mortality rates					

V. Nutrition

Nutritional Status

Children's nutritional status is a reflection of their overall health. When children have access to adequate food supply, they 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 those who survive have recurring sicknesses and faltering growth. Three-quarters of the children who die from causes related to malnutrition are only mildly or moderately malnourished – showing no outward sign of their vulnerability. The Millennium Development target is to reduce the proportion of people suffering from hunger between 1990 and 2015 by half. 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 new WHO growth standards⁵. 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 with possibility of concomitant 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 MICS, weights and heights of all children under 5 years of age 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 these 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 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.

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

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, Siaya County, 2011

	Weight for age				Height for age				Weight for height				Number of children under age 5		
	Underweight		Stunted		Wasted		Overweight		per cent below		per cent above				
	per cent below		per cent below		per cent below		per cent below		- 3 SD		+ 2 SD				
	- 2 SD [1]	- 3 SD [2]	- 2 SD [3]	- 3 SD [4]	- 2 SD [5]	- 3 SD [6]	- 2 SD [5]	- 3 SD [6]	Mean Z-Score (SD)	Mean Z-Score (SD)					
Sex															
Male	13.6	4.7	26.0	11.0	29.7	10.4	26.0	11.0	1.8	0.4	1.8	0.4	3.0	0.1	419
Female	13.7	2.7	29.7	10.4	29.7	10.4	29.7	10.4	1.0	0.0	1.0	0.0	3.4	0.1	382
Residence															
Urban	12.6	1.5	26.4	8.0	26.4	8.0	26.4	8.0	0.0	0.0	0.0	0.0	5.6	0.1	67
Rural	13.7	3.9	27.8	11.0	27.8	11.0	27.8	11.0	1.5	0.2	1.5	0.2	3.0	0.1	734
Age															
0-5 months	0.9	0.0	0.7	0.7	0.7	0.7	0.7	0.7	2.0	0.9	2.0	0.9	8.2	0.5	96
6-11 months	14.4	7.4	15.8	5.8	15.8	5.8	15.8	5.8	2.7	0.8	2.7	0.8	5.6	0.0	101
12-23 months	22.7	3.7	34.7	11.4	34.7	11.4	34.7	11.4	2.7	0.0	2.7	0.0	0.0	-0.2	135
24-35 months	21.8	5.9	37.3	17.2	37.3	17.2	37.3	17.2	0.0	0.0	0.0	0.0	1.6	-0.1	151
36-47 months	9.4	2.9	33.6	11.2	33.6	11.2	33.6	11.2	1.2	0.0	1.2	0.0	2.2	0.2	171
48-59 months	9.6	2.4	30.7	12.8	30.7	12.8	30.7	12.8	0.7	0.0	0.7	0.0	4.0	0.2	145
Mother's education															
None	(19.9)	(6.7)	(31.6)	(13.2)	(31.6)	(13.2)	(31.6)	(13.2)	(2.6)	(0.0)	(2.6)	(0.0)	(2.6)	(0.0)	39
Primary	13.7	4.0	28.7	10.9	28.7	10.9	28.7	10.9	1.3	0.3	1.3	0.3	2.8	0.1	631
Secondary	11.5	1.6	1033	21.9	1033	21.9	1033	21.9	1.5	0.0	1.5	0.0	5.1	0.0	130
Wealth index quintile															
Poorest	15.8	6.0	30.5	13.8	30.5	13.8	30.5	13.8	130	0.6	130	0.6	1.8	0.0	122
Second	15.4	3.5	29.6	9.3	29.6	9.3	29.6	9.3	2.0	0.0	2.0	0.0	3.9	0.1	164
Middle	12.6	2.6	26.7	11.9	26.7	11.9	26.7	11.9	1.4	0.5	1.4	0.5	3.1	0.1	188
Fourth	13.1	4.8	27.7	10.3	27.7	10.3	27.7	10.3	0.0	0.0	0.0	0.0	2.2	0.1	170
Richest	11.9	2.5	24.9	8.8	24.9	8.8	24.9	8.8	0.0	0.0	0.0	0.0	4.7	0.0	156
Total	13.6	3.7	27.7	10.7	27.7	10.7	27.7	10.7	1.4	0.2	1.4	0.2	3.2	0.1	800

[1] MICS indicator 2.1a and MDG indicator 1.8

[2] MICS indicator 2.1b

[3] MICS indicator 2.2a, [4] MICS indicator 2.2b

[5] MICS indicator 2.3a, [6] MICS indicator 2.3b

Note:

a) The first two columns for each anthropometric indicator refer to children whose z-scores for the anthropometric indicator (i.e. the exact number of standard deviations from the median) fall below -2 standard deviations (moderately and severely underweight, stunted, or wasted) and -3 standard deviations (severely underweight, stunted, or wasted) from the median of the WHO Child Growth Standards for the same anthropometric indicator. The table also includes mean z-scores for each anthropometric indicator, and the percentage of children who are overweight, which takes into account those children whose weight for height is above 2 standard deviations from the median of the WHO Child Growth Standards.

b) The per cent 'below -2 standard deviations' includes those who fall -3 standard deviations below the median.

c) Indices used in this table are not comparable to those based on the NCHS/CDC/WHO reference. For the nutritional status table based on the NCHS/CDC/WHO, see the tables in the appendix.

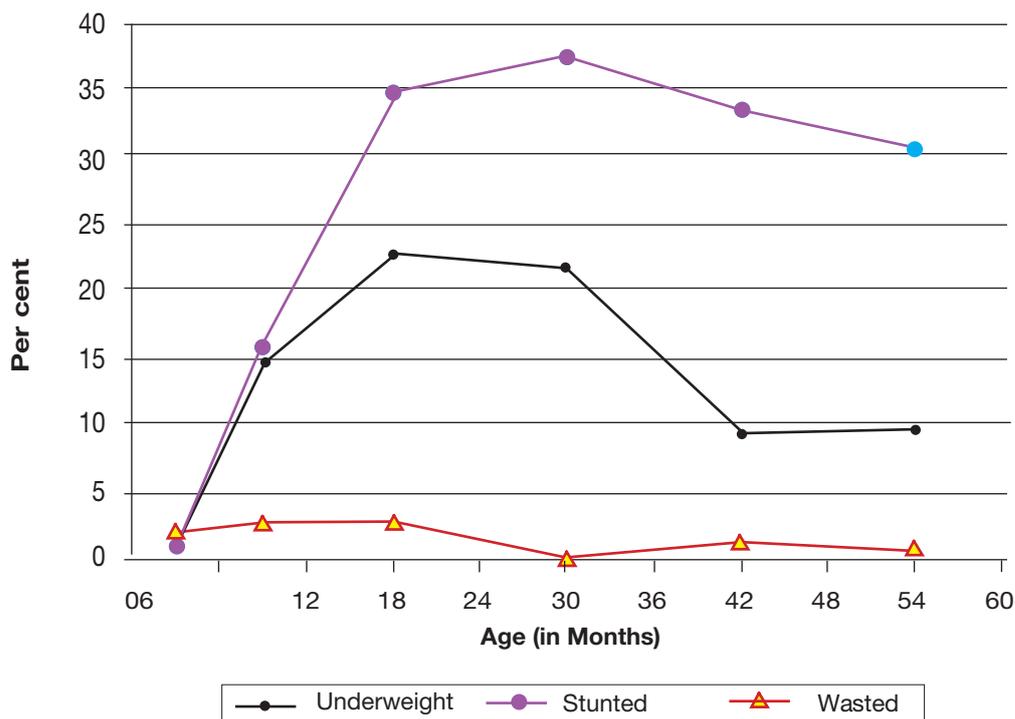
() Based on 25-49 unweighted cases

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. Overall 99.6 per cent of children had both their weights and heights measured (Table DQ.6) and the full birth dates (month and year) were obtained for all children in Siaya County. Table DQ.7 shows that only a negligible proportion (less than 1 per cent) of children have been excluded from calculations of the weight-for-age, height-for-age and weight-for-height indicators due to incomplete dates of birth, implausible measurements, and missing weight and/or height.

Approximately one in seven (14 per cent) children under age five in Siaya County are moderately or severely underweight (below -2SD from the WHO reference mean) whilst close to 4 per cent are classified as severely underweight (below -3SD from the WHO reference mean) (Table NU.1). More than one in four (28 per cent) are moderately or severely stunted or too short for their age whilst more than 1 in 10 (11 per cent) are severely stunted. Approximately 1 per cent of all children in Siaya are moderately and severely wasted or too thin for their height, whilst another 3 per cent are classified as overweight.

The proportion of children who are severely underweight or stunted is higher amongst those living in households from the poorest wealth quintile than amongst those in the richest wealth quintile. In general, the proportion of underweight or stunted children decreases with increasing levels of the mothers' education.

Figure NU.1: Percentage of children under age 5 who are underweight, stunted and wasted, Siaya County, 2011



The age pattern shows that a higher percentage of children aged 12-30 months are undernourished according to all three indices in comparison to children in other age groups (Figure NU.1). This pattern is expected and is related to the age at which many children cease to be breastfed and get exposed to contamination in their environment. On the other hand, the proportion of overweight children is highest (8 per cent) for children aged less than 6 months.

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. This can contribute to growth faltering, 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 or more years
- Safe, appropriate and adequate 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.

7 http://www.who.int/childgrowth/standards/second_set/technical_report_2.pdf

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

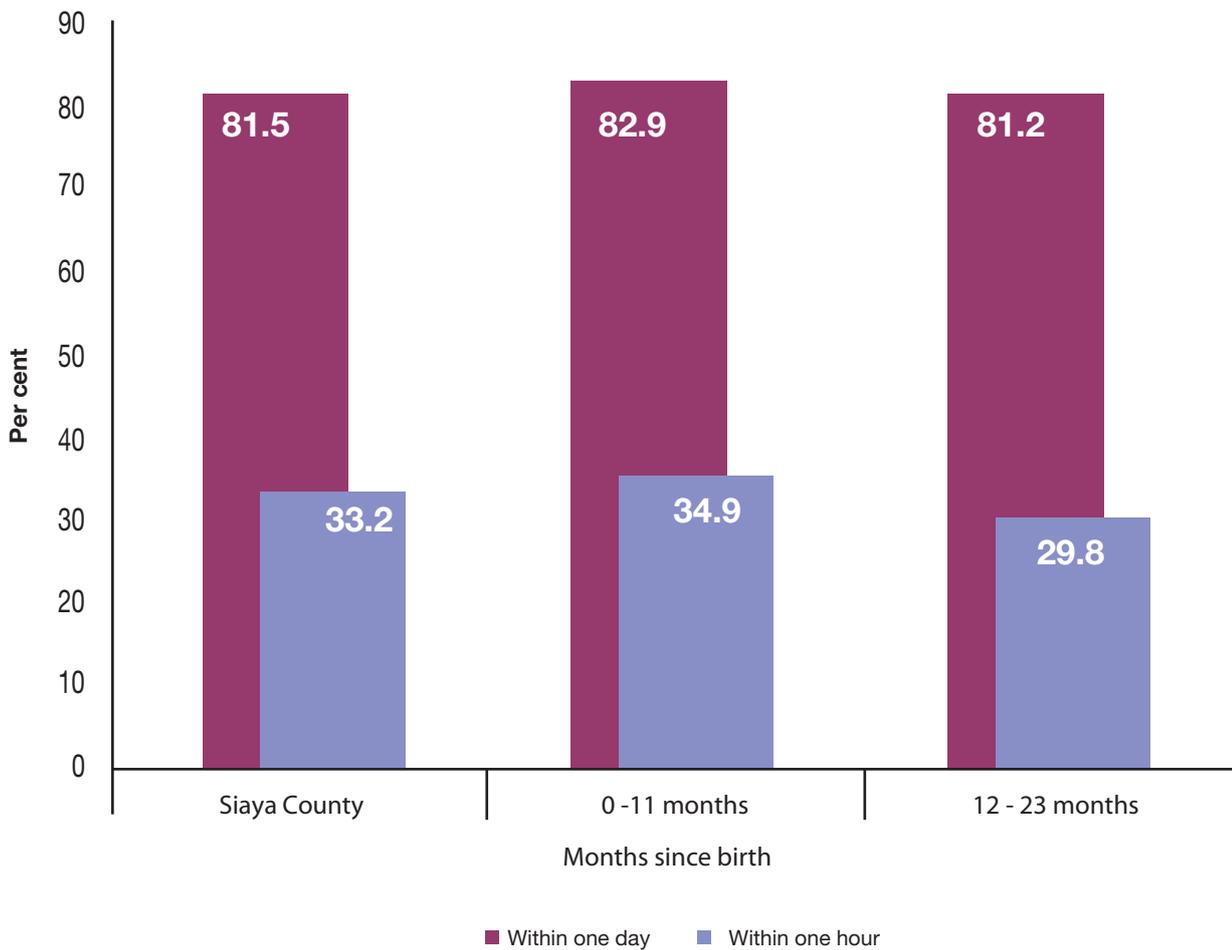
- Early initiation of breastfeeding (within 1 hour of birth)
- Exclusive breastfeeding rate (< 6 months)
- Predominant breastfeeding (< 6 months)
- Continued breastfeeding rate (at 1 year and at 2 years)
- Duration of breastfeeding
- Age-appropriate breastfeeding (0-23 months)
- Introduction of solid,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

Percentage of last-born children in the 2 years preceding the survey who were ever breastfed, percentage who were breastfed within one hour of birth and within one day of birth, Siaya County, 2011				
	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	
Residence				
Urban	(94.0)	(28.7)	(88.0)	27
Rural	96.2	33.6	80.9	290
Months since birth				
0-11 months	96.7	34.9	82.9	183
12-23 months	96.7	29.8	81.2	126
Assistance at delivery				
Skilled attendant	97.2	34.9	83.8	177
Traditional birth attendant	97.3	36.7	77.7	51
Place of delivery				
Public sector health facility	97.9	36.1	83.3	134
Private sector health facility	(94.2)	(24.0)	(82.6)	36
Home	97.7	32.1	81.6	133
Mother's education				
None	(*)	(*)	(*)	16
Primary	95.7	33.4	82.3	257
Secondary+	(98.0)	(32.4)	(79.6)	45
Wealth index quintile				
Poorest	(96.3)	(33.6)	(81.7)	48
Second	94.0	20.3	79.6	66
Middle	100.0	30.8	83.8	73
Fourth	98.5	48.0	83.3	69
Richest	90.4	33.1	78.6	62
Total	96.0	33.2	81.5	318
[1] MICS indicator 2.4				
[2] MICS indicator 2.5				
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases				

Table NU.2 provides the proportion of children born in the last two years who were ever breastfed and those who were first breastfed within one hour and one day of birth. Although a very important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother, only 33 per cent of babies in Siaya County are breastfed for the first time within one hour of birth, while 82 per cent of new-borns start breastfeeding within one day of birth.

Figure NU.2 Percentage of mothers who started breastfeeding within one hour and within one day of birth, Siaya County, Kenya, 2011



In Table NU.3, results are presented for breastfeeding status based on the reports of mothers/ caretakers of children’s consumption of food and fluids in the 24 hours 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.

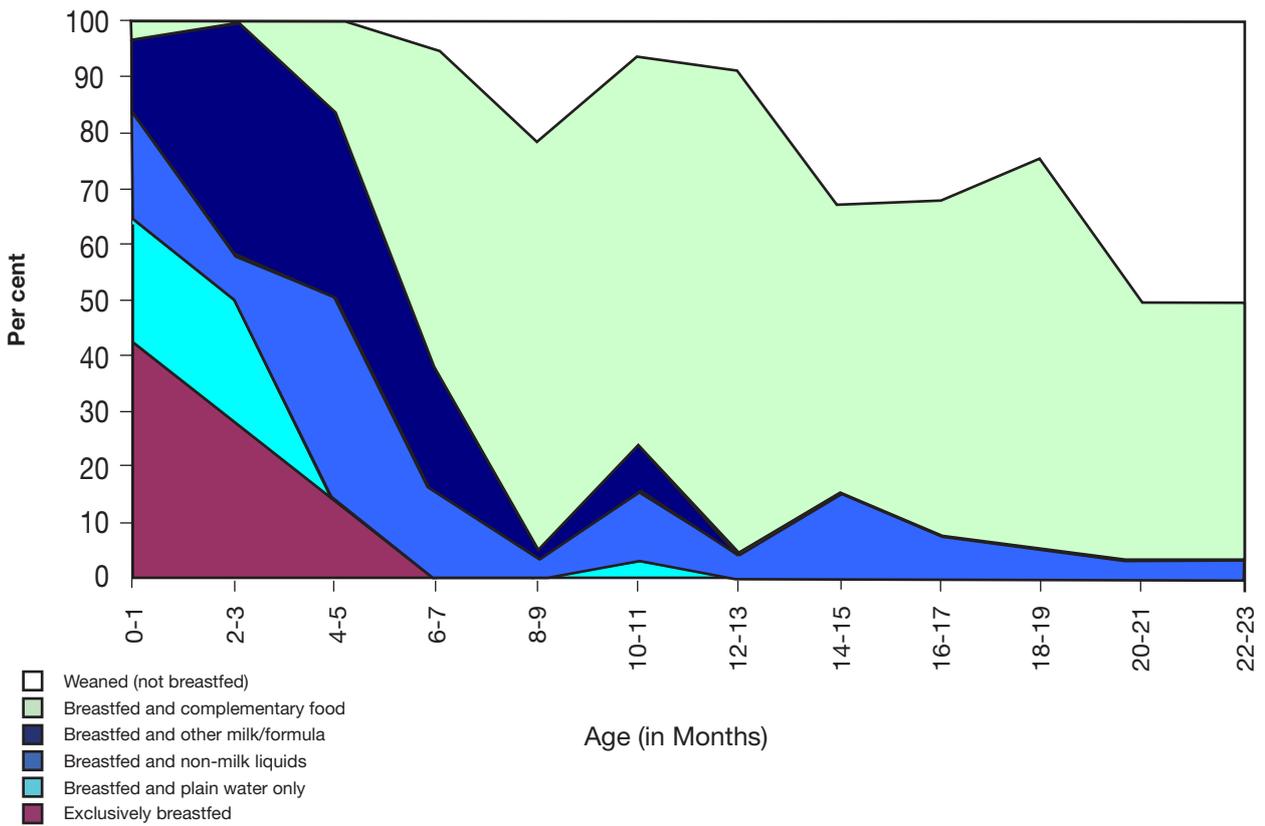
Table NU.3: Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, Siaya County, 2011							
	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Per cent exclusively breastfed[1]	Per cent predominantly breastfed[2]	Number of children	Per cent breastfed (Continued breastfeeding at 1 year) [3]	Number of children	Per cent breastfed (Continued breastfeeding at 2 years) [4]	Number of children
Sex							
Male	31.4	39.5	54	(88.6)	26	(53.4)	25
Female	(25.4)	(46.9)	46	(*)	19	(51.5)	25
Residence							
Urban	(*)	(*)	10	(*)	6	(*)	3
Rural	27.2	42.9	90	(81.1)	39	(49.1)	46
Mother's education							
None	(*)	(*)	4	(*)	2	(*)	5
Primary	29.2	43.9	81	(83.8)	39	(50.0)	39
Secondary	(*)	(*)	15	(*)	4	(*)	6
Wealth index quintile							
Poorest	(*)	(*)	11	(*)	3	(*)	12
Second	(*)	(*)	19	(*)	14	(*)	9
Middle	(*)	(*)	24	(*)	9	(*)	10
Fourth	(*)	(*)	21	(*)	10	(*)	13
Richest	(40.6)	(49.4)	25	(*)	8	(*)	6
Total	28.7	42.9	100	83.4	45	52.5	50
[1] MICS indicator 2.6 [2] MICS indicator 2.9 [3] MICS indicator 2.7 [4] MICS indicator 2.8 (*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases. Note: Titles of indicators on continued breastfeeding at 1 and 2 years reflect approximations of the age ranges covered.							

Exclusive breastfeeding is not common in Siaya County, with only 29 per cent of children aged less than six months being exclusively breastfed; this level is considerably lower than the recommended 100 per cent. By age 12-15 months, 83 per cent of children are still being breastfed whilst 53 per cent are still being breastfed by age 20-23 months.

Table NU.4 presents the median duration of breastfeeding by selected background characteristics. Among children under age 3, the median duration is approximately 22 months for any breastfeeding, less than 1 month for exclusive breastfeeding, and 2 months for predominant breastfeeding.

Figure NU.3 Infant feeding patterns by age: Percent distribution of children aged under 2 years by feeding pattern by age group, Kisumu, Kenya, 2011



In general, the duration of any breastfeeding is shorter for children whose mothers have attained secondary level education (15 per cent) than amongst those whose mothers have attained only primary level education (21 per cent).

Table NU.4: Duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Siaya County, 2011				
	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding [1]	Exclusive breastfeeding	Predominant breastfeeding	
Sex				
Male	21.3	1.5	2.1	264
Female	21.8	0.6	2.3	228
Residence				
Urban	(29.1)	(2.3)	(2.3)	38
Rural	21.3	0.7	2.1	454
Mother's education				
None	(*)	(*)	(*)	20
Primary	21.4	0.6	2.2	394
Secondary+	14.9	0.8	1.8	78
Wealth index quintile				
Poorest	19.5	0.5	3.1	80
Second	21.0	1.5	1.7	99
Middle	21.5	0.6	2.2	109
Fourth	21.8	0.5	1.7	103
Richest	23.3	2.0	2.5	101
Median	21.7	0.7	2.1	492
[1] MICS indicator 2.10				
(*) Not shown, based on less than 25 unweighted cases.				
() Based on 25-49 unweighted cases.				
Note :				
a) Median duration of any breastfeeding is calculated as the age in months when 50 per cent of children age 0-35 months did not receive breast milk during the previous day. Median durations of exclusive and predominant breastfeeding are calculated the same way.				
b) Median and mean durations are based on current status. The table is based only on living children at the time of survey.				
c) For definitions of exclusive and predominant breastfeeding, see footnotes below Table NU.3.				

The adequacy of infant feeding in children less than 24 months is provided in Table NU.5. Different criteria of defining adequate feeding are used depending on the age of the child. For infants aged 0 -5 months, exclusive breastfeeding is considered as adequate feeding, while infants aged 6-23 months are considered to be adequately fed if they are receiving breast milk and solid, semi-solid or soft food. In Siaya County, only 29 per cent of infants aged 0-5months are exclusively breast fed, whilst about two thirds (65 per cent) of those in the 6-23 months age group are adequately fed.

Table NU.5: Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Siaya County, 2011						
	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Per cent exclusively breastfed [1]	Number of children	Per cent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Per cent appropriately breastfed [2]	Number of children
Sex						
Male	31.4	54	64.8	133	55.1	188
Female	(25.4)	46	64.5	107	52.8	152
Residence						
Urban	(*)	10	(*)	17	(76.3)	27
Rural	27.2	90	62.3	223	52.2	313
Mother's education						
None	(*)	4	(*)	12	(*)	16
Primary	29.2	81	63.0	192	52.9	273
Secondary	(*)	15	(69.0)	36	56.9	51
Wealth index quintile						
Poorest	(*)	11	(62.4)	44	59.0	54
Second	(*)	19	60.1	51	51.0	69
Middle	(*)	24	61.9	56	51.1	81
Fourth	(*)	21	62.5	51	47.6	72
Richest	(40.6)	25	(80.1)	38	64.4	63
Total	28.7	100	64.7	240	54.1	340
[1] MICS indicator 2.6						
[2] MICS indicator 2.14						
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases						

Adequate complementary feeding of children from 6 months to two years of age is particularly important for growth and development and the prevention of under nutrition. Continued breastfeeding beyond six months should be accompanied by consumption of nutritionally adequate, safe and appropriate complementary foods that help meet nutritional requirements when breast milk is no longer sufficient. This requires that for breastfed children, two or more meals of solid, semi-solid or soft foods are given if they are six to eight months old, and three or more meals if they are 9-23 months of age. For children 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, 70 per cent of infants aged 6-8 months receive solid, semi-solid, or soft foods (Table NU.6).

Table NU.6: Introduction of solid, semi-solid or soft foods

Percentage of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day, Siaya County, 2011						
	Currently breastfeeding		Currently not breastfeeding		All	
	Per cent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Per cent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Per cent receiving solid, semi-solid or soft foods [1]	Number of children age 6-8 months
Sex						
Male	(67.0)	29	(*)	3	(70.3)	32
Female	(*)	18	(*)	2	(*)	20
Residence						
Urban	(*)	2	(*)	0	(*)	2
Rural	(67.3)	46	(*)	5	70.4	50
Total	(66.7)	47	(*)	5	69.8	52
[1] MICS indicator 2.12						
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.						

Table NU.7 presents the proportion of children age 6-23 months who received semi-solid or soft foods the minimum number of times or more during the previous day according to breastfeeding status (see the note in Table NU.7 for a definition of minimum number of times for different age groups).

Among currently breastfeeding children age 6-23 months, about one-third of them (34 per cent) are receiving solid, semi-solid and other soft foods for the minimum number of times. Among non-breastfeeding children, only 36 per cent are receiving solid, semi-solid and soft foods or milk feeds 4 times or more, the proportion being higher for females (40 per cent) compared to males (33 per cent). For all children, the proportion enjoying the minimum meal frequency is highest in the 6-8 months age group (55 per cent) and lowest in the 18-23 months age group (30 per cent).

Table NU.7: Minimum meal frequency

	Currently breastfeeding		Currently not breastfeeding			All	
	Per cent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Per cent receiving at least 2 milk feeds [1]	Per cent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Per cent with minimum meal frequency [2]	Number of children age 6-23 months
Sex							
Male	35.9	105	(21.7)	(32.7)	28	35.3	133
Female	31.7	83	(*)	(*)	24	33.5	107
Age							
6-8 months	(55.1)	47	(*)	(*)	5	55.4	52
9-11 months	(25.9)	47	(*)	(*)	4	28.1	51
12-17 months	24.2	53	(*)	(*)	15	27.7	68
18-23 months	(31.9)	41	(21.9)	(27.1)	28	30.0	69
Residence							
Urban	(*)	17	(*)	(*)	0	(*)	17
Rural	34.1	171	25.6	35.9	52	34.5	223
Mother's education							
None	(*)	10	(*)	(*)	2	(*)	12
Primary	34.1	149	(26.5)	(34.3)	43	34.2	192
Secondary	(33.4)	29	(*)	(*)	7	(35.7)	36
Wealth index quintile							
Poorest	(40.1)	35	(*)	(*)	9	(39.8)	44
Second	(34.3)	40	(*)	(*)	11	30.3	51
Middle	(26.0)	43	(*)	(*)	14	26.8	56
Fourth	(27.3)	39	(*)	(*)	13	34.7	51
Richest	(46.0)	32	(*)	(*)	6	(44.9)	38
Total	34.1	188	25.6	35.9	52	34.5	240
[1] MICS indicator 2.15							
[2] MICS indicator 2.13							
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.							
Note: Among currently breastfeeding children age 6-8 months, minimum meal frequency is defined as children who also received solid, semi-solid or soft foods 2 times or more. Among currently breastfeeding children age 9-23 months, receipt of solid, semi-solid or soft foods at least 3 times constitutes minimum meal frequency. For non-breastfeeding children age 6-23 months, minimum meal frequency is defined as children receiving solid, semi-solid or soft foods, and milk feeds, at least 4 times during the previous day.							

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 still occurring in Siaya County with 11 per cent of children aged 0-23 months reported to have been fed using a bottle with a nipple. The proportion of children who are bottle-fed is higher in households from the richest wealth quintile (12 per cent) compared to those from the poorest wealth quintile (5 per cent).

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, Siaya county, 2011		
	Percentage of children age 0-23 months fed with a bottle with a nipple [1]	Number of children age 0-23 months
Sex		
Male	9.9	188
Female	11.3	152
Age		
0-5 months	11.6	100
6-11 months	15.6	103
12-23 months	5.8	137
Residence		
Urban	(3.7)	27
Rural	11.1	313
Mother's education		
None	(*)	16
Primary	9.7	273
Secondary	13.4	51
Wealth index quintile		
Poorest	5.3	54
Second	3.7	69
Middle	13.1	81
Fourth	17.2	72
Richest	11.7	63
Total	10.5	340
[1] MICS indicator 2.11 (*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.		

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 international goal is to achieve sustainable elimination of iodine deficiency by 2005. The WHO and UNICEF recommend universal salt iodization as a safe, cost-effective and sustainable strategy to ensure sufficient intake of iodine by all individuals. In line with international recommendations, The Kenya Ministry of Public Health and Sanitation (MOPHS) recommends that all salts meant for human consumption in Kenya be iodized. The indicator is the percentage of households consuming adequately iodized salt (>15 parts per million).

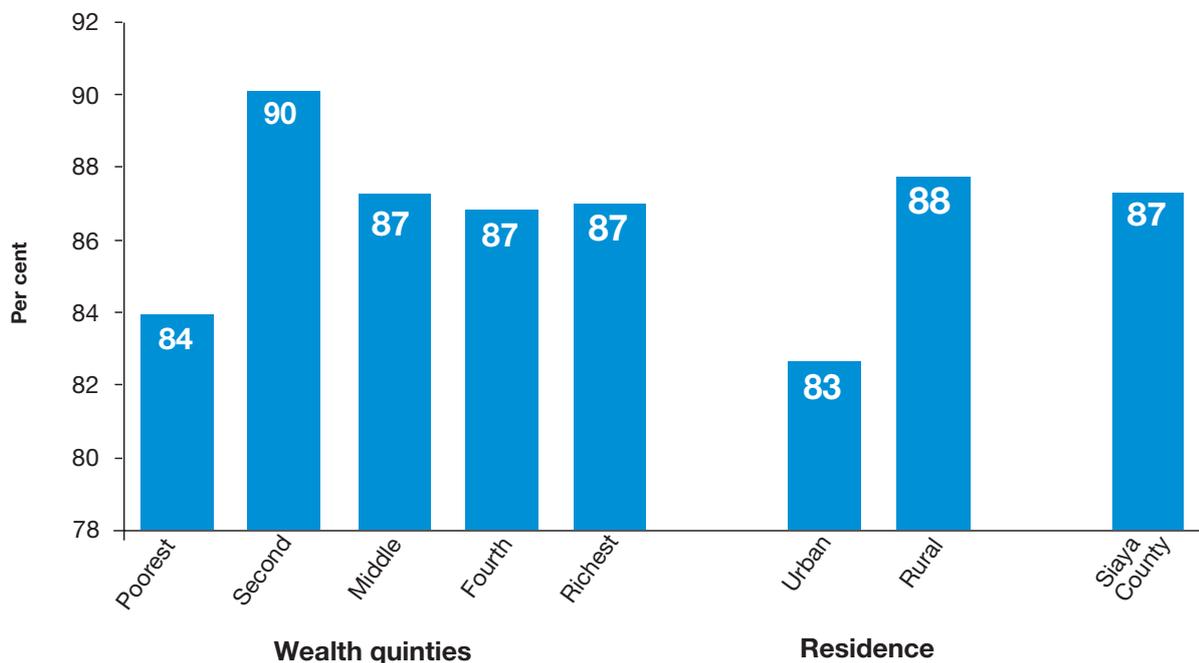
In about 9 in 10 (87.3 per cent) of households, salt used for cooking was analysed for iodine content by using salt test kits to quantify potassium iodate content. Table NU.9 shows that in a small proportion of households (9 per cent), there is no salt available. The proportion of households consuming the recommended 15 parts per million (ppm) of iodized salt is marginally different in rural (88 per cent) than in urban areas (83 per cent). There is negligible difference between iodized salt consumption between the richest and the poorest households (Figure NU.4).

Table NU.9: Iodized salt consumption

Per cent distribution of households by consumption of iodized salt, Siaya County, 2011								
	Percentage of households in which salt was tested	Number of households	Percent of households with				Total	Number of households in which salt was tested or with no salt
			No salt	Salt test result				
				Not iodized 0 PPM	>0 and <15 PPM	15+ PPM [1]		
Residence								
Urban	82.7	86	17.3	0.0	0.0	82.7	100.0	86
Rural	90.6	1123	8.4	0.3	3.6	87.7	100.0	1111
Wealth index quintile								
Poorest	88.6	145	10.1	1.4	4.4	84.0	100.0	143
Second	93.8	238	6.2	0.0	3.7	90.1	100.0	238
Middle	90.5	298	8.6	0.0	4.1	87.3	100.0	296
Fourth	90.1	273	9.2	0.3	3.5	86.9	100.0	271
Richest	86.6	256	11.6	0.0	1.5	87.0	100.0	250
Total	90.0	1209	9.1	0.2	3.4	87.3	100.0	1197

[1] MICS indicator 2.16
Note: Adequately iodized salt is defined as salt that contains at least 15 parts per million of iodine

Figure NU.4 Percentage of households consuming adequately iodized salt, Siaya County, 2011



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 6 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 per cent of children 6-59 months of age receiving at least one high dose vitamin A supplement in the last six months.

In line with the UNICEF / WHO guidelines, The Kenya Ministry of Public Health and Sanitation (MOPHS) recommends that children aged 6-11 months be given one high dose Vitamin A capsule and that children aged 12-59 months be given a vitamin A capsule every 6 months. In Kenya, provision of Vitamin A supplementation is linked to immunization services and is provided 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 the MICS, 59 per cent of children aged 6-59 months received a high dose Vitamin A supplement (Table NU.10). The proportion of children who receive vitamin A supplementation ranges from 59 per cent in rural to 52 per cent in urban households.

Table NU.10: Children's vitamin A supplementation

Per cent distribution of children age 6-59 months by receipt of a high dose vitamin A supplement in the last 6 and 12 months, Siaya County, 2011						
	Percentage who received Vitamin A according to:				Percentage of children who received Vitamin A during the last 6 months ¹	Number of children age 6-59 months
	Child health book/card/vaccination card in last 12 months	Child health book/card/vaccination card in last 6 months	Mother's report any time prior to 12 months	Mother's report less than 6 months		
Sex						
Male	9.8	7.9	68.5	57.6	58.4	369
Female	4.5	3.3	69.4	58.7	58.9	341
Residence						
Urban	7.1	5.6	70.6	51.9	51.9	59
Rural	7.2	5.7	68.8	58.6	59.2	651
Age						
6-11 months	23.4	23.4	89.0	81.2	84.0	103
12-23 months	11.1	6.7	73.2	62.1	62.1	137
24-35 months	5.1	3.1	70.5	58.6	58.6	152
36-47 months	1.8	1.3	62.9	49.8	50.4	171
48-59 months	0.7	0.0	56.3	47.2	47.2	146
Mother's education						
None	(6.8)	(2.7)	(54.8)	(34.7)	(34.7)	35
Primary	5.8	4.4	69.4	60.0	60.2	557
Secondary	14.1	12.6	71.3	56.0	58.6	118
Wealth index quintile						
Poorest	6.3	5.2	73.8	64.6	65.5	112
Second	5.9	5.9	68.9	59.1	60.5	147
Middle	6.1	2.9	62.7	52.0	52.6	165
Fourth	6.3	5.8	74.5	62.4	62.4	152
Richest	11.8	9.2	66.6	54.1	54.1	134
Total	7.2	5.7	69.0	58.1	58.6	710
<p>[1] MICS indicator 2.17 () Based on 25-49 unweighted cases Notes: a) A child is considered to have received Vitamin A during the last 6 months if the child health book/card/vaccination card shows receipt of Vitamin A during the last 6 months or if the mother reports receipt of Vitamin A during the last 6 months. b) Vitamin A capsules are generally given to children on visits to health centres or during integrated child health events such as Child Health Days/Weeks, as well as during Immunization Campaigns (e.g. measles SIAs, Polio NIDs, etc.). If an event campaign was held just prior to or after the survey, this will affect the results reported in this table.</p>						

The age pattern of Vitamin A supplementation shows that the proportion receiving supplementation in the last 6 months decreases with age- it is highest in the 6-11 months age group (83 per cent) and lowest in the 48-59 months age group (47 per cent).

The proportion of children who receive vitamin A supplementation does not vary by gender or mother's education. The proportion of children receiving Vitamin A supplementation ranges from 66 per cent among those from poorest wealth index households to 54 per cent among those from the richest households.

Low Birth Weight

Weight at birth is a good indicator not only of a mother's health and nutritional status but also the newborn's chances for survival, growth, long-term health and psychosocial development. Low birth weight (less than 2,500 grams) presents a range of grave health risks for children. Babies who are undernourished in the womb face a greatly increased risk of dying during their early months and years. Those who survive have impaired immune function and increased risk of disease; they are likely to remain undernourished, have reduced muscle strength throughout their lives, and suffer a higher incidence of diabetes and heart disease in later life. Children born underweight also tend to have a lower IQ and cognitive disabilities, affecting their performance in school and their job opportunities as adults.

In the developing world, low birth weight stems primarily from the mother's poor health and nutrition. Three factors have the most impact: the mother's poor nutritional status before conception, short stature (due mostly to under nutrition and infections during her childhood), and poor nutrition during the pregnancy. Inadequate weight gain during pregnancy is particularly important since it accounts for a large proportion of foetal growth retardation. Moreover, diseases such as diarrhoea and malaria, which are common in many developing countries, can significantly impair foetal growth if the mother becomes infected while pregnant.

In the industrialized world, cigarette smoking during pregnancy is the leading cause of low birth weight. Moreover, in both developed and developing countries, teenagers who give birth when their own bodies have yet to finish growing are at an increased risk of bearing underweight babies.

One of the major challenges in measuring the incidence of low birth weight is the fact that more than half of infants in the developing world are not weighed. In the past, most estimates of low birth weight for developing countries were based on data compiled from health facilities. However, these estimates are biased since for most developing countries, the majority of new-borns are not delivered in facilities, and those who are represent only a selected sample of all births.

Because many infants are not weighed at birth and those who are weighed may represent a biased sample of all births, the reported birth weights usually cannot be used to estimate the prevalence of low birth weight among all children. Therefore, the percentage of births weighing below 2500 grams is estimated from two items in the questionnaire: the mother's assessment of the child's size at birth (i.e. very small, smaller than average, average, larger than average, very large) and the mother's recall of the child's weight or the weight as recorded on a health card if the child was weighed at birth⁶.

6. For a detailed description of the methodology, see Boerma, J. T., Weinstein, K. I., Rutstein, S.O., and Sommerfelt, A. E., 1996. *Data on Birth Weight in Developing Countries: Can Surveys Help?* *Bulletin of the World Health Organization*, 74(2), 209-16.

Table NU.11: Low birth weight infants

Percentage of last-born children in the 2 years preceding the survey that are estimated to have weighed below 2500 grams at birth and percentage of live births weighed at birth, Siaya County, 2011			
	Per cent of live births:		Number of last born children in the 2 years preceding the survey
	Below 2500 grams [1]	Weighed at birth [2]	
Residence			
Urban	(4.7)	(82.6)	27
Rural	5.6	51.1	290
Mother's education			
None	(*)	(*)	16
Primary	5.6	50.1	257
Secondary+	(5.0)	(70.2)	45
Wealth index quintile			
Poorest	(6.8)	(32.6)	48
Second	3.9	47.3	66
Middle	5.4	59.5	73
Fourth	5.6	56.6	69
Richest	6.5	67.1	62
Total	5.6	53.8	318
[1] MICS indicator 2.18			
[2] MICS indicator 2.19			
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.			

Overall, 54 per cent of children are weighed at birth and approximately 6 per cent of infants are estimated to weigh less than 2500 grams at birth (Table NU.11 and figure NU.5). The proportion of children who are weighed at birth among those households from the richest wealth quintile households is 67 per cent and 47 per cent for those from the second poorest households.

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 vaccination 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 vaccination of children under the age one year of age at 90 per cent nationally, with at least 80 per cent coverage in every district or equivalent administrative unit.

The Kenya National Expanded Programme on Immunization (KEPI) recommends that a child should receive a BCG vaccination to protect against tuberculosis, three doses of DPT-HeB-Hib (Pentavalent) vaccine to protect against diphtheria, pertussis, tetanus, Hepatitis B and invasive hemophilus influenza type B disease, four doses of polio vaccine and a single dose of measles vaccine by the age of 9 months. Mothers were asked to provide vaccination cards for children under the age of five. Interviewers copied vaccination information from the cards onto the MICS questionnaire..

The percentage of children aged 12 to 23 months who received each of the vaccinations is shown in Table CH.1. The denominator for the table is children age 12-23 months, therefore only children who were old enough to be fully vaccinated were counted. In the first and second columns, 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 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.

The Hepatitis B vaccine is included in the immunization schedule in Kenya as part of the Pentavalent vaccine whilst yellow fever vaccine is recommended (at 9 months) in four districts of Rift Valley Province. Although not on the national immunization schedule, the meningococcal vaccine is also recommended for children between 6 weeks and 1 year. The HiB and Pneumomococcal conjugate (PCV) vaccines were introduced into the national immunization programme in 2011. However data for immunization before 12 months of age for these vaccines was not collected in this MICS survey.

Overall, 74 per cent of children had health cards (Table CH.2). If the child did not have a card, the mother was asked to recall whether or not the child had received each of the vaccinations and, for DPT and Polio, how many times. The percentage of children aged 12 to 23 months who received each of the vaccinations is shown in Table CH.1. The denominator for the table is comprised of children aged 12-23 months so that only children who are old enough to be fully vaccinated are counted. In the first and second columns, 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 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.

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, Siaya County, 2011				
	Vaccinated at any time before the survey according to			Vaccinated by 12 months of age
	Vaccination card	Mother's report	Either	
BCG [1]	74.0	22.5	96.5	96.5
Polio				
At birth	74.0	13.3	87.3	87.3
1	71.9	24.5	96.4	95.6
2	72.8	21.1	93.9	93.9
3 [2]	71.7	14.0	85.7	85.7
DPT				
1	74.0	21.9	95.9	95.1
2	74.0	21.1	95.1	95.1
3 [3]	74.0	15.6	89.6	89.6
Measles [4]	73.5	20.3	93.8	90.1
Yellow Fever [5]	76.3	6.6	83.0	74.6
All vaccinations	75.1	3.2	78.3	74.2
No vaccinations	0.0	2.4	2.4	2.4
Number of children age 12-23 months	137	137	137	137
[1] MICS indicator 3.1; [2] MICS indicator 3.2; [3] MICS indicator 3.3 [4] MICS indicator 3.4; MDG indicator 4.3 [5] MICS indicator 3.6 Notes: a) For each antigen, the total number of 12-23 month old children vaccinated before 12 months is calculated, as validated by card or mother's recall. To estimate the number of children without a card who have received vaccine before the first birthday, the proportion of vaccinations given during the first year of life is assumed to be the same as for the proportion of children with a card that received the vaccine before first birthday. b) The use of the 12-23 months age group is based on the assumption that measles is given at 9 months of age. In countries where measles vaccination is given later, an older age group should be used. c) Children receiving all vaccinations (fully immunized children) needs to be determined at the country level, in accordance with the existing vaccination schedule and the vaccinations included in the table should be revised / adapted accordingly.				

There is very high coverage of immunisation of BCG and the first doses of Polio and DPT amongst children aged 12-23 month by their 12 month of age in Siaya County. For example, 97 per cent of children have received a BCG vaccination, 95 per cent have received first dose of DPT and 87 per cent have received Polio vaccine at birth. However, the proportion of children who have received the second and third doses of DPT and Polio is lower (Figure CH.1). For instance, DPT vaccine coverage falls to 90 per cent by the third dose. Seventy five (75) per cent of children are vaccinated against yellow fever by their first birthday and 90 per cent of children have received the measles vaccine. Due to the lower proportions of children who have received their second and third vaccines, the overall proportion of children who have received all recommended vaccinations by their first birthday is 74 per cent and a further 2 per cent of the children in Siaya County have not received any vaccinations at all.

Figure CH.1 Percentage of children aged 12-23 months who received the recommended vaccinations by 12 months, Siaya County, 2011

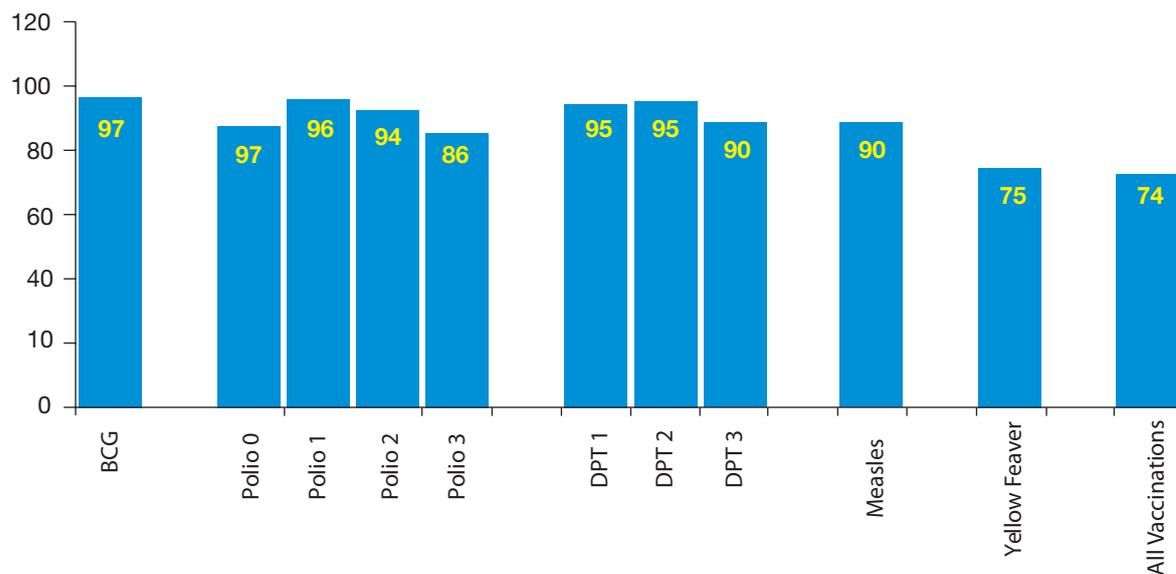


Table CH.2 shows vaccination coverage rates among children aged 12-23 months by background characteristics. The figures indicate the proportions of children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and mothers'/ caretakers' reports. Overall, 78 per cent of children aged 12-23 months have received all vaccinations (BCG, 3 doses of DPT, 4 doses of Polio, yellow fever and measles) at any time up to the date of the survey, not necessarily within one year since birth. There are hardly any differences in the proportion of children who have received the specific vaccines by gender.

Table CH.2: Vaccinations by background characteristics

Percentage of children age 12-23 months currently vaccinated against childhood diseases, Siaya County, 2011													Number of children age 12-23 months	
Percentage of children who received:														
BCG	Polio			DPT			Measles	Yellow fever	None	All	Percentage with vaccination card seen			
	At birth	1	2	3	1	2						3		
Sex														
Male	96.0	88.5	95.0	93.9	86.1	94.8	94.8	90.3	93.9	82.8	2.8	78.2	76.0	72
Female	97.0	86.0	98.0	94.0	85.2	97.0	95.4	88.9	93.6	83.1	2.0	78.5	71.7	64
Area														
Urban	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
Rural	96.2	87.6	96.1	93.4	85.9	96.2	95.4	89.4	93.9	83.6	2.6	78.6	73.9	126
Mother's education														
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	10
Primary	97.6	89.2	96.8	94.5	87.7	96.9	95.9	90.3	94.9	86.2	1.8	80.5	77.0	113
Secondary	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	13
Wealth index quintile														
Poorest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Second	(100.0)	(87.3)	(95.0)	(95.0)	(91.5)	(100.0)	(96.6)	(93.1)	(96.6)	(90.6)	(0.0)	(84.2)	(78.9)	31
Middle	(100.0)	(98.0)	(100.0)	(100.0)	(86.5)	(100.0)	(100.0)	(88.3)	(95.2)	(90.6)	(0.0)	(81.7)	(79.3)	38
Fourth	(95.1)	(78.1)	(100.0)	(91.2)	(80.0)	(95.1)	(95.1)	(91.3)	(95.1)	(74.3)	(0.0)	(70.5)	(62.0)	29
Richest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
Total	96.5	87.3	96.4	93.9	85.7	95.9	95.1	89.6	93.8	83.0	2.4	78.3	74.0	137

(*)Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

Notes:

22) In this table, the calculation is the same as the third column of Table CH.1 (i.e. the child's age at vaccination is not taken into account). Children who were vaccinated at any time before the survey are included in the numerator.

b) Children receiving all vaccinations (fully immunized children) needs to be determined at the country level, in accordance with the existing vaccination schedule. Vaccinations included in the table should be revised/adapted accordingly

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. One of 'A World Fit for Children's' goal was to eliminate maternal and neonatal tetanus by 2005.

Prevention of maternal and neonatal tetanus is to assure all pregnant women receive at least two doses of tetanus toxoid vaccine. However, if women have not received two doses of the vaccine during the pregnancy, they (and their new-born) are also considered to be protected if the following conditions are met:

- Received at least two doses of tetanus toxoid vaccine, the last within the prior 3 years;
- Received at least 3 doses, the last within the prior 5 years;
- Received at least 4 doses, the last within 10 years;
- Received at least 5 doses during lifetime.

Table CH.3 shows the protection status from tetanus for women who have had a live birth within the last 2 years. Overall, about 61 per cent of women who have had a live birth in the last 2 years are protected against tetanus with 48 per cent of women having received at least two doses during the last pregnancy.

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, Siaya county, 2011							
	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		
Area							
Urban	(59.5)	(10.6)	(0.0)	(0.0)	(0.0)	(70.2)	27
Rural	46.9	13.2	(0.0)	0.0	0.0	60.1	290
Education							
None	(*)	(*)	(*)	(*)	(*)	(*)	16
Primary	46.4	12.7	0.0	0.0	0.0	59.1	257
Secondary+	(53.5)	(19.5)	(0.0)	(0.0)	(0.0)	(73.1)	45
Wealth index quintile							
Poorest	(51.2)	(9.2)	(0.0)	(0.0)	(0.0)	(60.3)	48
Second	34.2	18.7	0.0	0.0	0.0	52.9	66
Middle	56.8	14.0	0.0	0.0	0.0	70.9	73
Fourth	43.2	8.3	0.0	0.0	0.0	51.5	69
Richest	54.8	13.9	0.0	0.0	0.0	68.7	62
Total	48.0	13.0	0.0	0.0	0.0	61.0	318
[1] MICS indicator 3.7							
(*) Not shown, based on less than 25-unweighted cases. () Based on 25-49 unweighted cases							

Oral Rehydration Treatment

Diarrhoea is the second leading cause of death among children under five years worldwide. Most diarrhoea-related deaths in children are due to dehydration arising 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 death due to diarrhoea among children under five by one half between 2000 and 2010 (A World Fit for Children); and 2) reduce the mortality rate among children under five by two thirds between 1990 and 2015 (Millennium Development Goals). In addition, the ‘World Fit for Children’ calls for a reduction in the incidence of diarrhoea by 25 per cent.

The indicators are:

- Prevalence of diarrhoea
- Oral rehydration therapy (ORT)
- Home management of diarrhoea
- ORT with continued feeding

In the MICS questionnaire, mothers (or caretakers) were asked to report whether their child had had diarrhoea in the two weeks prior to the survey. If so, the mother was asked a series of questions about what the child had to drink and eat during the episode and whether this was more or less than the child usually ate and drank.

Overall, about 1 in 5 (20 per cent) of children under the age of five had diarrhoea in the two weeks preceding the survey (Table CH.4). The proportions of children who have had diarrhoea is comparable by gender (20 per cent of male children and 19 per cent of female children).

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, Siaya County, 2011							
	Had diarrhoea in last two weeks	Number of children age 0-59 months	Children with diarrhoea who received:				Number of children age 0-59 months with diarrhoea in last two weeks
			ORS (Fluid from ORS packet or pre-packaged ORS fluid)	Recommended homemade fluids		ORS or any recommended homemade fluid	
				Sugar and salt solution	Any recommended homemade fluid		
Sex							
Male	20.3	423	34.8	18.1	18.1	50.6	86
Female	18.6	387	36.7	19.8	19.8	49.4	72
Area							
Urban	19.7	68	36.6	(*)	(*)	(*)	14
Rural	19.5	741	35.6	20.0	20.0	50.7	144
Age							
0-11 months	29.1	203	36.1	29.5	29.5	60.4	59
12-23 months	30.9	137	(37.8)	(11.6)	(11.6)	(47.0)	42
24-35 months	14.6	152	42.7	(*)	(*)	(*)	22
36-47 months	10.6	171	27.1	(*)	(*)	(*)	18
48-59 months	11.1	146	28.4	(*)	(*)	(*)	16
Mother's education							
None	(27.4)	39	44.9	(*)	(*)	(*)	11
Primary	19.5	638	35.2	21.6	21.6	51.1	124
Secondary	17.3	133	33.9	(*)	(*)	(*)	23
Wealth index quintile							
Poorest	19.4	123	34.5	(*)	(*)	(*)	24
Second	23.5	165	43.3	(12.8)	(12.8)	(50.6)	39
Middle	16.8	189	31.9	(14.5)	(14.5)	(43.7)	32
Fourth	15.9	172	34.2	(30.7)	(30.7)	(54.0)	28
Richest	22.5	159	32.6	(5.5)	(5.5)	(38.0)	36
Total	19.5	809	35.7	18.9	18.9	50.1	158
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases							

Table CH.4 also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Since mothers were able to name more than one type of liquid, the percentages do not necessarily add to 100. Only about 1 in 2 children with diarrhoea (50 per cent) received oral rehydration solutions (ORS) or other recommended homemade fluids during the diarrhoea episode. Thirty six (36) per cent received fluids from ORS packets or pre-packaged ORS fluids whilst 19 per cent received sugar and salt solutions or any recommended homemade fluid. The proportion receiving ORS or other recommended homemade fluids does not vary by gender.

Table CH.5: Feeding practices during diarrhoea

Per cent 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, Siaya County, 2011													
	Had diarrhoea in last two weeks	Number of children age 0-59 months	Drinking practices during diarrhoea:				Eating practices during diarrhoea:				Number of children age 0-59 months with diarrhoea in last two weeks		
			Given much less to drink	Given about the same or somewhat less	Given more to drink	Total	Given nothing to eat	Given somewhat less to eat	Given about the same to eat	Given more to eat		Missing/DK	Total
Sex													
Male	20.3	423	49.4	22.8	27.8	100.0	25.0	42.1	14.5	12.6	4.7	1.2	100.0
Female	18.6	387	48.1	30.9	21.1	100.0	11.9	50.8	8.9	24.6	3.8	0.0	100.0
Area													
Urban	19.7	68	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Rural	19.5	741	49.6	27.7	22.7	100.0	18.9	46.0	11.4	19.8	3.2	0.7	100.0
Age													
0-11 months	29.1	203	60.5	26.9	12.5	100.0	34.4	41.3	5.7	16.3	2.3	0.0	100.0
12-23 months	30.9	137	(42.5)	(24.3)	(33.3)	100.0	(16.7)	(41.0)	(12.4)	(21.0)	(6.4)	(2.5)	100.0
24-35 months	14.6	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
36-47 months	10.6	171	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
48-59 months	11.1	146	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Mother's education													
None	(27.4)	39	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Primary	19.5	638	52.4	26.6	21.0	100.0	17.7	47.2	13.6	17.0	4.4	0.0	100.0
Secondary	17.3	133	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Wealth index quintile													
Poorest	19.4	123	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Second	23.5	165	(47.2)	(30.4)	(22.4)	100.0	(20.0)	(46.9)	(15.2)	(13.1)	(4.9)	(0.0)	100.0
Middle	16.8	189	(47.1)	(33.8)	(19.1)	100.0	(19.2)	(42.5)	(13.1)	(22.1)	(3.1)	(0.0)	100.0
Fourth	15.9	172	(46.9)	(33.7)	(19.4)	100.0	(17.7)	(29.4)	(12.9)	(36.8)	(3.3)	(0.0)	100.0
Richest	22.5	159	(38.3)	(18.6)	(43.2)	100.0	(16.6)	(52.9)	(12.0)	(9.5)	(6.2)	(2.9)	100.0
Total	19.5	809	48.8	26.5	24.7	100.0	19.0	46.0	11.9	18.1	4.3	0.7	100.0

(*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases

About 2 out of every 3 children with diarrhoea (65 per cent) are given much less to eat or eat nothing whilst about 1 in 2 (49 per cent) are given much less to drink during an episode of diarrhoea.

Only a quarter (25 per cent) of children who have had diarrhoea are given more to drink and 27 per cent are given about the same or somewhat less to drink. In regards to the amount of food given to these children, 12 per cent are given about the same to eat and 12 per cent are given the same to eat, with an additional 4 per cent given more to eat. This is in line with the strategies for managing diarrhoea to prevent dehydration and malnutrition by maintaining and/or increasing fluid and food intake (Table CH.5).

Table CH.6 provides the proportion of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and the percentage of children with diarrhoea who received other treatments. Overall, almost half (49 per cent) of children with diarrhoea receive ORS or increased fluids whilst 89 per cent receive ORT (ORS or recommended homemade fluids or increased fluids). Combining the information in Table CH.5 with that in Table CH.4 on oral rehydration therapy, it is observed that 46 per cent of children receive ORT with continued feeding as per the recommendation. There is minor difference between the proportions of girls and boys who receive ORT with continued feeding – 45 per cent of male children and 48 per cent of female children. More than 1 out of every 10 children who had diarrhoea two weeks prior to the survey received no treatment or drugs at all.

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

		Children with diarrhoea who received:											Other treatments:			Number of children age 0-59 months with diarrhoea in last two weeks			
		ORT (ORS or increased fluids)			ORT with continued feeding [1]			Pill or syrup					Injection				Not given any treatment or drug		
		ORS or increased fluids	ORT (ORS or homemade fluids or increased fluids)	ORT with continued feeding	Anti-biotic	Anti-motility	Zinc	Other	Unknown	Anti-biotic	Unknown	Intra-venous	Home remedy, herbal medicine	Other	No other treatment				
Sex																			
Male	50.8	88.7	45.1	30.6	0.0	2.4	1.0	3.2	3.1	0.0	0.9	0.0	18.3	6.4	11.3	86			
Female	46.7	88.7	47.6	27.1	0.0	0.0	0.0	3.7	5.8	0.0	0.0	0.0	14.5	6.2	11.3	72			
Area																			
Urban	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14			
Rural	48.6	87.6	44.9	27.1	0.0	1.4	0.0	3.7	4.7	0.0	0.5	0.0	16.1	6.9	12.4	144			
Age																			
0-11 months	61.0	92.7	36.1	23.3	0.0	0.0	0.0	4.6	4.2	0.0	1.3	0.0	17.6	6.5	7.3	59			
12-23 months	(46.8)	(84.6)	(52.0)	(30.2)	(0.0)	(2.5)	(0.0)	(4.3)	(4.1)	(0.0)	(0.0)	(0.0)	(23.6)	(5.0)	(15.4)	42			
24-35 months	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	22			
36-47 months	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18			
48-59 months	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16			
Mother's education																			
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11			
Primary	50.9	88.6	42.5	26.6	0.0	1.7	0.7	4.3	3.6	0.0	0.0	0.0	17.8	6.6	11.4	124			
Secondary	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23			
Wealth index quintile																			
Poorest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	24			
Second	(47.9)	(86.5)	(47.4)	(25.2)	(0.0)	(2.7)	(0.0)	(0)	(4.2)	(0.0)	(0.0)	(0.0)	(10.7)	(7.7)	(13.5)	39			
Middle	(43.7)	(88.6)	(46.2)	(20.1)	(0.0)	(3.2)	(0.0)	(5.5)	(5.5)	(0.0)	(2.4)	(0.0)	(18.3)	(3.9)	(11.4)	32			
Fourth	(57.3)	(77.7)	(42.8)	(26.8)	(0.0)	(0.0)	(0.0)	(10.0)	(9.6)	(0.0)	(0.0)	(0.0)	(10.5)	(6.3)	(22.3)	28			
Richest	(36.4)	(97.3)	(59.0)	(43.3)	(0.0)	(0.0)	(2.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(23.1)	(11.2)	(2.7)	36			
Total	48.9	88.7	46.3	29.0	0.0	1.3	0.6	3.4	4.3	0.0	0.5	0.0	16.6	6.3	11.3	158			

[1] MICS indicator 3.8
 (*) Not shown, based on less than 25 unweighted cases.
 () Based on 25-49 unweighted cases
 Note: In this table percentages will not add up to 100 as some children may have received more than one type of treatment.

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. The 'A World Fit for Children' goal is to reduce deaths due to acute respiratory infections by one-third.

Children are suspected to have pneumonia if they had an illness characterised by a cough accompanied by rapid or difficult breathing and whose symptoms were NOT due to a problem in the chest and a blocked nose.

The indicators are:

- Prevalence of suspected pneumonia
- Care seeking for suspected pneumonia
- Antibiotic treatment for suspected pneumonia
- Knowledge of the danger signs of pneumonia

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, Siaya county, 2011

	Had suspected pneumonia in the last two weeks	Number of children age 0-59 months	Children with suspected pneumonia who were taken to:														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 sources				Private sources				Other source										
			Govt. hospital	Govt. health centre	Dispensary	Other public	Mission hospital	Private hospital /clinic	Nursing/ maternity home	private pharmacy	Other private medical	Mobile clinic	Community health worker	Shop	Traditional practitioner	Other			Any appropriate provider [1]		
Sex																					
Male	13.3	423	13.8	17.9	17.7	0.0	4.0	3.7	0.0	17.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0	58.3	56	
Female	13.0	387	11.9	11.6	19.6	0.0	7.4	1.8	0.0	15.2	0.0	2.9	0.0	0.0	0.0	0.0	0.0	52.3	53.5	50	
Area																					
Urban	11.0	68	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	8
Rural	13.4	741	7.3	16.1	20.0	0.0	6.0	3.0	0.0	16.8	0.0	1.5	0.0	0.0	0.0	0.0	0.0	52.3	54.7	99	
Age																					
0-11 months	16.5	203	(10.1)	(14.9)	(23.6)	(0.0)	(11.1)	(0.0)	(0.0)	(9.5)	(0.0)	(4.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(59.7)	(67.9)	33	
12-23 months	11.2	137	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
24-35 months	13.4	152	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
36-47 months	12.7	171	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	22
48-59 months	10.8	146	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
Mother's education																					
None	(18.0)	39	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
Primary	13.3	638	12.5	13.0	22.5	0.0	5.7	3.5	0.0	15.9	0.0	1.7	0.0	0.0	0.0	0.0	0.0	57.2	53.9	85	
Secondary	11.3	133	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
Wealth index quintile																					
Poorest	19.0	123	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
Second	12.2	165	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
Middle	12.1	189	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
Fourth	12.8	172	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	22
Richest	11.5	159	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Total	13.2	809	12.9	14.9	18.6	0.0	5.6	2.8	0.0	16.6	0.0	1.4	0.0	0.0	0.0	0.0	0.0	54.8	56.0	107	

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

(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases
Note: In this table, percentages of children taken to various providers will not add to 100 since some children may have been taken to see more than one type of provider.

Table CH.7 presents the prevalence of suspected pneumonia and also where care was sought for the illness. About 13 per cent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey -13 per cent in rural areas and 11 per cent in urban areas. For example, 19 per cent of children in the poorest quintile were reported to have suspected pneumonia compared to 12 per cent of children in the richest quintile.

Of all children with suspected pneumonia, 55 per cent are taken to an appropriate provider. About 57 per cent of male children were taken to an appropriate provider compared to 52 per cent for female counterparts. Of those who were taken to public facilities, 19 per cent are taken to dispensaries, closely followed by health centre (15 per cent) and government hospitals (13 per cent). For the private facilities, the biggest proportion of children is taken to private pharmacies (17 per cent).

Table CH.7 also presents the use of antibiotics for the treatment of suspected pneumonia among children less than five years of age. Only 56 per cent of children under five years of age with suspected pneumonia received an antibiotic treatment during the two weeks prior to the survey. The proportion of boys who received antibiotic treatment is 58 per cent versus 54 per cent for girls.

Solid Fuel Use

More than 3 billion people around the world rely on solid fuels (biomass and coal) for their basic energy needs, including cooking and heating. Cooking and heating with solid fuels leads to high levels of indoor smoke, a complex mix of health-damaging pollutants. The main problem with the use of solid fuels is products of incomplete combustion, including carbon monoxide (CO), polyaromatic hydrocarbons, Sulphur dioxide (SO₂), and other toxic elements. The use of solid fuels increases the risks of acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, low birth weight, cataracts, asthma and possibly tuberculosis. The primary indicator is the proportion of the population using solid fuels as the primary source of domestic energy for cooking.

Table CH.9: Solid fuel use, Siaya County, 2011

	Percentage of household members in households using:									
	Liquefied Propane Gas (LPG)	Kerosene	Charcoal	Wood	Straw/ Shrubs / Grass	Other	Missing	Total	Solid fuels for cooking ¹	Animal dung
Area										
Urban	1.4	4.3	76.4	7.2	9.9	0.0	0.8	100.0	93.5	337
Rural	0.2	0.3	9.4	49.5	40.2	0.0	0.3	100.0	99.2	4644
Education of household head										
None	1.2	0.2	13.8	49.8	34.7	0.0	0.2	100.0	98.4	884
Primary	0.0	0.3	10.6	48.4	40.4	0.0	0.3	100.0	99.4	3062
Secondary	0.3	1.8	24.2	38.3	34.7	0.2	0.6	100.0	97.2	1023
Wealth index quintiles										
Poorest	0.0	0.0	0.0	76.1	23.9	0.0	0.0	100.0	100.0	624
Second	0.0	0.0	0.1	63.2	36.5	0.0	0.2	100.0	99.8	946
Middle	0.0	0.0	1.3	38.9	59.4	0.1	0.2	100.0	99.6	1262
Fourth	0.0	0.1	12.8	46.4	40.2	0.0	0.5	100.0	99.4	1156
Richest	1.4	2.8	53.3	22.6	19.4	0.0	0.6	100.0	95.3	992
Total	0.3	0.6	13.9	46.7	38.2	0.0	0.3	100.0	98.8	4981
[1] MICS indicator 3.11										

Almost all (99 per cent) of household members in Siaya county are using solid fuels for cooking. Use of solid fuels is 94 per cent in urban areas and 99 per cent in rural areas. In general, there are no marked differences in the level of use of solid fuels with respect to educational level of the household head. The proportion of Siaya residents using solid fuel varies marginally across the wealth quintiles, for example, among those from the poorest quintile use solid fuel its 100 per cent, compared to 95 per cent of those from the richest wealth quintile households. The most common sources of solid fuel are wood (47 per cent), straw, shrubs or grass (38 per cent) and charcoal (14 per cent).

Solid fuel use alone is a proxy for indoor air pollution, since the concentration of the pollutants is different when the same fuel is burnt in different stoves or fires. The use of closed stoves with chimneys minimizes indoor pollution, while open stove or fire with no chimney or hood do not protect from the harmful effects of solid fuels. Solid fuel use by place of cooking is depicted in Table CH.10

The biggest proportion of Siaya residents using solid fuels for cooking use a separate building as a kitchen (42 per cent). On the other hand, more than 2 out of every 10 people (23 per cent) use a room used for living or sleeping as their kitchen. The rest use either a separate room used as a kitchen (19 per cent) or cook from outdoors (16 per cent).

The proportion of Siaya residents cooking in a place used for living or sleeping reside is 37 per cent in urban areas. The opposite is observed amongst those who use solid fuels for cooking in separate building – a bigger proportion of them reside in the rural areas (44 per cent). There are no consistent differences in the proportion of those using a room used for living/sleep as kitchen across the wealth quintiles.

Table CH.10: Solid fuel use by place of cooking

Per cent distribution of household members in households using solid fuels by place of cooking, Siaya county, 2011								
	Place of cooking:							Number of household members in households using solid fuels for cooking
	In a room used for living / sleeping	In a separate room used as a kitchen	In a separate building used as a kitchen	Outdoors	Others	Missing	Total	
Area								
Urban	36.7	37.1	10.2	11.7	.0	4.3	100.0	315
Rural	22.1	17.8	43.6	16.3	.0	0.2	100.0	4605
Education of household head								
None	15.3	28.4	46.8	9.3	0.0	0.2	100.0	870
Primary	26.0	17.1	39.5	17.1	0.1	0.2	100.0	3045
Secondary+	20.1	17.3	42.9	18.4	0.0	1.3	100.0	994
Wealth index quintiles								
Poorest	38.7	11.5	31.7	17.8	0.0	0.3	100.0	624
Second	25.4	12.1	44.5	17.9	0.0	0.2	100.0	944
Middle	17.1	17.1	44.5	21.2	0.2	0.0	100.0	1258
Fourth	16.9	20.6	47.0	15.1	0.0	0.4	100.0	1149
Richest	25.6	31.9	34.1	6.9	0.0	1.4	100.0	946
Total	23.0	19.1	41.5	16.0	0.0	0.4	100.0	4920

Malaria

Malaria is a leading cause of death of children under age five in Kenya. It also contributes to anaemia in children and is a common cause of school absenteeism. Preventive measures, especially the use of insecticide treated mosquito nets (ITNs), can dramatically reduce malaria mortality rates among children. In Kenya, the Ministry of Public Health and Sanitation (MOPHS) and the Ministry of Medical Services (MOMS) recommend that, owing to widespread resistance to anti-malarial drugs chloroquine, Sulphadoxine – Pyrimethamine (SP/Fansidar) and amodiaquine, these have been replaced with artemisinin combinations therapy (ACT) for first line treatment of malarial fevers in Kenya. All patients with fever or history of fever should be tested for malaria and only patients who test positive should be treated with artemisinin combination therapy.

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 younger children should continue breastfeeding. To prevent malaria in pregnancy, Intermittent Preventive Treatment of malaria in Pregnancy (IPTp) with 3 doses of SP is recommended. To augment malaria control efforts, integrated vector control methods (such as the use of long lasting insecticide treated nets (LLINs) and indoor residual spraying (IRS) are recommended.

The MICS 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, as well as anti-malarial treatment, IPTp, and IRS of households.

Table CH.11: Household availability of insecticide treated nets and protection by a vector control method

Percentage of households with at least one mosquito net, percentage of households with at least one long-lasting treated net, percentage of households with at least one insecticide treated net (ITN) and percentage of households which either have at least one ITN or have received spraying through an indoor residual spraying (IRS) campaign in the last 12 months, Siaya County, 2011					
	Percentage of households with at least one mosquito net	Percentage of households with at least one long-lasting treated net	Percentage of households with at least one ITN [1]	Percentage of households with at least one ITN or received IRS during the last 12 months [2]	Number of households
Area					
Urban	90.9	82.0	86.1	86.1	86
Rural	94.8	90.3	93.2	93.3	1123
Education of household head					
None	92.4	89.4	91.7	91.7	259
Primary	94.6	89.5	92.5	92.6	720
Secondary	96.7	90.6	94.6	94.6	228
Wealth index quintiles					
Poorest	92.9	86.7	92.9	92.9	145
Second	92.3	89.2	91.2	91.2	238
Middle	95.9	91.7	94.3	94.3	298
Fourth	94.8	91.7	92.9	92.9	273
Richest	95.9	87.6	92.1	92.5	256
Total	94.6	89.7	92.7	92.8	1209
[1] MICS indicator 3.12, [2] MICS indicator 3.13					

In Siaya County, the survey results indicate a high level of net ownership with 93 per cent of households having at least one ITN, and 95 per cent having at least one mosquito net (Table CH.11). Ninety per cent of households have LLIN and 93 per cent of households either have an ITN or have received IRS during the last 12 months before the survey. The almost universal coverage of mosquito nets is attributable to the rapid scale up of ITNs in the county in the recent past.

The proportion of households having any kind of net was slightly higher in rural than urban areas. For instance, 93 per cent of households in rural areas have ITN compared to 86 per cent of households in the urban areas. Notably, the proportion having any kind of net does not vary greatly by household wealth index.

Table CH.12: Children sleeping under mosquito nets

Percentage of children age 0-59 months who slept under a mosquito net during the previous night, by type of net, Siaya County, 2011							
	Percentage of children age 0-59 who stayed in the household the previous night	Number of children age 0-59 months	Percentage of children who:		Number of children age 0-59 months who slept in the household the previous night	Percentage of children who slept under an ITN living in households with at least one ITN	Number of children age 0-59 living in households with at least one ITN
			Slept under any mosquito net [1]	Slept under an insecticide treated net [2]			
Sex							
Male	100.0	423	81.9	77.4	423	81.9	400
Female	100.0	387	84.3	81.8	387	83.3	380
Area							
Urban	100.0	68	76.9	72.7	68	82.0	61
Rural	100.0	741	83.6	80.2	741	82.6	719
Age							
0-11 months	100.0	203	86.6	84.0	203	85.8	199
12-23 months	100.0	137	87.4	85.2	137	88.1	132
24-35 months	100.0	152	83.7	81.2	152	83.4	148
36-47 months	100.0	171	82.0	75.4	171	80.3	161
48-59 months	100.0	146	74.8	71.1	146	74.4	140
Mother's education							
None	(100.0)	39	(80.8)	(80.8)	39	(85.0)	37
Primary	100.0	638	82.9	79.6	638	82.5	616
Secondary	100.0	133	84.5	78.8	133	82.1	127
Wealth index quintiles							
Poorest	100.0	123	72.5	72.5	123	73.9	120
Second	100.0	165	83.3	77.2	165	81.0	158
Middle	100.0	189	81.5	80.0	189	83.2	182
Fourth	100.0	172	88.4	82.6	172	84.1	169
Richest	100.0	159	87.0	83.7	159	88.5	151
Total	100.0	809	83.1	79.6	809	82.6	780
[1] MICS indicator 3.14, [2] MICS indicator 3.15; MDG indicator 6.7 () Based on 25-49 unweighted cases							

Results indicate that 83 per cent of children under the age of five slept under any mosquito net the night prior to the survey and 80 per cent slept under an ITN (Table CH.12). The proportion of children sleeping under an ITN or any mosquito net was comparable for female children and male children (82 per cent and 84 per cent respectively). Also the proportion of children in the rural areas who slept under any type of mosquito net or an ITN was 84 per cent and 77 per cent for urban areas respectively). The proportion of children sleeping under nets generally increased with increasing levels of the wealth quintiles. For example, 73 per cent of children in the poorest wealth quintiles slept under ITNs compared to 84 per cent of children living in the richest quintile. The younger age groups of children are more likely to sleep under nets compared to those in the older age groups. For instance, 87 per cent of children ages 0 -11 months sleep under ITNs and this decreases to 71 per cent for children age 48-59 months.

Table CH.13: Pregnant women sleeping under mosquito nets

Percentage of pregnant women who slept under a mosquito net during the previous night, by type of net, Siaya, 2011							
	Percentage of pregnant women who stayed in the household the previous night	Number of pregnant women	Percentage of pregnant women who:		Number of pregnant women who slept in the household the previous night	Percentage of pregnant women who slept under an ITN, living in households with at least one ITN	Number of pregnant women living in households with at least one ITN
			Slept under any mosquito net	Slept under an insecticide treated net ¹			
Area							
Urban	(*)	2	(*)	(*)	2	(*)	1
Rural	100.0	60	84.6	83.0	60	84.3	59
Age							
15-19	(*)	12	(*)	(*)	12	(*)	12
20-24	(*)	16	(*)	(*)	16	(*)	15
25-29	(*)	13	(*)	(*)	13	(*)	12
30-34	(*)	11	(*)	(*)	11	(*)	11
35-39	(*)	5	(*)	(*)	5	(*)	5
40-44	(*)	5	(*)	(*)	5	(*)	5
Education							
None	(*)	2	(*)	(*)	2	(*)	2
Primary	(100.0)	48	(86.3)	(84.3)	48	(88.3)	46
Secondary+	(*)	12	(*)	(*)	(*)	(*)	12
Wealth index quintiles							
Poorest	(*)	6	(*)	(*)	6	(*)	6
Second	(*)	11	(*)	(*)	11	(*)	10
Middle	(*)	20	(*)	(*)	20	(*)	20
Fourth	(*)	19	(*)	(*)	19	(*)	18
Richest	(*)	7	(*)	(*)	7	(*)	7
Total	100.0	62	83.1	81.5	62	84.5	60
[1] MICS indicator 3.19 (*) Not shown, based on less than 25 unweighted cases. (.) Based on 25-49 unweighted cases							

Table CH.13 presents the proportion of pregnant women who slept under a mosquito net during the previous night. About 83 per cent of pregnant women slept under any mosquito net the night prior to the survey while 82 per cent slept under an ITN.

Questions on the prevalence and treatment of fever were asked for all children under age five. About 29 per cent of children aged less than five years were ill with fever in the two weeks prior to the survey – 30 per cent in rural areas and 23 per cent in urban areas (Table CH.14). There are no consistent differences in proportion of children with a fever by age groups, level of mother's education or wealth status.

Table CH.14: 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, Siaya County, 2011																
Children with a fever in the last two weeks who were treated with:																
Had a fever in last two weeks	Num-ber of children age 0-59 months	Anti-malarials:						Other medications:					Percent-age who took an anti-malarial drug same or next day [2]	Num-ber of children with fever in last two weeks		
		Chloro-quine	Amodia-quine	Qui-nine	Combi-nation with arte-misinin	Other anti-malarial	Any anti-malarial drug [1]	Par-acetamol/ Panadol/ Acetami-nophen	Aspirin	Ibu-pro-fen	Other	Don't know				
Sex																
Male	28.3	423	2.3	0.8	1.7	1.8	46.7	0.8	52.6	61.7	1.8	6.1	17.2	0.0	42.4	120
Female	30.1	387	2.6	1.3	2.5	5.6	49.9	0.9	57.1	60.5	1.5	5.3	24.5	1.7	37.5	117
Area																
Urban	22.9	68	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
Rural	29.8	741	2.6	0.7	2.3	3.9	47.4	0.9	53.9	60.6	1.7	4.8	21.0	0.9	38.1	221
Age																
0-11 months	27.6	203	(3.4)	(1.6)	(0)	(4.5)	(28.5)	(1.8)	(35.3)	(63.0)	(0.0)	(4.8)	(21.2)	(1.6)	(26.0)	56
12-23 months	33.3	137	(4.1)	(3.4)	(4.5)	(4.6)	(53.3)	(0.0)	(63.7)	(51.1)	(6.2)	(8.3)	(26.4)	(2.2)	(45.1)	45
24-35 months	29.4	152	(0.0)	(0.0)	(0.0)	(2.3)	(46.1)	(2.1)	(50.4)	(60.8)	(2.3)	(6.9)	(10.4)	(0.0)	(41.6)	45
36-47 months	25.3	171	(2.2)	(0.0)	(4.2)	(5.2)	(60.2)	(0.0)	(64.4)	(72.6)	(0.0)	(7.5)	(25.6)	(0.0)	(42.3)	43
48-59 months	31.9	146	(2.4)	(0.0)	(2.4)	(1.7)	(58.4)	(0.0)	(64.9)	(58.0)	(0.0)	(1.6)	(20.4)	(0.0)	(48.1)	47
Mother's education																
None	(36.3)	39	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
Primary	30.4	638	3.0	0.0	2.6	4.0	48.6	1.0	55.3	61.2	1.6	5.7	19.2	0.5	39.7	194
Secondary	21.6	133	(0.0)	(3.1)	(0.0)	(0.0)	(47.8)	(0.0)	(50.8)	(63.0)	(0.0)	(3.6)	(33.7)	(3.6)	(42.1)	29
Wealth index quintiles																
Poorest	22.5	123	(0.0)	(0.0)	(0.0)	(3.7)	(31.7)	(0.0)	(35.5)	(53.4)	(0.0)	(8.4)	(15.5)	(0.0)	(25.1)	28
Second	33.4	165	1.6	1.3	0.0	4.1	47.3	0.0	50.6	69.0	3.2	8.5	22.9	0.0	34.0	55
Middle	31.5	189	4.8	0.0	5.0	1.9	53.3	1.7	59.9	56.9	0.0	0.0	15.1	1.5	35.0	60
Fourth	27.5	172	(4.3)	(0.0)	(0.0)	(5.3)	(49.7)	(1.9)	(58.1)	(55.6)	(2.2)	(7.7)	(27.0)	(2.2)	(46.2)	47
Richest	29.0	159	(0.0)	(3.9)	(4.3)	(3.8)	(51.5)	(0.0)	(61.4)	(67.2)	(2.3)	(6.2)	(22.5)	(0.0)	(55.9)	46
Total	29.2	809	2.5	1.1	2.1	3.7	48.3	0.8	54.8	61.1	1.6	5.7	20.8	0.8	40.0	236

[1] MICS indicator 3.18; MDG indicator 6.8

[2] MICS indicator 3.17

(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.

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, more than half (55 per cent) of children who had fever in the last two weeks received any anti-malarial drugs, with almost half (48 per cent) treated with artemisinin combination drugs (the recommended first line anti-malarial drugs). The proportion of children who received any anti-malarial drugs hardly differs by gender (53 per cent of male children versus 57 per cent of female children). The other most commonly used medication is paracetamol/panadol/acetaminophen with 61 per cent of children treated with it.

About 2 out of 5 (40 per cent) children receive anti-malarial drugs within 24 hours or on the next day after onset of symptoms. The proportion receiving antimalarial treatment promptly is marginal different for males (42 per cent) than females (38 per cent).

Pregnant women living in areas of high malaria prevalence are four times more likely than other adults to get malaria and twice as likely to die of the disease. Pregnant women are predisposed to anaemia, premature delivery and stillbirth once infected with malaria. 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 IPTp). In the Siaya County MICS, women were asked about the medicines they had received in their last pregnancy during the 2 years preceding the survey. Women are considered to have received IPTp 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.16. Overall, about 9 of every 10 women (91 per cent) aged 15-49 who had a live birth in the 2 years preceding the survey received antenatal care. Only 27 per cent received the recommended IPTp dose (2 or more doses of SP/ Fansidar). About 43 per cent of women received at least 1 dose of SP/Fansidar. The proportion taking two or more doses of SP is comparable across urban-rural areas (28 per cent in urban areas compare to 27 per cent in urban areas).

Table CH.16: 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 (IPTp) for malaria during pregnancy at any antenatal care visit, Siaya county, 2011						
	Percentage of women who received antenatal care (ANC)	Number of women who gave birth in the last 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]	
Area						
Urban	97.0	27	78.9	59.1	28.1	27
Rural	90.6	290	67.1	40.8	26.6	263
Education						
None	(*)	16	(*)	(*)	(*)	14
Primary	90.1	257	67.5	39.7	24.6	231
Secondary	(98.7)	45	(71.6)	(51.1)	(35.6)	45
Wealth index quintiles						
Poorest	(85.7)	48	(57.7)	(29.1)	(20.1)	41
Second	85.8	66	70.4	46.4	32.6	57
Middle	97.8	73	67.5	43.0	22.8	72
Fourth	92.3	69	71.5	40.8	25.6	63
Richest	92.0	62	70.8	49.6	31.9	57
Total	91.2	318	68.2	42.5	26.7	290
[1] MICS indicator 3.20 () Based on 25-49 unweighted cases.						

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 which are harmful to human health. In addition to its association with disease, drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying it, often over long distances.

The MDG goal is to reduce the proportion of people without sustainable access to safe drinking water and basic sanitation by half between 1990 and 2015. The 'A 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 MICS 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

For more details on water and sanitation and to access some reference documents, please visit the UNICEF childinfo website <http://www.childinfo.org/wes.html>.

Use of Improved Water Sources

The distribution of the population by source of drinking water is shown in Table WS.1 and Figure WS.1. The 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, public tap/standpipe), tube well/borehole, protected well, protected spring, and collected rainwater. Bottled water is considered as an improved water source only if the household is using an improved water source for other purposes, such as handwashing and cooking.

Table WS.1: Use of improved water sources

Per cent distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, Siaya County, 2011																				
	Main source of drinking water																			
	Improved sources						Unimproved sources						Percentage using improved sources of drinking water [1]							
	Piped water			Tube-well/bore-hole	Protected well	Protected spring	Rain-water collection	Bottled water	Unprotected well	Unprotected spring	Tanker truck	Surface water		Bottled water	Missing	Total				
Into dwelling	Into yard/plot	To neighbour	Public tap/stand-pipe										To Water Kiosk							
Residence																				
Urban	1	15.8	13.4	14	23.9	20.5	2.8	4.7	0	0.3	0	0	0	0	0	0	100	82.4	337	
Rural	0.5	2	4.1	4.3	6.3	9.3	7.1	16	4.1	0	8.4	0.2	0	0	0.1	0	100	49.5	4644	
Education of household head																				
None	1.1	5.7	8.5	1.9	3.2	10.9	9.9	13.7	3.6	0	7.9	0.1	0	0	0	0	100	56.5	884	
Primary	0.5	1.5	3.9	5.7	7.2	9.9	7	15.3	3.4	0	8.3	0.2	0.1	0.1	0	0	100	48.6	3062	
Secondary+	0.4	4.8	4.3	5.3	12.2	10	3.5	16.7	5.2	0	6.4	0.3	0	0	0	0	100	57	1023	
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
Wealth index quintile																				
Poorest	0	0	2.8	0.1	0.5	7.6	5.9	19.1	0.2	0	12.9	0	0	0	0	0	100	36	624	
Second	0	0	2.8	0.9	3.9	11.6	6.5	22.2	1.7	0	5.9	0	0	0.3	0	0	100	48.7	946	
Middle	0	0	3.1	5.6	7.3	8.2	9.4	19.2	2.7	0	7	0	0	0	0	0	100	50	1262	
Fourth	0.8	2.2	6.3	6.5	8.7	10	9.1	11.4	3.7	0	11.5	0.5	0	0	0	0	100	52	1156	
Richest	1.9	12.1	8.2	9.3	14.2	12.4	1.6	5.8	9.9	0.1	3.3	0.3	0.2	0	0	0	100	66.2	992	
Total	0.6	2.9	4.8	5	7.5	10	6.8	15.3	3.9	0	7.8	0.2	0	0.1	0	0	100	51.7	4981	

[1] MICS indicator 4.1; MDG indicator 7.8

(*) Not shown, based on less than 25 unweighted cases.

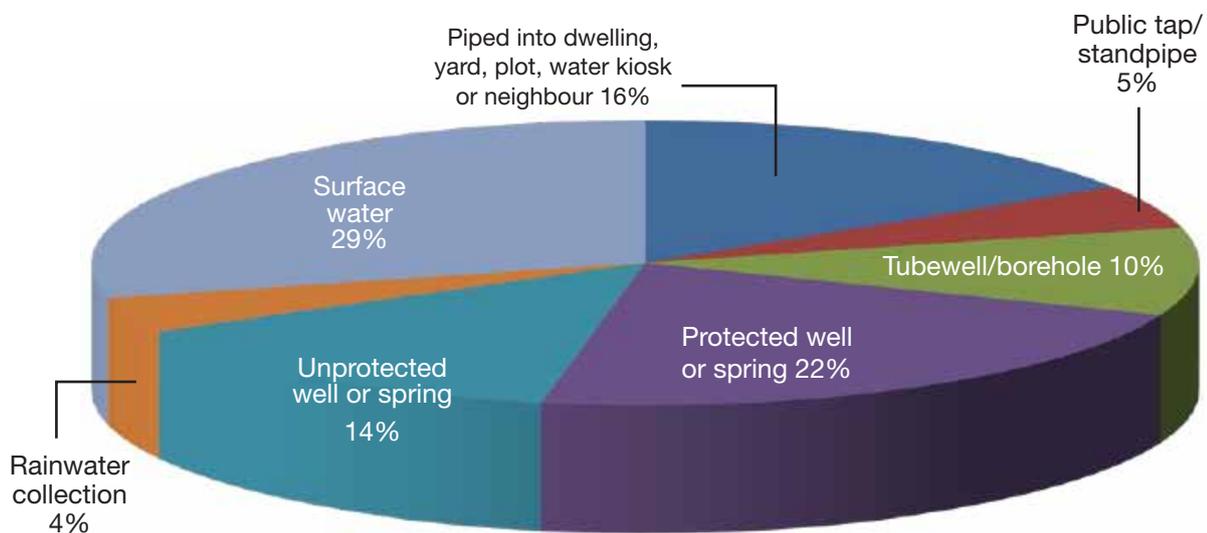
Note: Households using bottled water as the main source of drinking water are classified into improved or unimproved drinking water users according to the water source used for other purposes such as cooking and handwashing.

Over half (52 per cent) of the Siaya population is using an improved source of drinking water. Countywide, the most frequently used improved drinking water source is protected springs (15 per cent) whilst the most commonly used unimproved source of drinking water is surface water (29 per cent).

Disparities exist by area of residence and wealth status of the household. More than 4 out of 5 households (82 per cent) in the urban regions has access to improved sources of drinking water compared to only half (50 per cent) of their rural counterparts. The dominant source of drinking water in urban areas is water piped to a water kiosk (24 per cent), whereas in rural areas it is surface water (31 per cent)- an unimproved source of drinking water. The proportion of those from the richest household wealth quintile who use improved sources of drinking water is 66 per cent compared to 36 per cent for those from the poorest households.

Unprotected wells and springs, which are categorized as unsafe source of drinking water, are predominantly used in the rural region or by those from the poorest households.

Figure WS.1: Percentage distribution of household members by source of drinking water, Siaya County, 2011



Use of Adequate Water Treatment Method

Use of in-house water treatment is presented in Table WS.2. Households were asked of ways they may be treating water at home to make it safer to drink - boiling, 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.

Overall, more than three quarters (76 per cent) of Siaya residents using unimproved drinking water sources use an appropriate water treatment method. The water treatment methods commonly used in these households are adding bleach/chlorine (61 per cent) and boiling water (17 per cent). On the other hand, more than a quarter of the households (28 per cent) do not use any water treatment methods. The proportion of the household members using an appropriate water treatment method varies as the level of education of the household head improves i.e 84 per cent for members where the household head has attained secondary education compared to 74 per cent in households where the household head has no education.

Table WS.2: 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, Siaya County, 2011											
	Water treatment method used in the household										
	None	Boil	Add bleach/ chlorine	Strain through a cloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Number of household members	Percentage of household members in households using unimproved drinking water sources and using appropriate water treatment method [1]	Number of household members in households using unimproved drinking water sources
Residence											
Urban	24.4	15	62	2.4	0	0	1.5	0.8	337	(*)	12
Rural	28.1	17	61.4	6.3	0.5	0.6	0.4	0.3	4644	76	2147
Education of household head											
None	25.3	17	58.1	12.1	0	0.2	1.2	0	884	74.5	368
Primary	28.6	17	61	5.3	0.7	0.8	0.5	0.2	3062	74.4	1397
Secondary+	27.8	16	65.3	2.7	0.5	0	0	1	1023	84.1	385
Missing /DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12	(*)	9
Wealth index quintile											
Poorest	31.4	14	56.3	9.2	0.7	2.8	0.5	0	624	69.9	398
Second	30.9	18	59.2	5.7	1.4	0.1	0.2	0	946	77	477
Middle	27.7	16	63.6	5.2	0	0.4	0.3	0.5	1262	80.7	561
Fourth	28.6	17	61.3	7.2	0	0.2	0.7	0.7	1156	67.8	480
Richest	22	19	64.2	3.8	0.6	0.1	0.8	0.3	992	91	243
Total	27.8	17	61.4	6	0.5	0.5	0.5	0.3	4981	76.2	2159

[1] MICS indicator 4.2

(*) Not shown, based on less than 25 unweighted cases.

Time to source drinking water

The amount of time it takes to obtain water is presented in Table WS.3 and the person who usually collects the water in Table WS.4. Note that these results refer to one roundtrip between the home and the drinking water source. Information on the number of trips made in one day is not collected.

Overall, Table WS.3 shows that for 12 per cent of the population, the drinking water source is on the premises. The proportion that had water on their premises is higher in urban (31 per cent) compared to rural areas (11 per cent). This proportion also increases with improving levels of the household wealth index status (3 per cent among those from the poorest households and 32 per cent for those from the richest households).

Over a quarter of all household members (26 per cent), it takes less than 30 minutes to get to the improved water sources and bring water, whilst this task requires 30 minutes or more for 19 per cent of household members to get water from the improved source. Majority of those who spend the least amount of time for water collection are residents in urban areas (57 per cent). Only 9 per cent of urban household members spend 30 minutes or more to reach improved water sources, whilst this proportion is more than double (20 per cent) for members from rural households. This is because a huge proportion of the rural residents do not have water available on their premises.

Table WS.3: Time to source of drinking water

Per cent 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, Siaya County, 2011										
	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	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK		
Residence										
Urban	30.9	56.5	8.9	0.0	0.0	0.3	3.4	0.0	100.0	337
Rural	10.7	23.2	19.6	0.2	0.1	21.6	24.4	0.2	100.0	4644
Education of household head										
None	19.6	22.9	15.4	0.5	0.0	17.6	24.1	0.0	100.0	884
Primary	9.1	24.4	20.8	0.2	0.0	21.0	24.4	0.2	100.0	3062
Secondary+	14.4	31.3	16.6	0.0	0.5	19.3	17.6	0.2	100.0	1023
Missing /DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	39
Wealth index quintile										
Poorest	2.8	21.6	11.8	0.0	0.0	31.1	32.7	0.0	100.0	624
Second	4.4	20.6	24.6	0.0	0.0	22.5	27.9	0.0	100.0	946
Middle	6.3	26.4	22.5	0.4	0.0	19.8	24.1	0.5	100.0	1262
Fourth	13.0	25.5	20.0	0.0	0.2	16.8	24.5	0.0	100.0	1156
Richest	31.5	31.4	12.1	0.4	0.3	15.2	8.8	0.2	100.0	992
Total	12.1	25.5	18.9	0.2	0.1	20.1	22.9	0.2	100.0	4981
(*) Not shown, based on less than 25 unweighted cases.										

Person Collecting Water

Table WS.4 shows that for the majority of household members where the source of drinking water is not on the premises (92 per cent), an adult female usually collect the water (74 per cent). The proportion of adult female members who collect water is high in the rural areas (75 per cent) and in the poorest households (86 per cent).

Table WS.4: Person collecting water

Percentage of households without drinking water on premises, and per cent distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, Siaya County, 2011									
	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water						Number of households without drinking water on premises
			Adult woman	Adult man	Female child under age 15	Male child under age 15	Missing/ DK	Total	
Residence									
Urban	77.8	86	55.1	40.1	3.5	1.3	0.0	100.0	68
Rural	92.5	1123	75.5	16.7	4.7	3.0	0.2	100.0	1094
Education of household head									
None	90.2	259	72.4	17.6	4.9	5.0	0.0	100.0	242
Primary	93.6	720	76.6	16.1	4.8	2.3	0.3	100.0	703
Secondary+	86.5	228	68.4	25.9	3.7	2.0	0.0	100.0	214
Missing / DK	(*)	3	(*)	(*)	(*)	(*)	(*)	(*)	3
Wealth index quintile									
Poorest	100.0	145	86.0	3.6	7.0	3.4	0.0	100.0	145
Second	98.1	238	77.8	13.1	6.7	2.4	0.0	100.0	238
Middle	96.1	298	76.8	14.8	4.6	3.1	0.7	100.0	298
Fourth	92.3	273	70.9	23.6	2.2	3.2	0.0	100.0	267
Richest	74.3	256	61.5	33.1	3.3	2.1	0.0	100.0	215
Total	91.5	1209	74.2	18.1	4.6	2.9	0.2	100.0	1162
(*) Not shown, based on less than 25 unweighted cases.									

Overall, adult men collect water in only 18 per cent of cases. The proportion of household members where men collect water increases as the level of education of the household head increases - 18 per cent of households where the head had no education compared to 28 per cent in households where the household head has attained secondary education or higher.

Both female and male children under age 15 engaged in water collection activities in 8 per cent of the times - 5 per cent for female children and 3 per cent for male children.

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 latrine; ventilated improved pit latrine, pit latrine with slab, and composting toilet.

Using the data above, 34 per cent of the population in Siaya are using improved sanitation facilities - flush to septic tank, VIP and pit latrine with slab (Table WS.5). Overall, pit latrines with slabs are the most frequently used improved sanitation facility (26 per cent). Less than 1 per cent use septic tanks flush system in their households and the rest of the household population use VIP (8 per cent). On the other hand, 50 per cent use pit latrine without a slab or with an open pit—a form of an unimproved sanitation facility. While 16 per cent have no facilities.

Table WS.5: Types of sanitation facilities

Per cent distribution of household population according to type of toilet facility used by the household, Siaya County, 2011										
	Type of toilet facility used by household							No facilities or bush or field or ocean	Total	Number of household members
	Improved sanitation facility			Unimproved sanitation facility						
	Flush to septic tank	Ventilated Improved Pit latrine (VIP)	Pit latrine with slab		Pit latrine without slab/open pit	Hanging toilet/hanging latrine	Missing			
Area										
Urban	0.0	18.1	50.8		31.1	0.0	0.0	0.0	100.0	337
Rural	0.3	7.0	23.9		51.9	0.0	0.0	16.9	100.0	4644
Education of household head										
None	1.2	11.1	26.7		45.2	0.0	0.0	15.8	100.0	884
Primary	0.0	5.2	23.4		54.0	0.1	0.0	17.3	100.0	3062
Secondary+	0.3	12.5	31.9		44.0	0.0	0.0	11.4	100.0	1023
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
Wealth index quintile										
Poorest	0.0	0.0	5.6		60.1	0.0	0.0	34.4	100.0	624
Second	0.0	1.2	14.7		65.1	0.0	0.0	19.0	100.0	946
Middle	0.0	1.6	23.5		56.5	0.1	0.0	18.2	100.0	1262
Fourth	0.0	8.4	31.0		48.2	0.0	0.1	12.2	100.0	1156
Richest	1.4	25.7	45.5		25.2	0.0	0.0	2.1	100.0	992
Total	0.3	7.7	25.7		50.4	0.0	0.0	15.8	100.0	4981

(*) Not shown, based on less than 25 unweighted cases.

There is a notable variation in use of improved sanitation facilities by area of residence - 69 per cent in urban areas compared to less than half (31 per cent) in rural areas. About 6 per cent of the population from the poorest households have access to pit latrine with slab compared to 46 per cent for those from the richest households. The proportion of those who use improved sanitation facilities is highest for those where the household head has attained secondary education or higher.

Use and sharing of sanitation facilities

Access to safe drinking-water and to basic sanitation is measured by the proportion of population using an improved sanitation facility. MDGs and 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, 34 per cent of the Siaya residents are using an improved sanitation facility of which 24 per cent of them use either public or shared sanitation facilities while the rest (10 per cent) use private facilities that are not shared. Use of a shared facility is more common among population using an unimproved facility (30 per cent) whilst 16 per cent of households have no facilities at all and otherwise resort to open defecation. As expected, a bigger proportion of those with no sanitation facilities are from the poorest households (34 per cent).

The use of an improved facility increases with increasing levels of the household wealth index. About 21 per cent of the population from the richest households use an improved not shared sanitation facility, versus only 1 per cent for those from the poorest households.

Table WS.6: Use and sharing of sanitation facilities

Per cent 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, Siaya County, 2011												
	Users of improved sanitation facilities						Users of unimproved sanitation facilities					
	Not shared [1]	Public facility		Shared by		Missing/DK	Not shared	Public facility	5		Missing/DK	Total
		5 households or less	More than 5 households	5 households or less	More than 5 households							
Residence												
Urban	2.6	21.2	33.1	12.0	0.0	6.9	9.7	11.5	3.0	0.0	100.0	337
Rural	10.1	2.5	16.1	2.4	0.2	17.8	3.0	27.4	3.5	0.2	100.0	4644
Education of household head												
None	13.6	3.4	20.6	1.4	0.0	14.4	2.6	24.9	3.3	0.0	100.0	884
Primary	6.7	3.4	14.9	3.5	0.1	16.3	3.8	29.6	4.1	0.4	100.0	3062
Secondary+	14.3	5.1	21.4	3.2	0.5	21.7	3.2	17.4	1.7	0.0	100.0	1023
Missing /DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
Wealth index quintile												
Poorest	1.0	0.5	4.0	0.0	0.0	23.3	0.2	32.3	4.4	0.0	100.0	624
Second	0.7	0.8	12.3	2.1	0.0	23.0	2.8	35.9	2.6	0.8	100.0	946
Middle	9.0	3.0	11.9	1.2	0.0	16.0	3.7	33.2	3.8	0.0	100.0	1262
Fourth	12.6	3.9	19.9	2.7	0.4	17.8	4.8	23.6	1.8	0.3	100.0	1156
Richest	20.5	9.4	33.7	8.6	0.4	7.8	4.3	8.0	5.1	0.0	100.0	992
Total	9.6	3.7	17.2	3.1	0.2	17.0	3.5	26.3	3.5	0.2	100.0	4981
1 MICS indicator 4.3; MDG indicator 7.9												
(*) Not shown, based on less than 25 unweighted cases.												

Disposal of child's faeces

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.

Overall in Siaya, majority of the children age 0-2 years (71 per cent) have their stools disposed safely. This proportion compares fairly among those with access to improved and unimproved sanitation facilities (88 per cent versus 84 per cent respectively). However, safe disposal of children stools is only 11 per cent for those who practice open defecation.

For households with improved sanitation facilities, majority of the children's stools are disposed by rinsing into toilet or latrines (87 per cent). Other methods of disposal include burying (8 per cent), rinsing into a ditch or drain and burying (7 per cent), and throwing into garbage (4 per cent). As expected, for households where there are no sanitation facilities, the most common method of disposal of child's waste was burying (31 per cent) or leaving it in the open (26 per cent).

The proportion of children in households where safe disposal of children's waste is practiced increases with improving levels of the household wealth index. For example, it is 59 per cent for those from the poorest households and 87 per cent for those from the richest households.

Table WS.7: Disposal of child's faeces

Per cent 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, Siaya County, 2011												
	Place of disposal of child's faeces										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 drain or ditch	Thrown into garbage	Buried	Left in the open	Other	DK	Missing	Total		
Type of sanitation facility in dwelling												
Improved	1.1	87.2	2.8	1.5	1.9	1.3	0.0	0.7	3.5	100.0	88.3	164
Unimproved	0.0	83.5	6.1	1.1	3.0	2.7	0.7	0.0	2.9	100.0	83.5	232
Open defecation	0.0	11.3	15.6	13.1	31.1	25.8	3.0	0.0	0.0	100.0	11.3	94
Residence												
Urban	(0.0)	(95.4)	(2.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.3)	(100.0)	(95.4)	38
Rural	0.4	68.8	7.2	3.8	8.7	7.2	1.0	0.2	2.6	100.0	69.2	453
Mother's education												
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
Primary	0.2	66.9	8.1	3.8	9.5	7.4	0.6	0.3	3.2	100.0	67.1	393
Secondary+	1.1	87.6	2.1	1.5	1.6	4.8	1.3	0.0	0.0	100.0	88.7	78
Wealth index quintile												
Poorest	0.0	58.5	6.6	1.6	15.1	15.9	2.4	0.0	0.0	100.0	58.5	80
Second	0.0	69.9	8.9	2.7	13.0	1.2	1.0	1.1	2.2	100.0	69.9	98
Middle	0.8	67.1	8.3	7.9	5.4	7.3	0.8	0.0	2.5	100.0	68.0	109
Fourth	0.9	69.4	6.6	3.2	7.7	8.8	0.7	0.0	2.8	100.0	70.3	103
Richest	0.0	87.2	3.7	1.5	0.9	2.0	0.0	0.0	4.7	100.0	87.2	101
Total	0.4	70.9	6.8	3.5	8.0	6.7	0.9	0.2	2.5	100.0	71.3	490

¹ MICS indicator 4.4

(*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

Drinking water and sanitation ladders

In its 2008 report⁷, 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. Table WS.8 presents the percentages of household population by drinking water and sanitation ladders. The table also shows the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal.

In Siaya, only 5 per cent of the household populations have both improved drinking water sources and improved sanitation. Only 5 per cent of rural households members have access both improved water and sanitation while the figure is 3 per cent for urban households’ population.

7. WHO/UNICEF JMP (2008), MDG assessment report - http://www.wssinfo.org/download?id_document=1279

Table WS.8: Drinking water and sanitation ladders

Percentage of household population using:												Number of household members
Percentage of household population using:												
Improved drinking water [1]		Unimproved drinking water		Improved sanitation [2]	Unimproved sanitation			Total	Improved drinking water sources and improved sanitation	Total		
Piped into dwelling, plot or yard	Other improved	Unimproved drinking water	Total		Shared improved facilities	Unimproved facilities	Open defecation					
Residence												
Urban	17.1	65.3	17.6	100.0	2.6	66.3	31.1	0.0	100.0	2.6	337	
Rural	2.5	46.9	50.5	100.0	10.1	21.1	51.9	16.9	100.0	4.8	4644	
Education of household head												
None	6.7	49.7	43.5	100.0	13.6	25.4	45.2	15.8	100.0	5.8	884	
Primary	2.0	46.6	51.4	100.0	6.7	21.8	54.1	17.3	100.0	3.0	3062	
Secondary+	5.2	51.8	43.0	100.0	14.3	30.3	44.0	11.4	100.0	8.3	1023	
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12	
Wealth index quintile												
Poorest	0.0	36.0	64.0	100.0	1.0	4.5	60.1	34.4	100.0	0.0	624	
Second	0.0	48.7	51.3	100.0	0.7	15.2	65.1	19.0	100.0	0.2	946	
Middle	0.0	50.0	50.0	100.0	9.0	16.2	56.7	18.2	100.0	4.0	1262	
Fourth	2.9	49.1	48.0	100.0	12.6	26.9	48.4	12.2	100.0	3.9	1156	
Richest	14.2	52.0	33.8	100.0	20.5	52.1	25.2	2.1	100.0	13.4	992	
Total	3.5	48.2	48.3	100.0	9.6	24.2	50.5	15.8	100.0	4.6	4981	
[1] MICS indicator 4.1; MDG indicator 7.8												
[2] MICS indicator 4.3; MDG indicator 7.9												
(*) Not shown, based on less than 25 unweighted cases.												

Handwashing

Handwashing with water and soap is the most cost effective health intervention to reduce both the incidence of diarrhoea and pneumonia in children under five. It is most effective when done using water and soap after visiting a toilet or cleaning a child, before eating or handling food and, before feeding a child. Monitoring correct handwashing behaviour at these critical times is challenging. A reliable alternative to observations or self-reported behaviour is assessing the likelihood that correct handwashing behaviour takes place by observing if a household has a specific place where people most often washing their hands and observing if water and soap (or other local cleansing materials) are present at a specific place for hand washing.

In Siaya, only 3 per cent of households had their designated handwashing places observed, all of which are in rural areas. For the rest of the 97 per cent of households where it is not observed, the handwashing place is not in the dwelling/plot/yard (Table WS.9).

Table WS.9: Water and soap at place for handwashing

Percentage of households where place for handwashing was observed and per cent distribution of households by availability of water and soap at place for handwashing, Siaya County, 2011										
Area	Percentage of households where place for handwashing was observed	Percentage of households where place for handwashing was not observed		Number of households	Per cent distribution of households where place for handwashing was observed, where:				Total	Number of households where place for handwashing was observed
		Not in dwelling/plot/yard	Total		Water and soap are available [1]	Water is available, soap is not available	Water is not available, soap is available	Water and soap are not available		
Urban	0.0	100.0	100.0	86	(*)	(*)	(*)	(*)	(*)	0
Rural	2.8	97.2	100.0	1 123	(44.8)	(8.4)	(43.3)	(3.4)	(100.0)	32
Education of household head										
None	4.6	95.4	100.0	259	(*)	(*)	(*)	(*)	(*)	12
Primary	1.9	98.1	100.0	720	(*)	(*)	(*)	(*)	(*)	13
Secondary+	2.8	97.2	100.0	228	(*)	(*)	(*)	(*)	(*)	6
Missing/DK	(*)	(*)	(*)	3	(*)	(*)	(*)	(*)	(*)	0
Wealth index quintiles										
Poorest	0.0	100.0	100.0	145	(*)	(*)	(*)	(*)	(*)	0
Second	1.2	98.8	100.0	238	(*)	(*)	(*)	(*)	(*)	3
Middle	1.6	98.4	100.0	298	(*)	(*)	(*)	(*)	(*)	5
Fourth	0.9	99.1	100.0	273	(*)	(*)	(*)	(*)	(*)	2
Richest	8.5	91.5	100.0	256	(*)	(*)	(*)	(*)	(*)	22
Total	2.6	97.4	100.0	1 209	(44.8)	(8.4)	(43.3)	(3.4)	(100.0)	32

[1] MICS indicator 4.5

(*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

Availability of soap

Overall, 93 per cent of the Siaya households have soap anywhere in the dwelling, not necessarily at the designated hand washing place (Table WS.10).

In the households where the place for handwashing was observed, soap was present at the designated handwashing place in only 1 per cent of the households. For the rest, no soap was observed at this designated place, though some (1 per cent) did show the interviewer soap elsewhere in the dwelling. Of the 97 per cent of households where the handwashing place was not observed, 91 per cent were still able to show the soap to the interviewer with the remainder either not having any soap available in the household (6 per cent) or the respondent was not able to or did not want to show soap to the interviewer (1 per cent).

Table WS.10: Availability of soap

Per cent distribution of households by availability of soap in the dwelling, Siaya County, 2011										
	Place for handwashing observed				Place for handwashing not observed				Percentage of households with soap anywhere in the dwelling ¹	Number of households
	Soap not observed at place for handwashing		Total		Soap shown	No soap in household	Not able/Does not want to show soap	Total		
	Soap observed	Soap shown	No soap in household	Total						
Area										
Urban	0.0	0.0	0.0	0.0	94.2	5.8	0.0	100.0	94.2	86
Rural	1.5	1.1	0.3	2.8	90.5	6.0	0.6	97.2	93.1	1123
Education of household head										
None	2.2	1.7	0.8	4.6	87.2	7.2	1.0	95.4	91.0	259
Primary	1.0	0.8	0.1	1.9	91.3	6.4	0.5	98.1	93.0	720
Secondary+	1.9	0.9	0.0	2.8	93.6	3.2	0.4	97.2	96.4	228
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	3
Wealth index quintile										
Poorest	0.0	0.0	0.0	0.0	89.6	9.2	1.2	100.0	89.6	145
Second	0.0	0.8	0.4	1.2	92.0	6.5	0.3	98.8	92.8	238
Middle	1.0	0.6	0.0	1.6	92.4	5.4	0.6	98.4	94.0	298
Fourth	0.5	0.4	0.0	0.9	91.7	6.7	0.7	99.1	92.6	273
Richest	4.9	2.8	0.8	8.5	87.6	3.6	0.4	91.5	95.2	256
Total	1.4	1.0	0.2	2.6	90.8	6.0	0.6	97.4	93.2	1209

¹ MICS indicator 4.6

(*) Not shown, based on less than 25 unweighted cases.

VIII. Reproductive Health

Fertility

In MICS4, Age Specific Fertility Rates (ASFR) and Total Fertility Rates (TFR) are calculated by using information on birth histories of women aged 15-49 years from the sampled households. Birth Histories include details of all children ever born alive to a woman, such as child's name, sex, month and year of birth, survival status and if dead, the age at death. Current fertility rates are based on the date of last birth of each woman for the three years preceding the survey. Rates are underestimated by a very small margin due to absence of information on multiple births (twins, triplets etc.) and on women having multiple deliveries during the periods preceding the survey.

ASFRs are calculated by dividing the number of births to women in a specific age group by the number of women years lived during a given period, and is 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 to age 49. 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.

Table RH.1 shows Age Specific Fertility Rates and Total Fertility Rate (TFR). For the three year period preceding the MICS survey, the TFR in Siaya County is 5.5 children per woman. The adolescent birth rate (age-specific fertility rate for women age 15-19) during the same period is 161 births per 1000 women. As expected, ASFR is higher in the age groups of 20-24 and 25-29 years. Generally, fertility seems to have declined in all age groups especially during the last decade before the MICS survey.

Table RH.1: Current fertility

Age specific fertility rates (ASFR) and total fertility rate (TFR) for three year periods preceding the survey, Siaya County, 2011					
	Age specific fertility rates (ASFR)				
	Number of years preceding the survey				
	0-2	3-5	6-8	9-11	12-14
Age					
15-19	161	193	190	180	200
20-24	309	302	319	323	333
25-29	253	276	285	265	241
30-34	180	230	247	225	193
35-39	152	125	141	195	226
40-44	43	76	105	582	.
45-49	0	0	.	.	.
Total Fertility Rate	5.5	6.0	6.4	8.8	6.0
[1] MICS indicator 5.1; MDG indicator 5.4					
Note: Age-specific fertility rates are per 1,000 women.					

Table RH.1a presents the distribution of children ever born and surviving for all women by age groups. The mean number of children ever born to all women aged 15-49 years is 3.4 and that of surviving is 2.7. Women in Siaya County attain a parity rate of 7.2 children per woman at the end of their childbearing period which is 1.7 children above the current total fertility rate (5.5 children per woman).

Table RH.1a: Children ever born and children surviving

Mean and total numbers of children ever born and children surviving by age of women, Siaya County, 2011					
Age	Children ever born		Children surviving		Number of women
	Mean	Total	Mean	Total	
15-19	0.3	79	0.3	76	226
20-24	2.0	321	1.7	279	164
25-29	3.2	528	2.7	441	163
30-34	4.5	596	3.7	483	132
35-39	5.8	642	4.7	514	110
40-44	6.1	507	4.8	397	83
45-49	7.2	510	5.4	383	71
Total	3.4	3183	2.7	2573	949

Early childbearing

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 age 15-19 and 20-24 while Table RH.3 presents the trends for early childbearing. As shown in Table RH.2, 26 per cent of women aged 15-19 have already had a birth, five per cent are pregnant with their first child, 31 per cent have begun childbearing while five per cent have had a live birth before age 15. Forty two per cent of women aged 20-24 years have had a live birth before age 18.

Table RH.2: Early childbearing

Percentage of women age 15-19 years who have had a live birth or who are pregnant with the first child and percentage of women age 15-19 years who have begun childbearing, percentage of women who have had a live birth before age 15, and percentage of women age 20-24 who have had a live birth before age 18, Siaya County, 2011							
	Percentage of women age 15-19 who:				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			
Residence							
Urban	(*)	(*)	(*)	(*)	15	(*)	19
Rural	24.3	4.9	29.2	4.0	204	44.3	141
Education							
None	(*)	(*)	(*)	(*)	1	(*)	6
Primary	28.5	4.0	32.5	5.4	164	50.1	116
Secondary +	17.1	6.4	23.5	1.7	54	(20.7)	37
Wealth index quintile							
Poorest	(19.3)	(0.0)	(19.3)	(5.4)	26	(*)	20
Second	(27.1)	(3.0)	(30.1)	(0.0)	35	(41.2)	26
Middle	23.7	9.1	32.8	5.9	67	(62.9)	34
Fourth	18.1	1.8	19.9	3.2	54	(44.8)	36
Richest	(44.7)	(5.2)	(50.0)	(7.4)	38	(30.9)	44
Total	26.0	4.6	30.6	4.5	219	41.8	159
[1] MICS indicator 5.2							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

Trends in early childbearing

As shown in Table RH.3, seven per cent of women aged 15-49 years had a live birth before age 15 while 42 per cent of women aged 20-49 years had a live birth before age 18. Nine per cent of the women in urban areas aged 15-49 had a live birth before age 15 compared to seven per cent in the rural areas. However, the proportion of women aged 20-49 years in rural areas () who have had a live birth by age 18 is 43 per cent compared to 36 per cent among those from the urban households.

Table RH.3: Trends in early childbearing

Percentage of women who have had a live birth, by age 15 and 18, by residence and age group, Siaya County, 2011																		
Age	Urban			Rural			All			Number of women age 15-49 years	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years
	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years	Percentage of women with a live birth before age 15	Number of women age 20-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years										
15-19	(*)	15	NA	0	4	204	NA	0	4.5	219	NA	0	4.5	219	NA	0		
20-24	(*)	19	(*)	19	8.2	141	44.3	141	7.8	159	41.8	159	7.8	159	41.8	159		
25-29	(*)	16	(*)	16	5.1	141	36.9	141	5.9	157	37.8	157	5.9	157	37.8	157		
30-34	(*)	12	(*)	12	2.1	115	40.3	115	2.9	126	38.9	126	2.9	126	38.9	126		
35-39	(*)	8	(*)	8	12.9	98	47.2	98	12.7	106	48	106	12.7	106	48	106		
40-44	(*)	3	(*)	3	10.2	79	45.6	79	9.9	82	45.4	82	9.9	82	45.4	82		
45-49	(*)	3	(*)	3	10.2	64	45.5	64	9.9	67	45.7	67	9.9	67	45.7	67		
Total	9	75	36.1	60	6.7	841	42.7	637	6.9	916	42.1	697	6.9	916	42.1	697		

NA: not applicable

(*) Not shown, based on less than 25 unweighted cases.

Figures in the total row are based on women age 15-49 and 20-49 for live births before age 15 and age 18, respectively.

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.

As shown in (Table RH.4), current use of contraception was reported by 43 per cent of women currently married or in union. Modern methods of contraception are more commonly used (40 per cent) than traditional methods (three per cent) with injectable contraceptives being the most popular method which is used by one in four (24 per cent) married women in Siaya County. The next most popular method is the pill, which is used by five per cent of married women or those in union.

The proportion of women using any method of contraception is 52 per cent among women with secondary or higher education and 41 per cent for those with primary education. Contraceptive prevalence rate is 36 per cent among women from the poorest households and 55 per cent among those from the richest households.

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, Siaya County, 2011																		
Per cent of women (currently married or in union) who are using:																		
	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm/Foam/Jelly	LAM	Periodic abstinence	Withdrawal	Other	Any modern method	Any traditional method	Any method [1]	Number of women currently married or in union
Residence																		
Urban	(37.1)	(0.0)	(0.0)	(0.0)	(34.5)	(0.0)	(17.0)	(4.0)	(0.0)	(0.0)	(7.4)	(0.0)	(0.0)	(0.0)	(55.5)	(7.4)	(62.9)	47
Rural	59.1	2.8	0.0	0.5	23.4	3.1	4.5	4.1	0.1	0.2	0.9	0.9	0.0	0.4	38.7	2.2	40.9	551
Age																		
15-19	(75.2)	(0.0)	(0.0)	(0.0)	(9.0)	(2.1)	(0.0)	(12.2)	(1.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(24.8)	(0.0)	(24.8)	48
20-24	52.5	0.0	0.0	1.0	30.9	3.9	7.0	1.7	0.0	0.8	1.5	0.7	0.0	0.0	45.3	2.2	47.5	120
25-29	49.1	0.6	0.0	0.6	32.2	1.7	7.6	5.0	0.0	0.0	2.6	0.5	0.0	0.0	47.8	3.1	50.9	135
30-34	51.3	1.7	0.0	0.9	28.5	3.5	8.9	3.5	0.0	0.0	0.9	0.8	0.0	0.0	46.9	1.7	48.7	103
35-39	54.8	5.6	0.0	0.0	25.6	3.3	2.7	3.5	0.0	0.0	1.5	2.2	0.0	0.8	40.7	4.5	45.2	81
40-44	64.5	4.3	0.0	0.0	14.1	4.5	4.7	4.3	0.0	0.0	1.3	0.0	0.0	2.2	32.0	3.5	35.5	62
45-49	81.7	11.3	0.0	0.0	3.1	0.0	0.0	1.9	0.0	0.0	0.0	1.9	0.0	0.0	16.4	1.9	18.3	50
Number of living children																		
0	(96.8)	(0.0)	(0.0)	(0.0)	(0.0)	(3.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(3.2)	(0.0)	(3.2)	32
1	68.1	0.0	0.0	0.0	16.9	0.0	5.7	6.7	0.8	0.0	1.0	0.7	0.0	0.0	30.1	1.8	31.9	90
2	46.9	0.0	0.0	0.8	30.4	4.9	5.9	7.9	0.0	0.9	1.6	0.8	0.0	0.0	50.8	2.3	53.1	109
3	53.5	2.7	0.0	0.0	29.3	2.4	8.3	1.4	0.0	0.0	0.9	0.8	0.0	0.6	44.2	2.3	46.5	110
4+	54.8	4.9	0.0	0.8	25.0	3.1	4.7	3.3	0.0	0.0	1.8	1.1	0.0	0.5	41.8	3.4	45.2	258
Education																		
None	(69.2)	(2.0)	(0.0)	(2.3)	(20.0)	(2.4)	(0.0)	(0.0)	(0.0)	(0.0)	(2.4)	(0.0)	(0.0)	(1.7)	(26.7)	(4.1)	(30.8)	38
Primary	58.7	2.2	0.0	0.5	24.6	2.5	5.6	3.0	0.2	0.2	1.5	0.8	0.0	0.3	38.8	2.5	41.3	450
Secondary +	47.6	4.2	0.0	0.0	24.2	4.3	7.1	10.2	0.0	0.0	0.7	1.6	0.0	0.0	50.1	2.3	52.4	110
Wealth index quintile																		
Poorest	63.0	0.0	0.0	1.2	22.1	1.2	5.1	6.3	0.0	0.0	0.0	1.1	0.0	0.0	35.9	1.1	37.0	80
Second	63.9	1.6	0.0	1.1	22.0	1.8	0.9	5.6	0.0	0.0	1.6	0.9	0.0	0.6	33.0	3.1	36.1	105
Middle	62.6	3.7	0.0	0.0	22.8	3.4	3.5	1.0	0.0	0.6	0.8	1.6	0.0	0.0	35.1	2.3	37.4	154
Fourth	54.1	3.9	0.0	0.6	21.9	2.9	8.9	4.6	0.5	0.0	0.7	0.7	0.0	1.0	43.5	2.4	45.9	134
Richest	45.3	2.2	0.0	0.0	31.8	4.1	8.3	4.8	0.0	0.0	3.6	0.0	0.0	0.0	51.1	3.6	54.7	125
Total	57.3	2.6	0.0	0.5	24.2	2.8	5.5	4.1	0.1	0.2	1.4	0.9	0.0	0.3	40.1	2.6	42.7	598

[1] MICS indicator 5.3; MDG indicator 5.3 () Based on 25-49 unweighted cases.

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 bacteriuria 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 the survey is presented in Table RH.6. Coverage of antenatal care (by a doctor, nurse or midwife, clinical officer or community nurse) is relatively high in Siaya County with 91 per cent of women receiving antenatal care at least once during the pregnancy. The majority of women receive care from a nurse or midwife (73 per cent). Less than one per cent of women receive antenatal care from traditional birth attendants while eight per cent did not receive any antenatal care.

Table RH.6: Antenatal care coverage

	Person providing antenatal care										Total	Any skilled personnel [1]	Number of women who gave birth in the preceding two years
	Medical doctor	Nurse/Midwife	Community nurse	Clinical officer	Traditional birth attendant	Relative/Friend	Other	No antenatal care received					
Residence													
Urban	(8.0)	(79.2)	(0.0)	(9.8)	(0.0)	(0.0)	(3.0)	(0.0)	(0.0)	(100.0)	(97.0)	27	
Rural	8.1	72.2	1.2	9.0	0.3	0.3	0.6	8.2	0.6	100.0	90.6	290	
Mother's age at birth													
Less than 20	15.2	58.9	3.3	16.3	0.0	0.0	0.0	6.4	0.0	100.0	93.6	59	
20-34	6.5	76.3	0.4	7.7	0.4	0.4	1.2	7.2	0.0	100.0	90.8	218	
35-49	(6.5)	(74.5)	(2.1)	(6.3)	(0.0)	(0.0)	(0.0)	(10.5)	(0.0)	(100.0)	(89.5)	41	
Education													
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16	
Primary	7.6	72.3	0.3	9.9	0.3	0.3	0.7	8.6	0.0	100.0	90.1	257	
Secondary +	(10.1)	(76.9)	(6.1)	(5.6)	(0.0)	(0.0)	(0.0)	(1.3)	(0.0)	(100.0)	(98.7)	45	
Wealth index quintiles													
Poorest	(13.4)	(65.9)	(0.0)	(6.4)	(1.8)	(0.0)	(1.8)	(10.8)	(0.0)	(100.0)	(85.7)	48	
Second	5.0	71.3	2.9	6.5	0.0	1.3	1.3	11.6	0.0	100.0	85.8	66	
Middle	6.7	79.1	1.2	10.8	0.0	0.0	0.0	2.2	0.0	100.0	97.8	73	
Fourth	8.7	74.4	0.0	9.2	0.0	0.0	0.0	7.7	0.0	100.0	92.3	69	
Richest	8.4	70.5	1.3	11.8	0.0	0.0	1.3	6.6	0.0	100.0	92.0	62	
Total	8.1	72.8	1.1	9.1	0.3	0.3	0.8	7.5	0.8	100.0	91.2	318	

[1] MICS indicator 5.5a; MDG indicator 5.5

(*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

Number of antenatal care visits

UNICEF and World Health Organization (WHO) recommend a minimum of four antenatal care visits during pregnancy. Table RH.7 shows number of antenatal care visits during the last pregnancy in the two years preceding the survey, regardless of provider by selected background characteristics. Almost nine in ten mothers (85 per cent) received antenatal care more than once whilst less than half of mothers received antenatal care at least four times (45 per cent).

Table RH.7: Number of antenatal care visits

Per cent distribution of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, Siaya County, 2011								
	Per cent distribution of women who had:					Missing/ DK	Total	Number of women who had a live birth in the preceding two years
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits [1]			
Residence								
Urban	(0.0)	(3.4)	(7.6)	(22.7)	(63.3)	(3.0)	(100.0)	27
Rural	8.2	5.2	16.1	25.4	43.1	1.9	100.0	290
Mother's age at birth								
Less than 20	6.4	4.9	22.6	25.2	38.2	2.7	100.0	59
20-34	7.2	4.4	14.3	23.6	48.2	2.2	100.0	218
35-49	(10.5)	(8.8)	(10.9)	(33.2)	(36.6)	(0.0)	(100.0)	41
Education								
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
Primary	8.6	4.8	15.7	26.5	42.4	2.0	100.0	257
Secondary +	(1.3)	(8.5)	(16.9)	(18.4)	(54.9)	(0.0)	(100.0)	45
Wealth index quintile								
Poorest	(10.8)	(7.7)	(14.4)	(26.1)	(39.3)	(1.8)	(100.0)	48
Second	11.6	7.0	15.8	21.5	40.6	3.5	100.0	66
Middle	2.2	4.7	19.6	34.6	36.8	2.2	100.0	73
Fourth	7.7	5.0	16.2	22.3	47.5	1.3	100.0	69
Richest	6.6	1.5	10.0	20.4	60.1	1.3	100.0	62
Total	7.5	5.1	15.4	25.2	44.8	2.0	100.0	318
[1] MICS indicator 5.5b; MDG indicator 5.5								
(*) Not shown, based on less than 25 unweighted cases.								
() Based on 25-49 unweighted cases.								

Content of antenatal care

The types of services pregnant women received are shown in table RH.8. Among those women who gave birth to a child during the two years preceding the survey, 59 per cent reported that a blood sample was taken during antenatal care visits, 91 per cent reported that their blood pressure was checked whilst urine samples were taken from 82 per cent of women. The proportion of women who were checked for all three measures i.e. blood pressure, urine sample and blood samples was 56 per cent.

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, Siaya County, 2011					
	Percentage of pregnant women who had:				
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken ¹	Number of women who had a live birth in the preceding two years
Residence					
Urban	(97.0)	(86.4)	(73.6)	(73.6)	27
Rural	90.3	81.6	57.4	54.4	290
Mother's age at birth					
Less than 20	93.6	83.0	60.1	54.0	59
20-34	90.4	82.0	58.8	56.3	218
35-49	(89.5)	(80.6)	(57.3)	(57.3)	41
Education					
None	(*)	(*)	(*)	(*)	16
Primary	89.7	79.1	56.3	52.8	257
Secondary +	(98.7)	(96.6)	(72.5)	(72.5)	45
Wealth index quintile					
Poorest	(85.7)	(73.7)	(47.0)	(43.5)	48
Second	87.1	77.0	51.2	46.8	66
Middle	95.3	79.8	60.6	55.7	73
Fourth	92.3	89.7	60.8	60.8	69
Richest	92.0	87.8	71.6	70.4	62
Total	90.9	82.0	58.8	56.0	318
1 MICS indicator 5.6					
(*) Not shown, based on less than 25 unweighted cases.					
() Based on 25-49 unweighted cases.					

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 MICS included a number of questions to assess the proportion of births attended by a skilled attendant. A skilled attendant includes a doctor, nurse, midwife, clinical officer or community nurse.

As shown in Table RH. 9, about 52 per cent of births occurring in the two years preceding the Siaya County MICS survey were delivered by skilled personnel.

Table RH.9: Assistance during delivery

Per cent 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, Siaya County, 2011													
	Person assisting at delivery										Number of women who had a live birth in preceding two years		
	Medical doctor	Nurse/Midwife	Community nurse	Clinical Officer	Traditional birth attendant	Community health worker	Relative/Friend	Other/Missing	No attendant	Total		Delivery assisted by any skilled attendant [1]	Per cent delivered by C-section [2]
Residence													
Urban	(20.8)	(47.7)	(0.0)	(8.0)	(8.0)	(0.0)	(6.4)	(3.0)	(6.0)	(100.0)	(68.5)	(22.0)	27
Rural	8.9	41.2	0.3	3.4	16.7	0.7	14.0	1.6	13.3	100.0	50.5	4.1	290
Mother's age at birth													
Less than 20	10.3	51.2	0.0	1.8	16.5	2.0	11.0	3.8	3.3	100.0	61.5	4.7	59
20-34	10.5	40.3	0.5	5.1	17.7	0.4	13.4	1.5	10.7	100.0	51.3	6.5	218
35-49	(6.4)	(36.0)	(0.0)	(0.0)	(6.0)	(0.0)	(15.2)	(0.0)	(36.4)	(100.0)	(42.4)	(1.9)	41
Place of delivery													
Public sector health facility	17.9	73.7	0.0	7.1	0.0	0.0	0.7	0.0	0.7	100.0	91.6	12.0	134
Private sector health facility	(21.2)	(68.5)	(2.8)	(7.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(92.6)	(4.9)	36
Home	0.0	5.6	0.0	0.0	37.3	1.5	27.4	1.1	27.1	100.0	5.6	0.0	133
Other	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	10
Education													
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
Primary	9.9	40.1	0.0	3.0	15.6	0.8	14.0	1.8	14.9	100.0	50.0	5.3	257
Secondary +	(8.9)	(52.9)	(2.2)	(6.1)	(20.2)	(0.0)	(9.6)	(0.0)	(0.0)	(100.0)	(64.1)	(6.4)	45
Wealth index quintiles													
Poorest	(6.0)	(26.4)	(0.0)	(2.2)	(23.8)	(0.0)	(15.1)	(1.8)	(24.8)	(100.0)	(32.4)	(0.0)	48
Second	5.7	43.4	0.0	0.0	20.7	0.0	13.4	1.3	15.4	100.0	49.1	3.0	66
Middle	15.1	40.4	0.0	7.1	13.9	0.0	12.4	0.0	11.0	100.0	55.6	7.3	73
Fourth	6.4	49.8	0.0	5.9	13.0	0.0	13.3	1.2	10.4	100.0	56.2	4.6	69
Richest	15.1	44.5	1.6	2.9	10.7	3.1	12.2	4.9	4.8	100.0	61.2	11.8	62
Total	9.9	41.8	0.3	3.8	16.0	0.6	13.2	1.7	12.6	100.0	52.0	5.6	318

[1] MICS indicator 5.7; MDG indicator 5.2

[2] MICS indicator 5.9

(*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

Majority of the births (42 per cent) in the two years preceding the MICS survey were delivered with the assistance of a nurse or midwife. Doctors and clinical officers assisted with the delivery of 10 and four per cent of births respectively. In Siaya County, traditional birth attendants still play a substantial role and assisted during 16 per cent of all births. Thirteen per cent of births were assisted by a relative or friend while another 13 per cent of births had no attendant. The proportion of women who delivered by caesarean section is 6 per cent.

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 new-born 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 percentage distribution of women age 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. Fifty four per cent of births in Siaya County were delivered in a health facility. Less than half (42 per cent) of the deliveries occurred in public sector health facilities, 11 per cent occurred in private sector health facilities, while 42 per cent of births occurred at home.

Table RH.10: Place of delivery

Per cent distribution of women age 15-49 who had a live birth in two years preceding the survey by place of delivery, Siaya County, 2011								
	Place of delivery					Total	Delivered in health facility [1]	Number of women who had a live birth in preceding two years
	Public sector health facility	Private sector health facility	Home	Other	Missing/DK			
Residence								
Urban	(69.7)	(6.8)	(20.4)	(0.0)	(3.0)	(100.0)	(76.6)	27
Rural	39.7	11.6	43.9	3.4	1.3	100.0	51.3	290
Mother's age at birth								
Less than 20	54.7	7.5	36.4	1.4	0.0	100.0	62.2	59
20-34	40.6	12.6	40.7	3.9	2.1	100.0	53.2	218
35-49	(33.7)	(8.8)	(56.2)	(1.4)	(0.0)	(100.0)	(42.4)	41
Number of antenatal care visits								
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	24
1-3 visits	38.8	9.4	49.4	2.5	0.0	100.0	48.2	145
4+ visits	52.0	14.1	30.5	3.4	0.0	100.0	66.1	142
Education								
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
Primary	39.1	10.9	45.0	3.5	1.5	100.0	50.0	257
Secondary +	(55.7)	(14.6)	(27.4)	(2.3)	(0.0)	(100.0)	(70.2)	45
Wealth index quintiles								
Poorest	(31.0)	(3.6)	(60.2)	(3.4)	(1.8)	(100.0)	(34.6)	48
Second	36.3	10.6	48.6	1.6	2.9	100.0	46.9	66
Middle	46.6	12.3	36.2	4.9	0.0	100.0	58.9	73
Fourth	40.4	15.8	39.6	4.3	0.0	100.0	56.1	69
Richest	54.3	11.3	30.1	1.2	3.0	100.0	65.6	62
Total	42.3	11.2	41.9	3.1	1.5	100.0	53.5	318
[1] MICS indicator 5.8								
(*) Not shown, based on less than 25 unweighted cases.								
() Based on 25-49 unweighted cases.								

IX. Child Development

Early Childhood Education and Learning

Attendance to pre-school education in an organized learning or child education program is important for the readiness of children to school. It is well recognized that a period of rapid brain development occurs in the first 3-4 years of life, and the quality of home care is a major determinant of the child's development during this period. In this context, adult activities with children, presence of books at home, for the child, and the conditions of care are important indicators of quality of child care. A World Fit for Children goal is that "children should be physically healthy, mentally alert, emotionally secure, socially competent and ready to learn". Information on a number of activities that support early learning and development was collected in the Siaya County Multiple indicator Survey. These included the involvement of adults with children in the following activities: reading books or looking at picture books, telling stories, singing songs, taking children outside the home, compound or yard, playing with children, and spending time with children naming, counting, or drawing things.

Table CD.1 shows the percentage of children age 36-59 months currently attending early childhood education disaggregated by selected characteristics.

Table CD.1: Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Siaya County, 2011		
	Percentage of children age 36-59 months currently attending early childhood education [1]	Number of children age 36-59 months
Sex		
Male	27.4	159
Female	32.7	158
Residence		
Urban	(57.8)	31
Rural	27.1	286
Age of child		
36-47 months	19.2	171
48-59 months	42.7	146
Mother's education		
None	(*)	18
Primary	27.1	244
Secondary+	46.3	55
Wealth index quintile		
Poorest	(26.3)	43
Second	18.4	66
Middle	26.2	80
Fourth	26.1	70
Richest	55.9	58
Total	30.1	317
[1] MICS indicator 6.7		
() Based on 25-49 unweighted cases.		
(*) Not shown, based on less than 25 unweighted cases.		

About 30 per cent of children aged 36-59 months are attending pre-school (Table CD.1). Pre-school attendance increases with increasing levels of the education of the mother (primary to secondary). Only 27 per cent of children born to mothers with primary education attend pre-school compared to 46 per cent of children born to mother with at least secondary or higher education. The proportion of girls attending early childhood education school is 33 per cent versus 28 per cent for boys. Whilst about 56 per cent of children from the richest households attend pre-school, the proportions are much lower among children from the poor households e.g. 18 per cent for those from the second poorest households. The proportions of children attending pre-school at ages 36-47 months and 48-59 months are 19 and 43 per cent respectively.

Findings on adult participation in childhood development are presented in Table CD.2. In Siaya County, for almost 27 per cent of children under five years old, an adult household member engaged in more than four activities that promote learning and school readiness during the 3 days preceding the survey (Table CD.2). Involvement of adult household members in childhood development activities varies with mother's educational level and household wealth index. The proportion of children with whom adult household members engaged in four or more activities was highest among children from the richest households (42 per cent).

The table also indicates that the father's involvement in such activities was somewhat limited. The proportion of children with whom the father engaged in one or more activities was 30 per cent. Notably, 25 per cent of children live in a household without their fathers.

Table CD.2: Support for learning

Percentage of children age 36-59 months with whom an adult household member engaged in activities that promote learning and school readiness during the last three days, Siaya County, 2011						
	Percentage of children age 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children age 36-59 months
	With whom adult household members engaged in four or more activities [1]	With whom the father engaged in one or more activities [2]	Any adult household member engaged with the child	The father engaged with the child		
Sex						
Male	30.5	29.7	2.6	0.6	40.6	159
Female	23.6	30.1	2.5	0.6	44.7	159
Residence						
Urban	(42.8)	(51.7)	(2.9)	(0.9)	(23.8)	31
Rural	25.4	27.6	2.6	0.5	44.6	287
Age						
36-47 months	25.6	27.3	2.5	0.5	46.6	171
48-59 months	28.7	32.9	2.7	0.6	38.0	146
Mother's education						
None	(*)	(*)	(*)	(*)	(*)	18
Primary	23.9	30.0	2.5	0.5	41.1	244
Secondary+	41.4	30.0	3.0	0.6	45.3	55
Father's education						
None	(*)	(*)	(*)	(*)	(*)	12
Primary	20.2	46.7	2.4	0.9	0.0	126
Secondary+	(44.3)	(57.2)	(3.1)	(1.1)	(0.0)	44
Father not in household	25.2	1.4	2.5	0.0	100.0	135
Wealth index quintiles						
Poorest	(27.2)	(19.7)	(2.4)	(0.3)	(35.4)	43
Second	26.9	19.5	2.5	0.4	48.2	66
Middle	18.1	29.9	2.6	0.6	48.9	80
Fourth	25.1	34.2	2.7	0.6	41.1	70
Richest	41.7	44.1	2.8	0.8	34.8	58
Total	27.1	29.9	2.6	0.6	42.6	317
[1] MICS indicator 6.1 [2] MICS Indicator 6.2 () Based on 25-49 unweighted cases. (*) Not shown, based on less than 25 unweighted cases.						

Exposure to books in early years not only provides the child with greater understanding of the nature of print, but may also give the child opportunities to see others reading, such as older siblings doing school work. Presence of books is important for later school performance and IQ scores. The mother/caretaker of all children under 5 were asked about number of children's books or picture books they have for the child, household objects or outside objects, and homemade toys or toys that came from a shop that are available at home.

In Siaya County, only 2 per cent of children age 0-59 months live in households where at least 3 children's books are present (Table CD.3). The proportion of households with 10 or more children's books is less than 1 per cent in the whole county. There is no major difference in the proportion of households reporting 3 or more books for children by place of residence, child's gender and household wealth index.

Table CD.3: Learning materials

Percentage of children under age 5 by numbers of children's books present in the household, and by playthings that child plays with, Siaya County, 2011							
	Household has for the child:		Child plays with:			Two or more types of playthings [2]	Number of children under age 5
	3 or more children's books [1]	10 or more children's books	Homemade toys	Toys from a shop/ manufactured toys	Household objects/ objects found outside		
Sex							
Male	1.6	0.2	59.6	25.5	80.1	62.5	423
Female	1.9	0.3	54.0	30.2	83.6	59.9	387
Residence							
Urban	2.7	1.4	55.4	45.5	87.2	69.0	68
Rural	1.7	0.1	57.1	26.1	81.3	60.5	741
Age							
0-23 months	0.4	0.0	41.1	24.2	65.6	46.5	340
24-59 months	2.7	0.4	68.4	30.3	93.4	71.9	470
Mother's education							
None	(2.3)	(2.3)	(59.4)	(32.2)	(79.9)	(61.2)	39
Primary	1.5	0.0	56.3	23.7	81.7	58.8	638
Secondary +	3.1	0.7	59.0	45.8	82.8	73.0	133
Wealth index quintiles							
Poorest	0.7	0.0	61.2	16.0	79.7	60.5	123
Second	1.1	0.0	60.7	20.9	77.4	57.4	165
Middle	0.5	0.0	48.5	20.8	83.2	53.3	189
Fourth	2.4	0.0	64.1	35.3	83.4	68.0	172
Richest	4.0	1.2	52.0	44.0	84.4	68.1	159
Total	1.8	0.2	56.9	27.7	81.8	61.3	809
[1] MICS indicator 6.3 [2] MICS indicator 6.4 () Based on 25-49 unweighted cases.							

Table CD.3 also shows that 61 per cent of children aged 0-59 months have 2 or more playthings to play with in their homes. The play-things examined for the survey included homemade toys (such as dolls and cars, or other toys made at home), toys that came from a store, and household objects (such as pots and bowls) or objects and materials found outside the home (such as sticks, rocks, animal shells, or leaves). About 28 per cent of children play with toys that come from a store while 57 per cent play with homemade toys. Majority of children (82 per cent) play with household objects or other objects found outside the home. The proportion of children who have 2 or more playthings to play with is 63 per cent among male children and 60 per cent among female children. There are marginal differences between children living in urban and rural areas of Siaya who have 2 or more playthings to play with:- 69 per cent for urban areas and 61 per cent for rural areas. The proportion of children who have 2 or more playthings to play with is 73 per cent among children whose mothers have secondary and higher education and 59 per cent among those whose mothers have primary education only.

Leaving children alone or in the presence of other young children is known to increase the risk of accidents. In Siaya County MICS, two questions were asked to find out whether children aged 0-59 months were left alone during the week preceding the survey, and whether children were left in the care of other children under 10 years of age.

Table CD.4 shows that 19 per cent of children aged 0-59 months were left in the care of another child younger than 10 years of age, while 57 per cent were left alone during the week preceding the interview. Combining the two care indicators, findings show that 64 per cent of children were left with inadequate care during the week preceding the survey, either by being left alone or in the care of another child. No differences are observed in the proportion of children under five left with inadequate care by sex of the child but a difference of about 8 per cent is observed between rural and urban – 69 per cent for urban and 61 per cent for rural areas. On the other hand, children left with inadequate care was more prevalent among children whose mothers have primary education only (66 per cent), as opposed to children whose mothers have at least secondary education (59 per cent). The proportion of children aged 24-59 months left with inadequate care is 70 per cent, versus 57 per cent among those who are aged 0-23 months. Major differences are observed in regard to socioeconomic status of the household. The proportion of children left with inadequate care was highest among children from the poorest households (75 per cent) while it was lowest among children from the richest households (54 per cent).

Table CD.4: Inadequate care

Percentage of children under age 5 left alone or left in the care of another child younger than 10 years of age for more than one hour at least once during the past week, Siaya County, 2011				
	Percentage of children under age 5			Number of children under age 5
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week [1]	
Sex				
Male	56.4	18.1	64.2	423
Female	56.6	20.1	64.3	387
Residence				
Urban	50.6	19.1	56.6	68
Rural	57.0	19.0	65.0	741
Age				
0-23 months	50.4	16.6	56.7	340
24-59 months	60.9	20.8	69.7	470
Mother's education				
None	(44.7)	(25.7)	(52.0)	39
Primary	57.8	20.0	66.1	638
Secondary+	53.3	12.4	58.9	133
Wealth index quintiles				
Poorest	68.7	15.9	74.5	123
Second	58.3	17.0	64.9	165
Middle	63.2	24.2	70.0	189
Fourth	48.3	18.1	59.5	172
Richest	45.9	18.4	53.8	159
Total	56.5	19.0	64.2	809

[1] MICS indicator 6.5

Early Childhood Development

Early child development is defined as an orderly, predictable process along a continuous path, in which a child learns to handle more complicated levels of moving, thinking, speaking, feeling and relating to others. Physical growth, literacy and numeracy skills, socio-emotional development and readiness to learn are vital domains of a child's overall development, which is a basis for overall human development.

A 10-item module that has been developed for the MICS programme was used to calculate the Early Child Development Index (ECDI). The indicator is based on some benchmarks that children would be expected to have if they are developing as the majority of children in that age group. The primary purpose of the ECDI is to inform public policy regarding the developmental status of children in Siaya County.

Each of the 10 items is used in one of the four domains, to determine if children are developmentally on track in that domain. The domains in question are:

- Literacy-numeracy: Children are identified as being developmentally on track based on whether they can identify/name at least ten letters of the alphabet, whether they can read at least four simple, popular words, and whether they know the name and recognize the symbols of all numbers from 1 to 10. If at least two of these are true, then the child is considered developmentally on track.
- Physical: If the child can pick up a small object with two fingers, like a stick or a rock from the ground and/or the mother/caretaker does not indicate that the child is sometimes too sick to play, then the child is regarded as being developmentally on track in the physical domain.
- In the social-emotional domain, children are considered to be developmentally on track if two of the following is true: If the child gets along well with other children, if the child does not kick, bite, or hit other children and if the child does not get distracted easily
- Learning: If the child follows simple directions on how to do something correctly and/or when given something to do, is able to do it independently, then the child is considered to be developmentally on track in the learning domain.

ECDI is then calculated as the percentage of children who are developmentally on track in at least three of these four domains. The results are presented in Table CD.5.

In Siaya County, 22 per cent of children aged 36-59 months are developmentally on track. The proportion of children age 36-59 months who are developmentally on track is 25 per cent among boys and 19 per cent among girls. As expected, ECDI is much higher in older children compared to younger children (33 per cent among 48-59 months old compared to 13 per cent among 36-47 months old), since children accumulate more skills with increasing age. Higher ECDI is seen in children attending pre-school (40 per cent) compared to those not attending preschool (15 per cent). ECDI is highest amongst children from the richest households (32 per cent). The analysis of three domains of child development shows that 88 per cent of children are on track in the physical domain, but much less on literacy-numeracy (27 per cent), social-emotional (26 per cent) and learning (40 per cent) domains. In both literacy-numeracy and learning domains, higher scores are observed among children attending preschool, older children, and those born to mothers with at least secondary level education. Higher scores in the physical domain are evident among older children and among children attending preschool.

Table CD.5: Early child development index

Percentage of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains, and the early child development index score, Siaya County, 2011						
	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score [1]	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
Sex						
Male	25.6	89.6	27.6	44.1	25.4	159
Female	27.5	86.5	24.5	36.6	19.3	159
Residence						
Urban	(41.4)	(88.0)	(15.4)	(53.8)	(34.2)	31
Rural	24.9	88.1	27.2	38.9	21.1	287
Age						
36-47 months	19.1	85.9	24.0	37.5	13.4	171
48-59 months	35.1	90.6	28.4	43.6	32.9	146
Preschool attendance						
Attending preschool	58.1	91.4	22.8	47.8	39.5	95
Not attending preschool	12.9	86.7	27.4	37.1	15.0	222
Mother's education						
None	(*)	(*)	(*)	(*)	(*)	18
Primary	26.1	87.8	25.8	37.9	22.5	244
Secondary +	34.2	87.0	28.6	51.2	24.9	55
Wealth index quintiles						
Poorest	(27.3)	(92.0)	(19.9)	(48.1)	(19.4)	43
Second	18.6	86.6	29.5	40.0	20.6	66
Middle	24.2	84.9	26.8	37.2	21.6	80
Fourth	21.9	90.0	26.7	32.2	18.6	70
Richest	43.5	89.0	24.8	49.0	32.1	58
Total	26.5	88.1	26.1	40.3	22.4	317
[1] MICS indicator 6.6						
() Based on 25-49 unweighted cases.						
(*) Not shown, based on less than 25 unweighted cases.						
<i>MICS indicator 6.6, Early child development index is calculated as the percentage of children who are developmentally on track in at least three of the four component domains (literacy-numeracy, physical, social-emotional, and learning)</i>						

X. 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 MICS, since only a women's questionnaire was administered, the results on literacy are based only on females age 15-24. Literacy was assessed on the ability of women to read a short simple statement or on school attendance.

The percentage literate is presented in Table ED.1. Table ED.1 indicates that about 86 per cent of women in Siaya County are literate and that literacy status varies by age, education level and household wealth index. Of women who stated that primary school was their highest level of education, 82 per cent were actually able to read the statement shown to them while all those with secondary level education were literate. There are more literate women aged 15-19 (90 per cent) compared to women aged 20-24 (80 per cent). In rich households, the proportion is around 94 per cent, while the figures is 84 per cent among those from the second poorest households.

Table ED.1: Literacy among young women

Percentage of women age 15-24 years who are literate, Siaya, 2011			
	Percentage literate [1]	Percentage not known	Number of women age 15-24 years
Residence			
Urban	(97.5)	(.0)	34
Rural	84.8	0.0	345
Education			
None	*	*	7
Primary	81.6	0.0	280
Secondary+	100.0	0.0	92
Age			
15-19	90.4	0.0	219
20-24	79.7	0.0	159
Wealth index quintile			
Poorest	(82.7)	(.0)	45
Second	84.0	0.0	61
Middle	86.0	0.0	101
Fourth	81.7	0.0	90
Richest	93.6	0.0	82
Total	85.9	0.0	378
[1] MICS indicator 7.1; MDG indicator 2.3			
() Based on 25-49 unweighted cases.			
* Not shown, based on less than 25 unweighted cases.			

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, 75 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. The proportion among males is slightly higher (77 per cent) and 73 per cent among females.

Table ED.2: School readiness

Percentage of children attending first grade of primary school who attended pre-school the previous year, Siaya county, 2011		
	Percentage of children attending first grade who attended preschool in previous year [1]	Number of children attending first grade of primary school
Sex		
Male	73.2	80
Female	76.7	83
Residence		
Urban	*	12
Rural	74.4	151
Mother's education		
None	*	17
Primary	74.5	125
Secondary+	*	19
Wealth index quintile		
Poorest	(54.8)	25
Second	(80.9)	37
Middle	(75.7)	41
Fourth	(82.4)	33
Richest	(75.6)	27
Total	74.9	163
[1] MICS indicator 7.2 () Based on 25-49 unweighted cases. * Not shown, based on less than 25 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 ratio (adjusted)
- Secondary school net attendance ratio (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

Among children who are of primary school entry age 6 in Siaya County, 15 per cent are attending the first grade of primary school (Table ED.3). Primary school entry does not vary markedly by gender.

Table ED.3: Primary school entry

Percentage of children of primary school entry age entering grade 1 (net intake rate), Siaya county, 2011		
	Percentage of children of primary school entry age entering grade 1 [1]	Number of children of primary school entry age
Sex		
Male	15.9	84
Female	13.4	79
Residence		
Urban	*	18
Rural	14.5	145
Mother's education		
None	*	23
Primary	13.1	118
Secondary+	*	23
Wealth index quintile		
Poorest	(8.6)	26
Second	(11.1)	30
Middle	(17.9)	38
Fourth	(11.4)	31
Richest	(21.1)	39
Total	14.7	163
[1] MICS indicator 7.3 () Based on 25-49 unweighted cases. * Not shown, based on less than 25 unweighted cases.		
<i>Primary school entry age is defined at the country level (usually based on UNESCO's ISCED classification).</i>		

Table ED.4 provides the percentage of children of primary school age 6 to 13 years who are attending primary or secondary school⁸. The majority of children of primary school age are attending school (80 per cent). This implies that, 20 per cent of the children are out of school when they are expected to be participating in school. In urban areas, only 72 per cent of children attend school while in rural areas attendance is 80 per cent. As expected, primary school attendance increases with increasing levels of mother's education and to an extent by household wealth index. For example, 72 per cent of the primary school age children from the poorest households are currently attending primary school compared to 79 per cent among those from richest wealth index households. For children whose mothers have no education at all and those whose mothers have primary education the proportion of children who attended primary school is 80 and 79 per cent compared to 83 per cent for those whose mothers have at least secondary education level.

8 Ratios presented in this table are "adjusted" since they include not only primary school attendance, but also secondary school attendance in the numerator.

Table ED.4: Primary school attendance

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), Siaya county, 2011						
	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted) [1]	Number of children
Residence						
Urban	(69.9)	38	(73.0)	44	71.5	82
Rural	79.3	538	81.4	592	80.4	1130
Age at beginning of school year						
6	17.0	84	13.4	79	15.3	163
7	58.4	63	64.6	92	62.1	155
8	76.7	77	91.9	65	83.6	142
9	97.8	69	85.8	69	91.8	139
10	98.8	70	96.7	78	97.7	148
11	94.7	63	100.0	93	97.9	156
12	100.0	69	97.8	79	98.8	148
13	96.7	81	98.0	79	97.4	160
Mother's education						
None	77.1	77	82.4	97	80.1	174
Primary	78.0	414	80.0	442	79.0	857
Secondary+	83.6	85	83.0	96	83.3	181
Wealth index quintile						
Poorest	73.1	85	70.7	80	71.9	165
Second	76.8	124	84.7	119	80.7	243
Middle	82.7	147	82.9	160	82.8	307
Fourth	79.0	126	82.1	163	80.7	289
Richest	79.7	93	79.0	113	79.3	207
Total	78.7	576	80.8	635	79.8	1211
[1] MICS indicator 7.4; MDG indicator 2.1 () Based on 25-49 unweighted cases. Rates presented in this table are "adjusted" since they include not only primary school attendance, but also secondary school attendance in the numerator.						

The secondary school net attendance ratio is presented in Table ED.5⁹. More dramatic than in primary school where 20 per cent of the children are not attending school at all, is the fact that only 17 per cent of the children of secondary school age are attending secondary school. Of the remaining, 83 per cent are either out of school or attending primary school;--72 per cent of the children of secondary school age are attending primary school when they should be attending secondary school while the remaining 28 per cent are not attending any school. Attendance of secondary school generally increases with the education of the mother, age of the child and household social economic status. Among children whose mothers have no education at all, the proportion of children who attend pre-school is 13 per cent compared to 26 per cent for those whose mothers have at least secondary education. About 27 per cent of children from the richest households attend secondary school, while the proportion drops to 2 per cent for those from poorest households.

9 Ratios 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.5: Secondary school attendance

P Percentage of children of secondary school age attending secondary school or higher (adjusted net attendance ratio) and percentage of children attending primary school, Siaya county, 2011										
	Male			Female			Total			
	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	
Area										
	Rural	19.6	70	230	10.8	77.3	227	15.2	73.6	458
	Urban	43.6	39	18	36.7	63.3	9	41.3	47	26
Age										
	14	0	97.6	39	0	97.4	69	0	97.5	108
	15	14.6	76.9	74	8.7	88.2	58	12	81.8	131
	16	27.4	60.8	60	17.8	68.7	52	22.9	64.5	112
	17	34	48.9	75	23.2	48.3	58	29.3	48.6	133
Mother's education										
	None	17.9	63.6	25	9.1	80	25	13.4	71.9	50
	Primary	20.3	74.1	112	7.7	85.6	126	13.7	80.2	238
	Secondary +	29.3	67.1	24	22.4	77.6	28	25.6	72.8	51
	Mother not in household	21.3	61	88	16.4	55.7	57	19.4	58.9	145
Wealth index quintiles										
	Poorest	0	86.7	15	3.1	92.1	32	2.1	90.4	47
	Second	19.1	76.8	44	10.9	77	37	15.4	76.9	81
	Middle	14	71.5	76	13	73	78	13.5	72.3	155
	Fourth	29	67.9	57	9.6	73.8	53	19.6	70.8	110
	Richest	30.7	50.5	56	20.5	76	36	26.7	60.4	92
Total		21.3	67.8	248	11.7	76.8	236	16.6	72.2	484

[1] MICS indicator 7.5

() Based on 25-49 unweighted cases.

* Not shown, based on less than 25 unweighted cases.

Rates presented in this table are "adjusted" since they include not only secondary school attendance, but also attendance to higher levels in the numerator. Note that the difference of the sum of the net attendance ratio and the proportion attending primary school from 100 produces the percentage of children out of school.

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, the majority of them (90 per cent) will eventually reach grade eight. Notice that this number includes children that repeat grades and that eventually move up to reach last grade. Progression between different grades shows high levels (over 95 per cent) in most grades. Children living in the urban areas have slightly lower progression rate compared to children living in the rural areas. The proportion of children who reach grade eight increases with increasing levels of household wealth index. The results show that 97 per cent of children from richest households reach grade eight compared to 74 per cent for those from the poorest households. About 72 per cent of children born to mothers with no education reach grade eight compared to nearly all children born to mothers with at least secondary education.

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), Slaya county, 2011									
	Per cent attending grade 1 last year who are in grade 2 this year	Per cent attending grade 2 last year who are attending grade 3 this year	Per cent attending grade 3 last year who are attending grade 4 this year	Per cent attending grade 4 last year who are attending grade 5 this year	Per cent attending grade 5 last year who are attending grade 6 this year	Per cent attending grade 6 last year who are attending grade 7 this year	Per cent attending grade 7 last year who are attending grade 8 this year	Per cent who reach grade 8 of those who enter grade 1 [1]	
Sex									
	Male	96.1	100.0	98.9	100.0	98.5	93.7	98.4	86.3
	Female	100.0	100.0	99.0	100.0	98.7	100.0	95.6	93.5
Area									
	Rural	98.1	100.0	98.9	100.0	98.5	97.4	96.9	90.2
	Urban	100.0	100.0	100.0	100.0	100.0	85.3	100.0	85.3
Mother's education									
	None	87.4	100.0	97.0	100.0	100.0	93.3	90.6	71.6
	Primary	100.0	100.0	100.0	100.0	98.9	96.4	100.0	95.4
	Secondary +	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Mother not in household	.	.	51.4	100.0	100.0	100.0	100.0	.
Wealth index quintiles									
	Poorest	86.5	100.0	100.0	100.0	91.0	100.0	94.4	74.3
	Second	100.0	100.0	100.0	100.0	100.0	92.6	88.7	82.2
	Middle	100.0	100.0	96.4	100.0	100.0	95.6	97.3	89.8
	Fourth	100.0	100.0	100.0	100.0	97.5	100.0	100.0	97.5
	Richest	100.0	100.0	100.0	100.0	100.0	97.2	100.0	97.2
	Total	98.2	100.0	99.0	100.0	98.6	96.9	97.0	90.0

[1] MICS indicator 7.6; MDG indicator 2.2

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 80 per cent. School completion rate varies with gender. Results show that girls had a marginally difference in primary school completion rate (82 per cent) than boys with 78 per cent.

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

Primary school completion rates and transition rate to secondary school, SIAYA Nyanza Province, Kenya, 2011					
		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	78.2	81	69.9	43
	Female	82.4	79	62.8	33
Area	Rural	83.1	149	64.0	67
	Urban	42.1	11	88.8	9
Mother's education	None	32.3	27	65.9	6
	Primary	53.6	107	72.7	28
	Secondary +	82.7	26	86.0	6
	Mother not in household	.	0	67.6	19
Wealth index quintiles	Poorest	129.5	13	68.3	3
	Second	62.6	27	56.9	16
	Middle	86.2	39	55.7	20
	Fourth	70.9	50	75.7	16
	Richest	83.2	31	77.3	22
Total		80.3	160	66.9	76
[1] MICS indicator 7.7					
[2] MICS indicator 7.8					
() Based on 25-49 unweighted cases.					
* Not shown, based on less than 25 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). Notice that the ratios included here are obtained from net attendance ratios rather than gross attendance ratios. The last ratios provide an erroneous 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 table shows that gender parity for primary school is 1.03. This indicates that there is no difference in the attendance of girls and boys to primary school. However, the indicator drops to 0.55 for secondary education. Gender Parity Index for primary school is comparable across residence, mother's education and household wealth. However, GPI for secondary school is varies across residence and mother's education. For instance, GPI for rural area is 0.55 compared to 0.84 for urban area. GPI for secondary school children with mothers who had no education is 0.51 while the figure increases to 0.77 for children born to mother with at least secondary education.

Table ED.8: Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Siaya, 2011						
	Primary school adjusted net attendance ratio (NAR), girls	Primary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for primary school adjusted NAR [1]	Secondary school adjusted net attendance ratio (NAR), girls	Secondary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for secondary school adjusted NAR [2]
Residence						
Urban	73.0	69.9	1.04	36.7	43.6	0.84
Rural	81.4	79.3	1.03	10.8	19.6	0.55
Mother's education						
None	82.4	77.1	1.07	9.1	17.9	0.51
Primary	80.0	78.0	1.03	7.7	20.3	0.38
Secondary+	83.0	83.6	0.99	22.4	29.3	0.76
Mother not in household	0.0	0.0	0.0	16.4	21.3	0.77
Wealth index quintile						
Poorest	70.7	73.1	0.97	3.1	0.0	0.0
Second	84.7	76.8	1.10	10.9	19.1	0.57
Middle	82.9	82.7	1.00	13.0	14.0	0.93
Fourth	82.1	79.0	1.04	9.6	29.0	0.33
Richest	79.0	79.7	0.99	20.5	30.7	0.67
Total	80.8	78.7	1.03	11.7	21.3	0.55
[1] MICS indicator 7.9; MDG indicator 3.1 [2] MICS indicator 7.10; MDG indicator 3.1						
<i>The gender parity index (GPI) is the ratio of female to male adjusted net attendance ratios (primary or secondary). The primary and secondary adjusted net attendance ratios are presented in more detail in tables ED.4 and ED.5.</i>						

The primary schools adjusted NAR for girls and boys are 81 per cent and 79 per cent respectively. The disadvantage of rural areas is particularly pronounced for primary school attendance. The results also show minimal variations between primary schools adjusted NAR and mother's education and household wealth level for both boys and girls.

XI. 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 indicator is the percentage of children under 5 years of age whose birth is registered.

Details on birth registration by selected characteristics are presented in Table CP.1. In Siaya County, 50 per cent of births of children less than five years have been registered (Table CP.1).

Though over half the children less than 5 years were registered, most did not have a birth certificate. About 35 per cent of children have no birth certificates. Additionally, 6 per cent of children are registered and the interviewers were shown their birth certificates. The proportion of children from richer households with birth certificates was 10 per cent compared to 4 per cent for children from poorer households.

There are no major variations in birth registration across gender - 48 per cent for female versus 52 per cent for male children. The proportion of registered children varies across the area of residence and wealth index of the household. For example, 62 per cent of births are registered among children who from the richest wealth index households compared to 44 per cent among those who are from the poorest wealth index households. The proportion of registered children is 59 per cent in urban areas compared to 49 per cent in rural areas.

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, Siaya County, 2011							
	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		Percentage of children whose mother/caretaker knows how to register birth	Number of children without birth registration
	Seen	Not seen					
Sex							
Male	6.6	9.2	36.4	52.2	423	22.5	202
Female	5.8	9.8	32.5	48.1	387	22.3	201
Residence							
Urban	5.8	14.8	38.5	59.1	68	(26.0)	28
Rural	6.2	9.0	34.1	49.4	741	22.1	375
Age							
0-11 months	4.2	9.7	39.3	53.2	203	19.2	95
12-23 months	6.9	11.0	31.4	49.3	137	21.4	69
24-35 months	6.0	10.2	33.1	49.3	152	27.1	77
36-47 months	7.0	9.2	34.0	50.2	171	22.1	85
48-59 months	7.7	7.3	32.8	47.8	146	22.8	76
Mother's education							
None	(7.2)	(22.5)	(28.2)	(57.9)	39	*	16
Primary	5.7	8.5	32.0	46.3	638	22.9	343
Secondary+	8.4	10.3	48.2	66.9	133	20.2	44
Wealth index quintile							
Poorest	3.8	3.6	32.4	39.8	123	24.0	74
Second	2.1	5.5	32.1	39.7	165	36.8	100
Middle	7.2	5.8	36.4	49.4	189	16.1	96
Fourth	7.8	16.0	33.4	57.2	172	19.1	74
Richest	9.5	15.5	37.6	62.6	159	10.6	60
Total	6.2	9.5	34.5	50.2	809	22.4	403
[1] MICS indicator 8.1							
* Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

Child Labour

Article 32 of the Convention on the Rights of the Child states: “States Parties recognize the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child’s education, or to be harmful to the child’s health or physical, mental, spiritual, moral or social development...” The World Fit for Children mentions nine strategies to combat child labour and the MDGs call for the protection of children against exploitation. In the MICS questionnaire, a number of questions addressed the issue of child labour, that is, children 5-14 years of age involved in labour activities. A child is considered to be involved in child labour activities at the time of the survey if during the week preceding the survey the child spent:

- Ages 5-11: at least one hour of economic work or 28 hours of domestic work per week.
- Ages 12-14: at least 14 hours of economic work or 28 hours of domestic work per week.

This definition allows differentiation between child labour and child work to identify the type of work that should be eliminated. As such, the estimate provided here is a minimum of the prevalence of child labour since some children may be involved in hazardous labour activities for a number of hours that could be less than the numbers specified in the criteria explained above. Table CP.2 presents the results of child labour by the type of work. Percentages do not add up to the total child labour as children may be involved in more than one type of work.

In Siaya County, over half (58 per cent) of children aged 5-14 years are engaged in child labour. The younger age group of children (5-11 years) are more likely to be engaged in child labour (75 per cent) compared to those aged 12-14 years (15 per cent). In addition, the proportion of children involved in child labour varies by the area of residence, gender, household wealth status and the level of mother's education. Children who reside in the rural areas are more likely to be involved in child labour (59 per cent) compared to their counterparts residing in urban areas (40 per cent). The incidence of child labour is much higher among children whose mothers have no education (64 per cent) compared with mothers educated up to secondary or higher (45 per cent). Child labour ranges from compared to children from 65 per cent among those from the poorest wealth index households to 42 per cent among those from the richest households.

The main economic activity children were mostly involved in is working in family businesses (75 per cent and 89 per cent for those aged 5-11 year and 12-14 years respectively). Older children (12-14 years) are more likely to be involved in unpaid labour than their younger counterparts (5-11 years).

Table CP.2: Child labour

Percentage of children by involvement in economic activity and household chores during the past week, according to age groups, and percentage of children age 5-14 involved in child labour, Siaya County, 2011

	Percentage of children age 5-11 involved in						Percentage of children age 12-14 involved in						Total child labour [1]	Number of children age 5-14 years					
	Economic activity			Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Economic activity			Household chores less than 28 hours	Household chores for 28 hours or more	Child labour							
	Working outside household	Working for family business					Economic activity for less than 14 hours	Economic activity for 14 hours or more	Working outside household						Working for family business				
		Paid work	Unpaid work	Paid work	Unpaid work														
Sex																			
Male	1.1	3.7	74.0	74.6	59.3	1.2	74.6	512	3.8	5.6	90.3	77.0	14.7	78.4	1.8	15.2	189	58.6	700
Female	0.5	3.8	75.0	75.5	63.1	0.4	75.5	563	2.7	6.7	88.6	76.5	12.8	87.0	1.3	14.1	228	57.8	791
Residence																			
Urban	0.0	1.1	43.7	44.8	48.8	0.0	44.8	78	*	*	*	*	*	*	*	*	17	40.7	94
Rural	0.9	4.0	76.9	77.4	62.3	0.8	77.4	997	3.1	6.5	90.3	77.8	13.5	82.9	1.3	14.3	399	59.4	1397
School attendance																			
Yes	0.7	3.8	76.4	77.0	63.2	0.7	77.0	994	2.9	6.1	89.2	77.2	13.0	83.4	0.9	13.7	409	58.6	1404
No	1.9	3.4	51.2	51.2	37.6	1.9	51.2	80	*	*	*	*	*	*	*	*	7	52.3	87
Mother's education																			
None	1.2	5.2	83.2	83.2	62.8	3.9	83.2	134	5.3	2.7	91.4	66.5	24.8	80.3	5.9	28.8	76	63.5	211
Primary	0.7	3.8	75.7	76.5	62.4	0.4	76.5	787	3.4	6.3	91.6	81.3	11.9	84.1	0.6	12.2	276	59.8	1063
Secondary+	0.7	2.3	60.6	60.6	54.1	0.0	60.6	154	0.0	9.9	77.5	69.4	8.0	81.9	0.0	8.0	64	45.2	217
Wealth index quintile																			
Poorest	1.7	5.8	80.5	80.5	67.7	2.8	80.5	155	5.3	9.5	95.9	80.4	15.5	87.7	4.8	15.5	50	64.6	205
Second	0.8	3.0	78.6	79.4	59.9	0.0	79.4	225	3.3	8.1	97.6	78.6	20.2	89.5	0.0	20.2	76	64.5	301
Middle	0.7	4.0	78.6	79.8	61.0	0.6	79.8	283	3.5	4.9	91.3	83.7	9.7	81.6	0.0	9.7	116	59.5	399
Fourth	0.5	4.4	77.8	77.8	62.1	0.9	77.8	232	2.8	6.2	89.8	74.5	16.1	80.0	2.8	18.9	108	59.1	340
Richest	0.5	1.9	53.5	54.0	56.9	0.0	54.0	180	1.5	3.8	70.8	63.3	7.5	79.9	1.3	8.8	66	41.9	246
Total	0.8	3.8	74.5	75.1	61.3	0.8	75.1	1075	3.2	6.2	89.4	76.8	13.7	83.1	1.5	14.6	416	58.2	1491

[1] MICS indicator 8.2

* Not shown, based on less than 25 unweighted cases.

Child labour and school attendance

Table CP.3 presents the percentage of children age 5-14 years classified as student labourers or as labourer students by selected characteristics. Student labourers are children attending school but at the same time are also involved in child labour activities at the time of the survey. More specifically, of the 94 per cent of the children 5-14 years of age attending school, 59 per cent are also involved in child labour activities (student labourers).

Table CP.3: Child labour and school attendance

Percentage of children age 5-14 years involved in child labour who are attending school, and percentage of children age 5-14 years attending school who are involved in child labour, Siaya County, 2011							
	Percentage of children involved in child labour	Percentage of children attending school	Number of children age 5-14 years	Percentage of child labourers who are attending school [1]	Number of children age 5-14 years involved in child labour	Percentage of children attending school who are involved in child labour [2]	Number of children age 5-14 years attending school
Sex							
Male	58.6	94.3	700	93.9	410	58.3	660
Female	57.8	94.0	791	95.5	457	58.7	744
Residence							
Urban	40.7	94.3	94	(93.0)	38	40.1	89
Rural	59.4	94.2	1397	94.8	829	59.8	1315
Age							
5-11	75.1	92.5	1075	94.9	807	77.0	994
12-14	14.6	98.4	416	92.7	61	13.7	409
Mother's education							
None	63.5	92.8	211	93.4	134	63.9	195
Primary	59.8	94.5	1063	94.8	636	60.0	1004
Secondary+	45.2	94.0	217	96.1	98	46.2	205
Wealth index quintile							
Poorest	64.6	90.3	205	89.9	132	64.3	185
Second	64.5	94.2	301	97.9	194	67.0	283
Middle	59.5	94.0	399	94.8	237	60.0	375
Fourth	59.1	94.5	340	93.8	201	58.7	322
Richest	41.9	97.1	246	96.8	103	41.8	239
Total	58.2	94.2	1491	94.7	868	58.6	1404
[1] MICS indicator 8.3							
[2] MICS indicator 8.4							
() Based on 25-49 unweighted cases.							

Child Discipline

As stated in A World Fit for Children, “children must be protected against any acts of violence ...” and the Millennium Declaration calls for the protection of children against abuse, exploitation and violence. In the Siaya County MICS survey, mothers/caretakers of children age 2-14 years were asked a series of questions on the ways parents tend to use to discipline their children when they misbehave. Note that for the child discipline module, one child aged 2-14 per household was selected randomly during fieldwork. Out of these questions, the two indicators used to describe aspects of child discipline are: 1) the number of children 2-14 years that experience psychological aggression as punishment or minor physical punishment or severe physical punishment; and 2) the number of parents/caretakers of children 2-14 years of age that believe that in order to raise their children properly, they need to physically punish them.

Table CP.4: Child discipline

Percentage of children age 2-14 years according to method of disciplining the child, Siaya County, 2011								
	Percentage of children age 2-14 years who experienced:					Number of children age 2-14 years	Respondent believes that the child needs to be physically punished	Respondents to the child discipline module
	Only non-violent discipline	Psycho-logical aggression	Physical punishment		Any violent discipline method [1]			
			Any	Severe				
Sex								
Male	6.1	69.2	80.7	18.1	92.3	979	59.7	392
Female	11.9	67.0	70.8	13.5	85.0	989	58.4	420
Residence								
Rural	9.0	68.2	75.1	15.7	88.5	1832	59.3	754
Urban	9.7	66.4	83.9	17.3	89.7	136	54.6	59
Age								
2-4 years	7.6	67.9	81.5	15.3	89.9	522	58.9	221
5-9 years	7.9	69.0	82.0	16.7	90.6	794	61.1	299
10-14 years	11.5	67.2	63.4	15.0	85.2	652	56.8	293
Education of household head								
None	5.4	74.7	75.6	20.4	93.3	286	57.1	135
Primary	9.8	67.3	76.2	14.9	87.9	1276	61.0	514
Secondary +	9.2	65.7	73.9	15.5	87.3	402	54.7	162
Missing/DK	(*)	(*)	(*)	(*)	(*)	4	(*)	1
Respondent's education								
None	8.1	71.8	74.5	15.8	91.5	217	62.5	105
Primary	9.5	67.3	76.7	15.6	88.0	1394	61.2	560
Secondary +	7.8	69.0	72.7	16.3	89.2	356	48.3	148
Wealth index quintile								
Poorest	6.3	71.2	73.8	9.9	92.3	277	65.3	107
Second	7.4	71.0	79.4	18.6	90.3	397	56.7	154
Middle	10.4	63.5	73.2	18.3	86.0	508	60.8	209
Fourth	7.9	70.4	75.9	12.8	90.3	444	55.7	184
Richest	12.5	66.0	76.5	17.4	85.5	342	58.4	159
Total	9.0	68.1	75.7	15.8	88.6	1968	59.0	813
[1] MICS indicator 8.5 (*) Not shown, based on less than 25 unweighted cases.								

In Siaya County, about 89 per cent of the children aged 2-14 years are subjected to at least one form of violent discipline method by their mothers/caretakers. Specifically, 16 per cent of the 2-14 year olds are subjected to severe physical punishment. The proportion of male children subjected to violent discipline methods is 92 per cent compared to 85 per cent for female children. Almost 9 out of 10 children in rural and urban areas (89 per cent and 90 per cent respectively) have experienced at least one form of violent discipline.

About 68 per cent of children were subjected to psychological aggression and this does not vary much across the child age groups and wealth quintiles or mothers/caretakers education levels. For examples, the figures range from 66 per cent among those from the richest households to 71 per cent among those from the poorest households. The table also presents the proportion of mothers/caretakers who believe that children should be physically punished, with 59 per cent of mothers/caretakers sharing the belief that children should be physically punished. This proportion is very comparable across gender of the child and household wealth quintiles.

Early Marriage and Polygyny

Marriage before the age of 18 is a reality for many young girls. According to UNICEF's worldwide estimates, over 64 million women age 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 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.

The Convention on the Elimination of all Forms of Discrimination against Women mentions the right to protection from child marriage in article 16, which states: "The betrothal and the marriage of a child shall have no legal effect, and all necessary action, including legislation, shall be taken to specify a minimum age for marriage..." While marriage is not considered directly in the Convention on the Rights of the Child, child marriage is linked to other rights - such as the right to express their views freely, the right to protection from all forms of abuse, and the right to be protected from harmful traditional practices - and is frequently addressed by the Committee on the Rights of the Child. Other international agreements related to child marriage are the Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages and the African Charter on the Rights and Welfare of the Child and the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa. Child marriage was also identified by the Pan-African Forum against the Sexual Exploitation of Children as a type of commercial sexual exploitation of children.

Young married girls are a unique, though often invisible, group. Required to perform heavy amounts of domestic work, under pressure to demonstrate fertility, and responsible for raising children while still children themselves, married girls and child mothers face constrained decision-making and reduced life choices. Boys are also affected by child marriage but the issue impacts girls in far larger numbers and with more intensity. Cohabitation - when a couple lives together as if married - raises the same human rights concerns as marriage. Where a girl lives with a man and takes on the role of caregiver for him, the assumption is often that she has become an adult woman, even if she has not yet reached the age of 18. Additional concerns due to the informality of the relationship - for example, inheritance, citizenship and social recognition - might make girls in informal unions vulnerable in different ways than those who are in formally recognized marriages.

Research suggests that many factors interact to place a child at risk of marriage. Poverty, protection of girls, family honour and the provision of stability during unstable social periods are considered as significant factors in determining a girl's risk of becoming married while still a child. Women who married at younger ages were more likely to believe that it is sometimes acceptable for a husband to beat his wife and were more likely to experience domestic violence themselves. The age gap between partners is thought to contribute to these abusive power dynamics and to increase the risk of untimely widowhood.

Closely related to the issue of child marriage is the age at which girls become sexually active. Women who are married before the age of 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. Parents seek to marry off their girls to protect their honour, and men often seek younger women as wives as a means to avoid choosing a wife who might already be infected. The demand for this young wife to reproduce and the power imbalance resulting from the age differential leads to very low condom use among such couples.

Two of the indicators are to estimate the percentage of women married before 15 years of age and percentage married before 18 years of age. The percentage of women married at various ages is provided in Table CP.5. The percentage of women in a polygynous union is also provided in Table CP.5.

Table CP.5 shows that 9 per cent of 15-49 year old women in Siaya County were married before their 15th birthday, whereas 45 per cent of women age 20-49 years currently married or in a union were married before age 18. Eleven per cent of women aged 20-49 years were married before their 15th birthday and almost half (45 per cent) were married before the age of 18. A fifth (22 per cent) of adolescent girls age 15-19 years are currently married or in a union.

Table CP.5: 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, Nyanza Province, Kenya, 2011									
	Percent- age married before age 15 [1]	Number of women age 15- 49 years	Percent- age mar- ried before age 15	Percent- age 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
County									
SIAYA	9.1	916	10.6	45.0	697	21.8	219	19.0	598
Area									
Rural	8.7	841	10.3	46.1	637	21.7	204	19.4	551
Urban	13.3	75	13.7	33.0	60	23.0	15	13.4	47
Age									
15-19	4.2	219	.	.	0	21.8	219	2.1	48
20-24	7.8	159	7.8	35.4	159	.	0	4.1	120
25-29	9.3	157	9.3	44.1	157	.	0	15.6	135
30-34	7.0	126	7.0	36.9	126	.	0	28.5	103
35-39	16.6	106	16.6	54.6	106	.	0	27.5	81
40-44	18.1	82	18.1	55.9	82	.	0	33.9	62
45-49	8.2	67	8.2	56.4	67	.	0	27.6	50
Education									
None	16.4	51	16.7	45.9	50	100.0	1	24.4	38
Primary	10.5	674	12.1	52.2	510	24.7	164	18.5	450
Secondary +	2.0	191	2.7	17.9	137	11.7	54	19.1	110
Wealth Index Quintile									
Poorest	9.4	121	11.0	45.6	95	13.3	26	14.6	80
Second	10.2	159	12.4	52.0	124	23.8	35	16.7	105
Middle	9.2	236	11.1	49.6	169	24.9	67	19.5	154
Fourth	10.3	213	12.7	49.4	159	16.0	54	21.4	134
Richest	6.3	188	6.0	28.9	150	28.5	38	20.3	125
Total	9.1	916	10.6	45.0	697	21.8	219	19.0	598
[1] MICS indicator 8.6; [2] MICS indicator 8.7; [3] MICS indicator 8.8; [4] MICS indicator 8.9 * Not shown, based on less than 25 unweighted cases.									

Trends in early marriage

Table CP.6 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 proportions married before age 15 and 18 by different age groups allow us to see the trends in early marriage over time.

Overall, in Siaya County, 9 per cent of women of age 15-49 years were married before the age of 15 whereas 45 per cent were married before the age of 18 years. The proportion of women residing in the urban areas who were married before the age of 18 years is 46 per cent compared to 33 per cent for women residing in the rural areas. The trend in age of early marriage over time shows a decline in the proportion of women who are married before the age of 15 years. This is depicted by the fact that only 4 per cent of women in the 15 to 19 year age group were married by their 15th birthday compared to 19 per cent of women in the 40 to 44 year age group.

Table CP.6: 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, Siaya County, 2011												
Age	Rural				Urban				All			
	Percentage of women married before age 15	Number of women	Percentage of women married before age 18	Number of women	Percentage of women married before age 15	Number of women	Percentage of women married before age 18	Number of women	Percentage of women married before age 15	Number of women	Percentage of women married before age 18	Number of women
15-19	3.6	204	NA	0	*	15	NA	0	4.2	219	NA	0
20-24	8.3	141	37.8	141	*	19	*	19	7.8	159	35.4	159
25-29	8.0	141	44.5	141	*	16	*	16	9.3	157	44.1	157
30-34	6.3	115	38.5	115	*	12	*	12	7.0	126	36.9	126
35-39	15.4	98	54.0	98	*	8	*	8	16.6	106	54.6	106
40-44	18.8	79	56.5	79	*	3	*	3	18.1	82	55.9	82
45-49	8.6	64	56.7	64	*	3	*	3	8.2	67	56.4	67
Total	8.7	841	46.1	637	13.3	75	33.0	60	9.1	916	45.0	697

* Not shown, based on less than 25 unweighted cases. Figures in the total row are based on women age 15-49 and 20-49 for marriage before age 15 and age 18, respectively

Spousal age difference

During the Siaya county survey, data on the spousal age differences was collected with an indicator being the percentage of married/in union women with a difference of 10 or more years younger than their current spouse. Table CP.7 presents the results of the age difference between husbands and wives.

Among the 20-24 year old married or in union women, 46 per cent of women have husbands or partners who are 0-4 years older, while 34 per cent have husbands who are 5-9 years older, and 19 per cent are ten years or more.

Table CP.7: Spousal age difference

Percentage distribution of women currently married/in union age 15-19 and 20-24 years according to the age difference with their husband or partner, Siaya County, 2011												
	Percentage of currently married/in union women age 15-19 years whose husband or partner is:				Number of women age 15-19 years currently married/in union	Percentage of currently married/in union women age 20-24 years whose husband or partner is:				Total	Number of women age 20-24 years currently married/in union	
	0-4 years older	5-9 years older	10+ years older [1]	Husband/partner's age unknown		Total	Younger	0-4 years older	5-9 years older			10+ years older [2]
Residence												
Urban	*	*	*	*	4	*	*	*	*	*	*	14
Rural	(31.6)	(48.7)	(18.2)	(1.4)	44	2.0	40.9	36.7	20.4	100.0	106	
Age												
15-19	(31.1)	(48.7)	(18.8)	(1.3)	48	*	*	*	*	*	0	
20-24	*	*	*	*	0	1.8	45.5	33.9	18.8	100.0	120	
Education												
None	*	*	*	*	1	*	*	*	*	*	5	
Primary	(30.0)	(46.2)	(22.2)	(1.6)	41	2.2	45.2	32.7	19.9	100.0	96	
Secondary+	*	*	*	*	6	*	*	*	*	*	19	
Wealth index quintile												
Poorest	*	*	*	*	3	*	*	*	*	*	18	
Second	*	*	*	*	7	*	*	*	*	*	22	
Middle	*	*	*	*	14	(0.0)	(36.8)	(56.0)	(7.2)	(100.0)	25	
Fourth	*	*	*	*	10	*	*	*	*	*	24	
Richest	*	*	*	*	14	(4.2)	(67.9)	(11.5)	(16.3)	(100.0)	32	
Total	(31.1)	(48.7)	(18.8)	(1.3)	48	1.8	45.5	33.9	18.8	100.0	120	

[1] MICS indicator 8.10a

[2] MICS indicator 8.10b

* Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

Female Genital Mutilation/Cutting

Female genital mutilation/cutting (FGM/C) is the partial or total removal of the female external genitalia or other injury to the female genital organs. FGM/C is always traumatic with immediate complications including excruciating pain, shock, urine retention, ulceration of the genitals and injury to adjacent tissue. Other complications include septicaemia, infertility, obstructed labour, and even death.

Female genital cutting or circumcision is widely practiced in many Kenyan communities. According to the 2008/9 KDHS, up to 27 per cent of women in Kenya were circumcised. The procedure is generally carried out on girls between the ages of 4 and 14. FGM/C is also performed on infants, women who are about to be married and, sometimes, to women who are pregnant with their first child or who have just given birth. It is often performed by traditional practitioners, including midwives and barbers, without anaesthesia, using scissors, razor blades or broken glass.

FGM/C is a fundamental violation of human rights. In the absence of any perceived medical necessity, it subjects girls and women to health risks and has life-threatening consequences. Among those rights violated are the rights to the highest attainable standard of health and to bodily integrity. Furthermore, it could be argued that girls (under 18) cannot be said to give informed consent to such a potentially damaging practice as FGM/C.

Table CP.8: Female genital mutilation/cutting (FGM/C) among women

Percentage distribution of women age 15-49 years by FGM/C status, Siaya County, 2011								
	Per cent distribution of women age 15-49 years:					Total	Percentage who had any form of FGM/C [1]	Number of women aged 15-49 years
	No FGM/C	Who had FGM/C						
		Had flesh removed	Were nicked	Were sewn closed	Form of FGM/C not determined			
Residence								
Urban	100.0	0.0	0.0	0.0	0.0	100.0	0.0	75
Rural	99.5	0.1	0.0	0.0	0.4	100.0	0.5	841
Age								
15-19	99.6	0.0	0.0	0.0	0.4	100.0	0.4	219
20-24	100.0	0.0	0.0	0.0	0.0	100.0	0.0	159
25-29	98.4	0.6	0.0	0.0	1.0	100.0	1.6	157
30-34	100.0	0.0	0.0	0.0	0.0	100.0	0.0	126
35-39	100.0	0.0	0.0	0.0	0.0	100.0	0.0	106
40-44	100.0	0.0	0.0	0.0	0.0	100.0	0.0	82
45-49	98.6	0.0	0.0	0.0	1.4	100.0	1.4	67
Education								
None	100.0	0.0	0.0	0.0	0.0	100.0	0.0	51
Primary	99.8	0.0	0.0	0.0	0.2	100.0	0.2	674
Secondary+	98.6	0.5	0.0	0.0	0.9	100.0	1.4	191
Wealth index quintile								
Poorest	100.0	0.0	0.0	0.0	0.0	100.0	0.0	121
Second	100.0	0.0	0.0	0.0	0.0	100.0	0.0	159
Middle	99.6	0.0	0.0	0.0	0.4	100.0	0.4	236
Fourth	99.1	0.4	0.0	0.0	0.4	100.0	0.9	213
Richest	99.1	0.0	0.0	0.0	0.9	100.0	0.9	188
Total	99.5	0.1	0.0	0.0	0.4	100.0	0.5	916

[1] MICS indicator 8.12

Table CP.8 presents the prevalence of FGM/C among women and the type and extent of the procedure. Overall, the prevalence of FGM among women in Siaya County is low with less than 1 per cent (0.5 per cent) having undergone any form of FGM/C. With such a low prevalence, there are no observed variations between the proportion of women who have undergone FGM/C by area of residence, age, level of education or wealth index.

Approval of Female Genital Mutilation/Cutting

Table CP.10 presents the woman's attitudes towards FGM/C. In Siaya county, about 65 per cent of women aged 15-49 years have heard of FGM/C. The proportion of those with knowledge on FGM/C is comparable across household wealth index levels, urban rural residence and across ages of women. For example the figure ranges from 61 per cent among women from the middle household wealth quintile to 69 per cent among those from the fourth richest wealth quintile. Regarding opinion as to whether the practice should be continued or discontinued, majority of the women (77 per cent) believe that the practise should be discontinued.

Table CP.10: Approval of female genital mutilation/cutting (FGM/C)

Percentage of women age 15-49 years who have heard of FGM/C, and per cent distribution of women according to attitudes towards whether the practice of FGM/C should be continued, Siaya County, 2011								
	Percentage of women who have heard of FGM/C	Number of women age 15-49 years	Per cent distribution of women who believe the practice of FGM/C should be:					Number of women age 15-49 years who have heard of FGM/C
			Continued [1]	Discontinued	Depends	Don't know	Total	
Residence								
Urban	58.3	75	(17.9)	(74.3)	(5.9)	(1.9)	(100.0)	44
Rural	65.4	841	13.2	76.9	4.6	5.3	100.0	550
Age								
15-19	62.9	219	18.8	75.9	2.4	2.9	100.0	138
20-24	66.2	159	18.1	74.2	5.3	2.4	100.0	106
25-29	65.7	157	16.3	77.1	3.3	3.3	100.0	103
30-34	66.4	126	9.5	78.7	5.9	5.9	100.0	84
35-39	69.3	106	10.6	74.7	4.6	10.1	100.0	73
40-44	57.6	82	(4.0)	(80.9)	(4.3)	(10.8)	(100.0)	47
45-49	64.6	67	(2.5)	(79.3)	(11.8)	(6.5)	(100.0)	43
Education								
None	74.1	51	(4.9)	(71.0)	(16.4)	(7.6)	(100.0)	38
Primary	60.1	674	16.0	74.7	4.1	5.2	100.0	405
Secondary+	79.0	191	9.1	83.5	3.3	4.1	100.0	151
FGM/C experience								
No FGM/C	64.7	912	13.5	76.7	4.7	5.1	100.0	590
Had FGM/C	*	4	*	*	*	*	*	4
Wealth index quintile								
Poorest	65.6	121	15.3	70.1	6.2	8.5	100.0	79
Second	61.7	159	15.9	70.3	5.4	8.4	100.0	98
Middle	61.3	236	16.3	78.4	3.0	2.3	100.0	145
Fourth	69.3	213	7.8	84.3	4.7	3.2	100.0	147
Richest	66.3	188	14.2	75.0	5.1	5.7	100.0	125
Total	64.8	916	13.6	76.7	4.7	5.1	100.0	594
[1] MICS indicator 8.11 * Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.								

Attitudes toward Domestic Violence

A number of questions were addressed to women aged 15-49 years to assess their attitudes towards whether husbands are justified to hit or beat their wives/partners for a variety of scenarios. These questions were administered 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. The responses to these questions can be found in Table CP.11.

Table CP.11: 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, Siaya County, 2011							
	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]	
Residence							
Urban	34.7	56.8	42.2	24.4	11.5	68.8	75
Rural	32.3	55.2	47.3	27.3	20.7	69.7	841
Age							
15-19	27.0	47.1	44.5	20.5	21.0	67.4	219
20-24	28.9	58.8	45.6	20.2	14.2	67.8	159
25-29	29.9	54.8	45.3	26.3	15.2	70.8	157
30-34	31.9	55.6	46.6	28.2	28.9	69.6	126
35-39	37.9	57.4	46.0	32.9	13.6	67.6	106
40-44	43.3	63.4	55.6	42.4	27.1	78.7	82
45-49	45.2	61.2	52.9	36.1	25.5	71.1	67
Marital/Union status							
Currently married/in union	33.5	58.5	48.0	29.2	20.1	72.0	598
Formerly married/in union	36.5	59.9	50.4	32.8	18.1	68.1	105
Never married/in union	27.7	44.0	42.0	18.1	20.5	63.9	213
Education							
None	32.4	42.4	39.9	25.5	14.6	56.4	51
Primary	35.6	59.9	51.1	30.5	22.7	75.0	674
Secondary+	21.6	42.5	33.8	15.3	11.6	54.5	191
Wealth index quintile							
Poorest	38.4	53.8	48.4	34.2	21.6	71.5	121
Second	33.1	59.6	55.3	24.6	17.4	74.1	159
Middle	32.1	61.0	50.7	30.8	22.2	76.1	236
Fourth	34.1	54.8	46.5	26.8	23.5	70.6	213
Richest	27.1	45.9	34.3	19.9	14.3	55.5	188
Total	32.5	55.3	46.9	27.0	19.9	69.7	916

[1] MICS indicator 8.14

Overall, about (70 per cent) of women aged 15-49 years feel that their husband/partner have a right to hit or beat them for at least one of a variety of reasons mentioned in Table CP.11. The most common reason reported for justifying the wife beating is that 'if she neglects the children' (55 per cent). Other reasons that received high approvals by women were "if she argues with him" (47 per cent), "if she goes out without telling him" (33 per cent), or "if she refuses sex with him" (27 per cent).

Attitudes towards domestic violence do not vary greatly between rural and urban areas. Women aged 40-44 years or those married/in unions are more likely to approve domestic violence than women from other age groups. Also, the proportion of women who are currently married/in union who approve domestic violence for any of the reasons given is 72 per cent, compared to 64 per cent among those who have never been married/in union. The proportion of women who approve wife or partner beating for any reason ranges from 56 per cent among those from the richest households in Siaya county to 76 per cent among those from the middle wealth index quintile households.

XII. 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 toward raising awareness and giving young people the tools for protecting 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. The HIV module was administered to women 15-49 years of age.

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

In Siaya County, all of the interviewed women (100 per cent) have heard of AIDS. The proportion of women who know of both ways of preventing HIV transmission i.e having only one faithful uninfected sex partner, and using a condom every time is 86 per cent. Separately, 94 per cent of women know of having one faithful uninfected sex partner, 91 per cent know of using a condom every time and 89 per cent know of abstaining. The proportion of women who know of all three ways of preventing HIV transmission is 79 per cent.

The proportion of women who know both ways of preventing HIV transmission ranges from 90 per cent among women from urban areas to 85 per cent among those from rural Siaya County. Similarly, the proportion of women who know both ways of preventing HIV transmission ranges from 88 per cent among the ever married or been in union women to 79 per cent among those who have never been married or in union.

Similarly, the proportion of women who know both ways of preventing HIV transmission ranges from 92 per cent among those from the richest wealth index households to 82 per cent for those from the poorest households.

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

Percentage of women age 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 Siaya County, 2011a														
	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:			Percentage of women who know both ways [2]	Percentage of women who know all three ways[3]	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	By abstaining				Mosquito bites	Super-natural means	Sharing food with someone with AIDS				
Area	Rural	100.0	93.9	90.2	89.9	85.4	79.2	93.4	73.7	94.2	90.2	65.7	57.5	841
	Urban	100.0	93.2	95.4	83.2	89.9	77.5	96.0	73.4	89.9	96.1	71.0	62.0	75
Age	15-24	100.0	91.5	89.4	86.6	83.3	75.2	90.5	83.1	95.6	92.3	71.5	60.5	378
	25-29	100.0	94.2	94.5	92.9	89.9	85.0	95.1	74.5	91.3	92.3	69.5	63.7	157
	30-39	100.0	95.8	89.5	90.3	85.6	80.5	95.2	65.1	95.5	91.9	60.5	54.1	232
	40-49	100.0	96.4	91.7	91.2	88.1	80.5	97.8	61.9	89.6	82.8	57.5	50.8	148
Marital status	Ever married/ in union	100.0	95.4	91.8	90.4	87.9	81.3	95.4	69.2	92.6	89.7	63.6	57.5	704
	Never married/ in union	100.0	88.7	86.9	86.0	78.6	71.6	87.8	88.5	98.1	93.7	74.5	59.1	213
Education	None	100.0	96.9	94.4	94.1	91.2	86.9	97.5	61.4	93.2	83.7	57.6	56.0	51
	Primary	100.0	93.4	89.5	88.6	84.3	77.6	92.4	70.4	93.1	90.3	62.2	53.7	674
	Secondary +	100.0	94.8	93.8	90.8	89.6	82.0	97.1	88.2	96.7	93.6	82.1	73.2	191
	Poorest	100.0	92.8	87.5	83.6	82.2	70.2	88.8	72.0	91.3	90.9	63.3	51.7	121
Wealth index quintiles	Second	100.0	96.0	88.4	90.9	85.1	78.2	95.5	67.4	93.6	86.7	60.5	55.4	159
	Middle	100.0	91.6	89.8	89.5	83.8	79.8	92.2	70.0	93.6	90.6	61.5	52.7	236
	Fourth	100.0	92.9	91.7	91.5	85.5	80.3	94.5	79.7	95.3	93.1	72.4	62.1	213
	Richest	100.0	96.6	94.5	89.4	91.5	83.2	96.1	77.8	94.6	91.1	71.3	65.6	188
	Total	100.0	93.9	90.6	89.4	85.8	79.1	93.7	73.6	93.9	90.7	66.1	57.9	916

[1] MICS indicator 9.1 .

[2] Percentages computed for the two ways namely having only one faithful uninfected sex partner, and using a condom every time.

[3] Percentages computed for all three ways i.e having only one faithful uninfected sex partner, using a condom every time, and abstaining.

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

Area	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:			Percentage of women who know both ways	Percentage of women who know all three 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 age 15-24
		Having only one faithful uninfected sex partner	Using a condom every time	By abstaining				Mosquito bites	Super-natural means	Sharing food with someone with AIDS			
Rural	100.0	91.8	89.0	87.4	83.1	75.3	90.1	83.2	95.9	92.1	70.9	60.2	345
Urban	(100.0)	(88.5)	(93.5)	(78.9)	(84.8)	(73.7)	(94.8)	(82.2)	(92.6)	(95.1)	(76.9)	(64.2)	34
15-19	100.0	88.0	87.2	84.9	78.9	70.3	87.3	86.4	96.3	94.3	71.5	57.6	219
20-24	100.0	96.4	92.3	88.9	89.3	81.9	94.8	78.6	94.7	89.6	71.4	64.6	159
Ever married/in union	100.0	95.7	92.0	86.5	89.1	79.1	94.6	76.2	92.7	90.6	67.9	62.0	185
Never married/in union	100.0	87.6	86.8	86.7	77.7	71.4	86.6	89.7	98.4	94.0	74.9	59.1	194
Education	*	*	*	*	*	*	*	*	*	*	*	*	7
Primary	100.0	90.7	88.5	85.5	81.8	73.3	88.8	79.4	94.8	91.3	66.3	55.7	280
Secondary +	100.0	93.3	91.2	90.2	86.4	80.0	94.8	94.5	97.9	94.8	86.5	73.6	92
Wealth index quintiles	(100.0)	(93.0)	(80.9)	(80.5)	(77.1)	(63.3)	(87.2)	(81.5)	(93.9)	(90.1)	(68.3)	(54.9)	45
Poorest	100.0	96.8	89.5	90.7	88.1	80.5	92.4	86.3	97.2	86.8	74.3	68.5	61
Second	100.0	87.2	84.4	86.3	76.2	70.9	86.8	77.5	94.0	94.7	64.9	50.0	101
Middle	100.0	89.4	93.0	89.1	83.4	77.6	92.2	89.9	96.9	96.2	79.5	64.7	90
Fourth	100.0	94.5	96.1	84.7	91.7	80.5	93.6	81.1	95.9	90.4	70.4	66.2	82
Richest	100.0	91.5	89.4	86.6	83.3	75.2	90.5	83.1	95.6	92.3	71.5	60.5	378
Total	100.0	91.5	89.4	86.6	83.3	75.2	90.5	83.1	95.6	92.3	71.5	60.5	378

[1] MICS indicator 9.2; MDG indicator 6.3

[2] Percentages computed for the two ways namely having only one faithful uninfected sex partner, and using a condom every time.

[3] Percentages computed for all three ways i.e having only one faithful uninfected sex partner, using a condom every time, and abstaining.

* Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

See footnotes to Table HA.1 for detailed explanations. This table is the same as Table HA.1, with the exception that it is based on young women age 15-24 years, rather than 15-49 years.

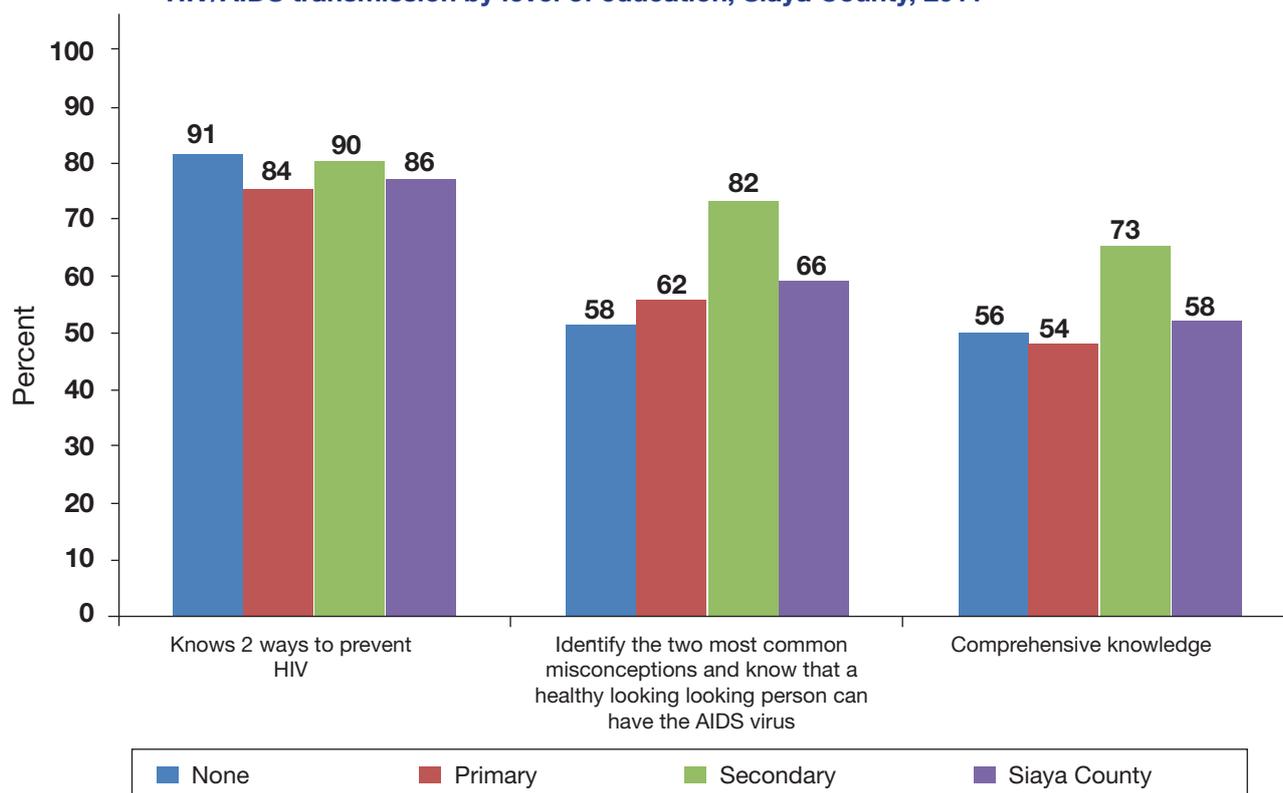
The results for women aged 15-24 years are separately presented in Table HA.2. Eighty-three per cent of women aged 15-24 years know of the two main ways of HIV transmission, namely having only one faithful uninfected sex partner, and using a condom every time. Ninety-two per cent of women know of having one faithful uninfected sex partner while 89 per cent know of using a condom every time, and 87 per cent know of abstaining. The proportion of young women who know all three ways of prevention of HIV transmission is 75 per cent.

Table HA.1 and HA.2 also present the proportion of women who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions in Kenya i.e. that HIV can be transmitted by mosquito bites and sharing food with someone with AIDS. The table also provides information on whether women know that HIV cannot be transmitted by supernatural means. Among the interviewed women aged 15-49 years, 66 per cent reject the two most common misconceptions and know that a healthy-looking person could also be infected. Seventy-four (74) per cent of women know that HIV cannot be transmitted by mosquito bites, and 91 per cent of women know that HIV cannot be transmitted by sharing food with someone with AIDS, while 94 per cent of women know that a healthy-looking person could also be harbouring HIV infection (Table HA.1).

Overall, the proportion of women who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus is 71 per cent in urban areas compared to 66 per cent in rural areas. From Table HA.1, it is also evident that the proportion of women aged 15-49 years who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus increases with increasing levels of education of women. For instance, 82 per cent of women with secondary or higher education reject the two most common misconceptions and have knowledge that a healthy looking person can have the AIDS virus compared with 58 per cent among those with no education. The proportion of women who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus is higher among those who have never married or been in union versus those who have ever married or been in union.

Women who have comprehensive knowledge about HIV prevention include women who know of the two 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). Tables HA.1 and HA.2 also present the percentage of women with comprehensive knowledge. Comprehensive knowledge of HIV prevention methods and transmission is still low in Siaya County (58 per cent). Comprehensive knowledge is comparable in urban areas (62 per cent) and rural areas (58 per cent). Comprehensive knowledge of HIV prevention methods and transmission is ranges from 73 per cent among women with secondary or higher education to 54 per cent for those with primary education as shown in Figure HA.1.

Figure HA.1 Percentage of women who have comprehensive knowledge of HIV/AIDS transmission by level of education, Siaya County, 2011



Similarly, the proportion of women with comprehensive knowledge of HIV prevention and transmission ranges from 66 per cent among those from the richest wealth quintile households to 52 per cent for those from the poorest wealth quintile households. Among younger women aged 15-24 years, comprehensive knowledge of HIV prevention and transmission is at 61 per cent and, ranges from 65 per cent among those aged 20-24 years to 58 per cent among the 15-19 years age group.

Knowledge of mother-to-child transmission of HIV/AIDS

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 of the baby. Women should know that HIV can be transmitted during pregnancy, delivery, and through breastfeeding. The level of knowledge among women age 15-49 years concerning mother-to-child transmission is presented in Table HA.3. Overall, 98 per cent of women 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 60 per cent, while 2 per cent of women do not know of any specific way.

The proportion of women with knowledge of all three ways of mother-to-child transmission is highest (68 per cent) among those aged 25-29 years and lowest among those aged 20-24 years (55 per cent). The proportion of women who know of all three ways of mother-to-child transmission is 62 per cent among those who have ever been married or been in union and 55 per cent for those who have never married or in union. This proportion does not vary much across levels of education or across levels of household wealth index. The figure ranges from 58 to 62 per cent among women from the poorest and richest households, respectively.

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

Percentage of women age 15-49 years who correctly identify means of HIV transmission from mother to child, Siaya County, 2011							
	Percentage who know HIV can be transmitted from mother to child	Per cent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
		During pregnancy	During delivery	By breast-feeding	All three means ¹		
Residence							
Urban	100.0	77.2	83.7	91.5	63.1	0.0	75
Rural	98.1	70.4	88.0	87.8	60.1	1.9	841
Age group							
15-24	98.6	67.8	86.6	87.1	55.6	1.4	378
25+	98.0	73.1	88.3	88.8	63.7	2.0	538
Age group							
15-19	98.3	67.7	87.1	87.9	55.8	1.7	219
20-24	99.1	68.0	85.8	85.9	55.2	0.9	159
25-29	98.3	75.4	90.2	90.6	67.9	1.7	157
30-39	97.9	73.7	86.2	87.8	62.6	2.1	232
40-49	97.9	69.7	89.7	88.4	60.9	2.1	148
Marital status							
Ever married/in union	98.3	71.7	87.8	88.3	61.9	1.7	704
Never married/in union	98.3	68.4	87.0	87.4	55.2	1.7	213
Education							
None	98.5	74.1	87.8	92.3	61.1	1.5	51
Primary	97.8	71.7	86.4	88.0	60.9	2.2	674
Secondary +	100.0	67.3	91.9	87.3	58.1	0.0	191
Wealth index quintiles							
Poorest	97.0	70.5	88.6	86.1	58.2	3.0	121
Second	98.8	74.3	86.8	88.0	62.6	1.2	159
Middle	98.0	72.2	87.9	87.5	62.6	2.0	236
Fourth	98.1	64.3	86.9	88.9	55.2	1.9	213
Richest	99.3	74.2	88.0	89.2	62.9	0.7	188
Total	98.3	70.9	87.6	88.1	60.4	1.7	916
[1] MICS indicator 9.3							

Accepting Attitudes toward People Living with HIV/AIDS

The indicators on attitudes towards 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 was 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 findings on attitudes of women towards people living with HIV/AIDS in Siaya County. Almost all (99 per cent) women who have heard of AIDS agree with at least one accepting statement. The least common accepting attitude is--would not want to keep HIV status of a family member a secret (25 per cent). Women from richest households have higher accepting attitudes than those from poorer households. Only 17 per cent of women express accepting attitudes all four indicators, and the proportion varies by several background characteristics. For example, 21 per cent of women from the

richest households express accepting attitudes on all four indicators compared to 12 per cent of those from the poorest households. Rural women express comparable accepting attitudes (17 per cent) when compared to their urban counterparts (15 per cent).

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

Percentage of women age 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV/AIDS, Siaya County, 2011							
	Percentage 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]	
Residence							
Urban	97.2	89.5	87.5	19.9	100.0	15.4	75
Rural	95.7	86.1	83.5	25.5	99.5	17.0	841
Age							
15-24	93.7	83.9	84.1	25.4	99.1	17.2	378
15-19	90.4	83.2	84.5	24.9	98.4	16.9	219
20-24	98.3	84.9	83.6	26.1	100.0	17.7	159
25-29	96.0	89.9	84.6	25.0	100.0	19.3	157
30-39	98.7	88.8	86.4	20.0	100.0	13.2	232
40-49	96.5	85.4	78.6	31.9	99.4	19.2	148
Marital status							
Ever married/in union	97.0	87.0	83.2	24.7	99.8	16.6	704
Never married/in union	92.0	84.5	86.3	25.9	98.7	18.0	213
Education							
None	91.8	86.6	77.8	31.4	98.4	21.0	51
Primary	95.4	84.0	80.7	23.5	99.5	13.9	674
Secondary +	98.4	94.7	96.6	28.8	100.0	26.2	191
Wealth index quintiles							
Poorest	94.8	81.8	76.5	21.1	99.3	11.8	121
Second	96.2	82.7	81.6	22.8	99.4	14.0	159
Middle	92.5	85.3	81.0	25.8	99.0	16.4	236
Fourth	97.5	89.6	86.7	27.2	100.0	18.7	213
Richest	98.4	90.3	90.9	26.0	100.0	21.1	188
Total	95.8	86.4	83.9	25.0	99.5	16.9	916

[1] MICS indicator 9.4

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 one's status is also a critical factor in the decision to seek treatment. Findings on levels of knowledge among women of a facility for HIV testing and whether they have ever been tested are presented in Table HA.5.

In Siaya County, 97 per cent of women know where to be tested, while 60 per cent have actually been tested. The proportion of women who know a place to get tested is comparable across rural and urban women (97 per cent). Knowledge of a place for testing is considerably comparable among all women irrespective of education levels or household wealth index. Only 60 per cent of women have ever been tested, with the proportion ranging from 60 per cent among rural women who have ever been tested to 56 per cent among the urban women. The proportion of women who have ever been tested is higher among older women than younger women (Table HA.5).

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

Percentage of women age 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, Siaya County, 2011a					
		Percentage of women who:		Have been tested and have been told result [2]	Number of women
		Know a place to get tested [1]	Have ever been tested		
Area	Rural	96.5	60.4	59.2	841
	Urban	97.2	55.9	54.8	75
Age	15-19	92.1	57.8	55.5	219
	20-24	95.8	37.4	36.9	159
	25-29	98.7	51.4	49.9	157
	30-34	98.2	67.0	66.3	126
	35-39	99.1	66.3	66.3	106
	40-44	97.4	82.2	80.2	82
	45-49	100.0	92.1	90.8	67
Marital status	Ever married/in union	97.9	59.7	58.6	704
	Never married/in union	92.2	61.2	59.3	213
Education	None	97.5	58.4	56.8	51
	Primary	96.0	57.2	56.0	674
	Secondary +	98.3	70.6	69.2	191
Wealth index quintiles	Poorest	96.6	56.9	53.8	121
	Second	95.4	54.5	53.4	159
	Middle	96.7	61.8	61.1	236
	Fourth	96.1	62.5	61.2	213
	Richest	98.1	61.9	60.9	188
Total		96.6	60.1	58.8	916
[1] MICS indicator 9.5					
[2] MICS indicator 9.6					

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 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.

Over half (58 per cent) of the women aged 15-24 years had sex in the last 12 months preceding the survey. Among those who had sex in the last 12 months, 97 per cent know of a place to get tested, but only 43 per cent have ever been tested. The proportion who have been tested and told the results is 41 per cent.

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

Percentage of women age 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, Siaya County, 2011						
	Percentage who have had sex in the last 12 months	Number of women age 15-24 years	Percentage of women who:			Number of women age 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 and have been told result [1]	
Residence						
Urban	(59.6)	34	*	*	*	20
Rural	58.3	345	96.8	43.1	41.7	201
Age						
15-19	38.4	219	97.0	53.7	50.3	84
20-24	86.0	159	96.5	36.2	35.6	137
Marital status						
Ever married/in union	95.6	185	96.5	37.1	36.1	177
Never married/in union	22.9	194	(97.7)	(65.7)	(61.3)	44
Education						
None	*	7	*	*	*	5
Primary	61.2	280	96.5	41.3	40.2	171
Secondary +	49.4	92	(97.0)	(49.2)	(45.3)	45
Wealth index quintiles						
Poorest	(53.4)	45	*	*	*	24
Second	55.1	61	(89.1)	(26.3)	(23.7)	34
Middle	55.6	101	98.8	45.1	45.1	56
Fourth	58.6	90	98.5	46.5	44.6	52
Richest	67.1	82	96.0	57.5	54.2	55
Total	58.4	378	96.7	42.8	41.2	221
[1] MICS indicator 9.7						
* Not shown, based on less than 25 unweighted cases.						
() Based on 25-49 unweighted cases.						

Among women who had given birth within the two years preceding the survey, the percentage who received counselling and HIV testing during antenatal care is presented in Table HA.7.

A very high proportion (91 per cent) of women who gave birth in the last two years received antenatal care from a health care professional during the last pregnancy. Although 80 per cent of women received HIV counselling during antenatal care, only 79 per cent were offered an HIV test and were tested for HIV during antenatal care. In Siaya County, the proportion of women who were offered an HIV test, tested for HIV during antenatal care, and received the results is 86 per cent. The corresponding figure for the proportion of women who received HIV counselling, were offered an HIV test, accepted and received the results is 78 per cent.

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

Among women age 15-49 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, Siaya County, 2011a							
		Per cent 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 offered an HIV test and were tested for HIV during antenatal care	Were offered an HIV test and were tested for HIV during antenatal care, and received the results [2]	Received HIV counselling, were offered an HIV test, accepted and received the results	
Area	Rural	90.6	79.7	78.1	85.7	76.9	290
	Urban	(97.0)	(85.0)	(85.0)	(91.0)	(85.0)	27
Young women	15-24	95.3	79.7	77.8	87.9	76.5	144
Age	15-19	(92.0)	(66.9)	(64.6)	(80.7)	(64.6)	47
	20-24	96.8	85.8	84.2	91.3	82.2	97
	25-29	92.7	89.1	87.8	89.2	85.6	78
	30-34	(76.3)	(67.4)	(67.4)	(74.3)	(67.4)	47
	35-49	(91.0)	(79.2)	(77.8)	(87.5)	(77.8)	48
Marital status	Ever married/in union	90.9	80.3	78.8	86.0	77.5	290
	Never married/in union	(94.4)	(78.1)	(78.1)	(87.1)	(78.1)	28
Education	None	*	*	*	*	*	16
	Primary	90.1	77.9	76.2	84.3	74.8	257
	Secondary +	(98.7)	(90.1)	(90.1)	(96.3)	(90.1)	45
Wealth index quintiles	Poorest	(85.7)	(71.9)	(71.9)	(76.3)	(66.2)	48
	Second	85.8	82.9	80.2	84.4	80.2	66
	Middle	97.8	81.1	78.5	94.3	78.5	73
	Fourth	92.3	78.3	77.1	84.9	75.6	69
	Richest	92.0	84.4	84.4	87.1	84.4	62
Total		91.2	80.1	78.7	86.1	77.6	318
[1] MICS indicator 9.8							
[2] MICS indicator 9.9							
* Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

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 important for reducing the spread of HIV. In Kenya, over half of new HIV infections are among young people 15-24 years thus a change in behaviour among this age group will be especially important to reduce new infections. A module of questions was administered to women 15-24 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.

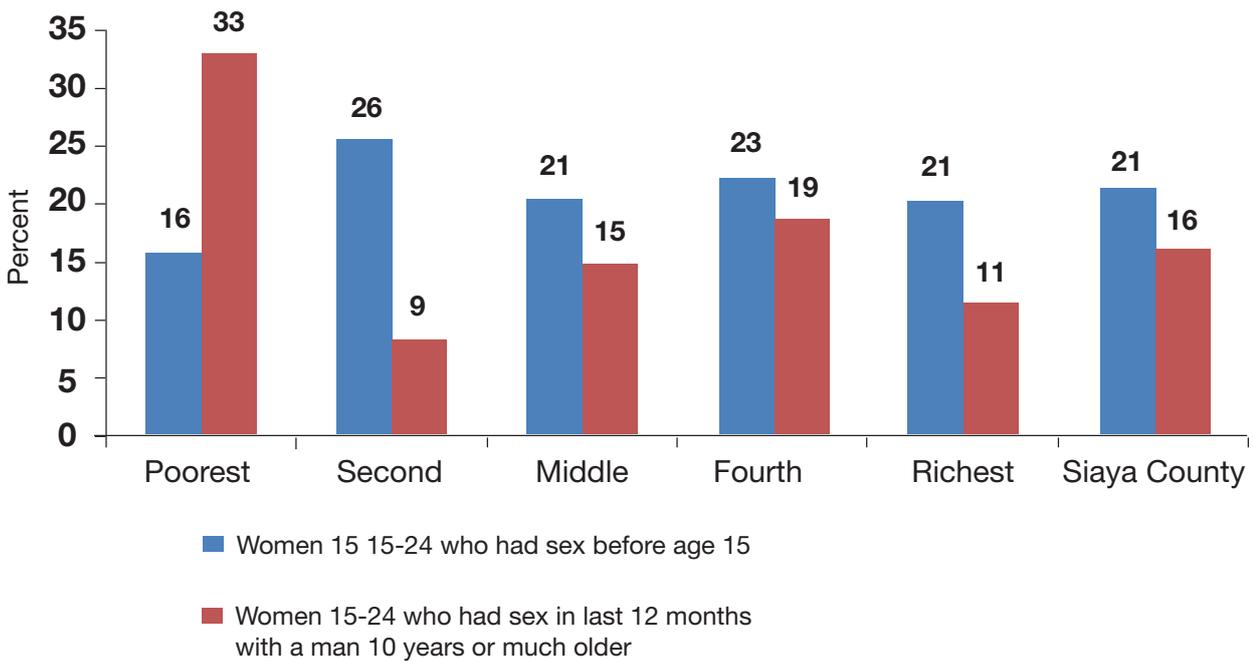
The findings on the frequency of sexual behaviours that increase the risk of HIV infection among women are presented in Table HA.8 and Figure HA.2. More than half (59 per cent) of never-married young women

aged 15-24 years have never had sex. In Siaya, one out of five (21 per cent) young women aged 15-24 years had sex before age 15. The proportion of women aged 15-24 years who had sex in the last 12 months with a man 10 or more years older is 16 per cent.

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

Percentage of never-married young women age 15-24 years who have never had sex, percentage of young women age 15-24 years who have had sex before age 15, and percentage of young women age 15-24 years who had sex with a man 10 or more years older during the last 12 months, Siaya County, 2011						
	Percentage of never-married women age 15-24 years who have never had sex ¹	Number of never-married women age 15-24 years	Percentage of women age 15-24 years who had sex before age 15 ²	Number of women age 15-24 years	Percentage of women age 15-24 years who had sex in the last 12 months with a man 10 or more years older ³	Number of women age 15-24 years who had sex in the 12 months preceding the survey
Residence						
Urban	*	16	(18.2)	34	*	20
Rural	60.0	178	21.6	345	16.7	201
Age						
15-19	64.4	169	20.5	219	13.4	84
20-24	*	24	22.4	159	17.6	137
Marital status						
Ever married/ in union	na	na	30.9	185	20.0	177
Never married/ in union	58.8	194	12.1	194	(0.0)	44
Education						
None	*	1	*	7	*	5
Primary	66.6	130	25.5	280	18.6	171
Secondary +	44.0	63	7.1	92	(8.1)	45
Wealth index quintiles						
Poorest	*	23	(16.2)	45	*	24
Second	(53.1)	32	25.6	61	(8.6)	34
Middle	63.5	52	20.6	101	15.0	56
Fourth	52.3	52	22.5	90	18.8	52
Richest	(49.2)	34	20.5	82	11.5	55
Total	58.8	194	21.3	378	16.0	221
[1] MICS indicator 9.10						
[2] MICS indicator 9.11						
[3] MICS indicator 9.12						
* Not shown, based on less than 25 unweighted cases.						
() Based on 25-49 unweighted cases.						

Figure HA.2 Sexual behaviour that increases risk of HIV infection by wealth index, Siaya County, 2011*



*Poorest quintile estimates are based on 25-48 unweighted cases

Sexual behaviour and condom use during sex with more than one partner was assessed in all women and separately for women age 15-24 years of age who had sex with such a partner in the previous year (Tables HA.9 and HA.10). Among those aged 15-49 years, 87 per cent have ever had sex. About three quarters had sex in the last 12 months and less than 2 per cent of women aged 15-49 years of age had sex with more than one partner in the last 12 months prior to the survey. Among the young women, 15-24 years, 70 per cent have ever had sex, 58 per cent had sex in the last 12 months preceding the survey and less than 2 per cent had sex with more than one partner in the last 12 months (Table HA.10).

Table HA.9: Sex with multiple partners

Percentage of women age 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, Siaya County, 2011						
	Percentage of women who:				Per cent of women age 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 age 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]	Number of women age 15-49 years		
Residence						
Urban	90.1	74.5	0.0	75	.	0
Rural	87.1	74.3	1.3	841	*	11
Age						
15-19	50.2	38.4	1.3	219	*	3
20-24	96.9	86.0	2.3	159	*	4
25-29	99.5	92.8	0.5	157	*	1
30-34	99.3	86.4	0.8	126	*	1
35-39	100.0	84.2	2.1	106	*	2
40-44	100.0	80.4	0.0	82	.	0
45-49	100.0	75.3	0.0	67	.	0
Marital status						
Ever married/ in union	100.0	89.6	1.3	704	*	9
Never married/ in union	45.6	23.9	0.8	213	*	2
Education						
None	100.0	80.4	0.0	51	.	0
Primary	87.1	75.7	1.3	674	*	9
Secondary +	85.2	68.0	0.9	191	*	2
Wealth index quintiles						
Poorest	82.8	73.3	2.6	121	*	3
Second	89.4	74.4	0.0	159	.	0
Middle	86.1	71.6	0.4	236	*	1
Fourth	86.8	75.8	2.5	213	*	5
Richest	91.0	76.9	0.6	188	*	1
Total	87.4	74.4	1.2	916	*	11
[1] MICS indicator 9.13						
[2] MICS indicator 9.14						
* Not shown, based on less than 25 unweighted cases.						
() Based on 25-49 unweighted cases.						

Table HA.10: Sex with multiple partners among young women

Percentage of women age 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, Siaya County, 2011						
	Percentage of women age 15-24 years who:				Per cent of women age 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	Number of women age 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	Number of women age 15-24 years		
Residence						
Urban	(77.9)	(59.6)	(0.0)	34	.	0
Rural	69.1	58.3	1.9	345	*	6
Age						
15-19	50.2	38.4	1.3	219	*	3
20-24	96.9	86.0	2.3	159	*	4
Marital status						
Ever married/in union	100.0	95.6	2.6	185	*	5
Never married/in union	41.2	22.9	0.8	194	*	2
Education						
None	*	*	*	7	.	0
Primary	69.1	61.2	2.0	280	*	6
Secondary +	69.9	49.4	1.0	92	*	1
Wealth index quintiles						
Poorest	(56.0)	(53.4)	(4.3)	45	*	2
Second	72.2	55.1	0.0	61	.	0
Middle	67.5	55.6	0.0	101	.	0
Fourth	69.6	58.6	3.9	90	*	3
Richest	79.3	67.1	1.3	82	*	1
Total	69.9	58.4	1.7	378	*	6
* Not shown, based on less than 25 unweighted cases.						
() Based on 25-49 unweighted cases.						
See footnotes to Table HA.9 for detailed explanations. This table is the same as Table HA.9, with the exception that it is based on young women age 15-24 years, rather than 15-49 years.						

Tables HA.11 present the proportion 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. Only 2 per cent of young women aged 15-24 years have had sex with a non-marital, non-cohabiting partner in the last 12 months preceding the survey.

Table HA.11: Sex with non-regular partners

Percentage of women age 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, Siaya County, 2011

	Percentage of women 15-24 who:		Number of women age 15-24 years	Percentage who had sex with a non-marital, non-cohabiting partner in the last 12 months [1]	Number of women age 15-24 years who had sex in the last 12 months	Percentage of women age 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					
Residence							
Urban	(77.9)	(59.6)	34	*	20	.	0
Rural	69.1	58.3	345	2.2	201	*	4
Age							
15-19	50.2	38.4	219	2.8	84	*	2
20-24	96.9	86.0	159	1.5	137	*	2
Marital status							
Ever married/in union	100.0	95.6	185	1.5	177	*	3
Never married/in union	41.2	22.9	194	(3.6)	44	*	2
Education							
None	*	*	7	*	5	.	0
Primary	69.1	61.2	280	2.5	171	*	4
Secondary +	69.9	49.4	92	(0.0)	45	.	0
Wealth index quintiles							
Poorest	(56.0)	(53.4)	45	*	24	*	1
Second	72.2	55.1	61	(0.0)	34	.	0
Middle	67.5	55.6	101	3.5	56	*	2
Fourth	69.6	58.6	90	1.4	52	*	1
Richest	79.3	67.1	82	1.9	55	*	1
Total	69.9	58.4	378	2.0	221	*	4
[1] MICS indicator 9.15							
[2] MICS indicator 9.16; MDG indicator 6.2							
* Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

Orphans

As the HIV epidemic progresses, more and more children are becoming orphaned and vulnerable because of AIDS. Children who are orphaned or in vulnerable households 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 vulnerable children and comparing them to their peers gives us a measure of how well communities and governments are responding to their needs. Orphans are defined as children under age 18 years who have lost one or both parents.

The frequency of children living with neither parent, mother only, and father only is presented in Table HA.12. Almost half (47 per cent) of children aged 0-17 years in Siaya County live with both parents. The proportion of children living with both parents is slightly higher among male children than female children. Urban areas have a higher proportion (57 per cent) of children living with both parents than rural areas (46 per cent). As expected, living with both parents decreases with increasing ages of the child. About one in five (18 per cent) children is not living with a biological parent. The proportion of children not living with a biological parent is similar between male and female children. The proportion of children not living with a biological parent ranges from 19 per cent in rural areas to 7 per cent in urban areas. The proportion of children who do not live with a biological parent increases with increasing age of a child e.g. ranges from 4 per cent among the 0-4 year olds to 34 per cent among the 15-17 years old.

About, 22 per cent of children aged 0-17 years in Siaya County have one or both parents' dead. There is no major difference in proportion of these children by gender of the child but there are some differences by residence and age of the child. Rural areas have a higher proportion (23 per cent) of children who had one or both parents dead than urban areas (14 per cent). The proportion of children who have one or both parents' dead increases with increasing age of the child from 7 per cent among children aged 0-4 years to 42 per cent among those aged 15-17 years.

Table HA.12: Children's living arrangements and orphanhood

Per cent 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, Siaya County, 2011														
	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	48.5	1.5	3.5	6.6	6.0	18.1	9.0	2.1	1.3	3.6	100.0	17.6	21.8	1336
Female	45.5	1.9	4.3	7.5	4.8	19.9	9.2	1.7	1.4	3.7	100.0	18.6	22.5	1349
Residence														
Urban	57.1	0.5	1.0	3.8	1.8	20.4	8.8	2.2	1.1	3.3	100.0	7.2	13.9	187
Rural	46.2	1.8	4.1	7.3	5.7	18.9	9.1	1.9	1.4	3.7	100.0	18.9	22.8	2497
Age														
0-4	60.8	0.0	1.1	2.2	0.6	24.6	4.4	0.9	0.2	5.0	100.0	4.0	6.7	817
5-9	50.4	1.1	3.4	7.5	2.8	19.3	7.7	3.2	1.2	3.4	100.0	14.8	16.8	771
10-14	35.7	3.7	7.4	10.3	8.1	15.2	12.3	2.3	2.4	2.6	100.0	29.5	35.0	720
15-17	31.4	2.6	4.3	10.7	16.1	13.2	16.2	0.3	2.1	3.2	100.0	33.6	42.1	376
Wealth index quintiles														
Poorest	54.2	1.2	1.4	2.7	4.8	16.0	11.9	3.7	1.4	2.6	100.0	10.1	21.9	365
Second	43.0	2.3	4.8	6.5	5.5	19.9	12.4	2.5	1.0	2.3	100.0	19.0	26.0	529
Middle	44.3	1.7	4.0	7.4	6.0	18.2	9.3	1.5	1.5	6.1	100.0	19.1	23.7	705
Fourth	44.7	1.5	4.6	8.4	5.6	21.2	7.0	1.8	1.6	3.6	100.0	20.1	21.1	604
Richest	52.7	1.6	3.9	9.0	4.7	18.4	5.8	0.5	1.1	2.4	100.0	19.1	17.2	480
Total	47.0	1.7	3.9	7.1	5.4	19.0	9.1	1.9	1.3	3.6	100.0	18.1	22.2	2684
[1] MICS indicator 9.17														
[2] MICS indicator 9.18														

One of the measures developed for the assessment of the status of orphaned children relative to their peers looks at the school attendance of children 10-14 years for children who have lost both parents versus children whose parents are alive (and who live with at least one of these parents). If children whose parents have died do not have the same access to school as their peers, then families and schools are not ensuring that these children's rights are being met.

In Siaya County, 8 per cent of children aged 10-14 years have lost both parents with no major difference by gender of child (Table HA.13). Among children who are orphans, only 92 per cent are currently attending school. Among the children age 10-14 years who have not lost a parent and who live with at least one parent, nearly all are attending school. This would suggest that in Siaya County, double orphans are not so disadvantaged compared to the non-orphaned children in terms of school attendance and the orphans to non-orphans school attendance ratio is 0.92.

Table HA.13: School attendance of orphans and non-orphans

School attendance of children age 10-14 years by orphanhood, Siaya County, 2011								
	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	7.2	55.8	321	*	23	100.0	179	0.87
Female	8.7	51.2	399	(95.0)	35	99.2	204	0.96
Residence								
Urban	(3.0)	(66.2)	34	*	1	*	22	1.00
Rural	8.3	52.6	686	91.5	57	99.6	361	0.92
Total	8.1	53.3	720	91.7	58	99.6	384	0.92
1 MICS indicator 9.19; MDG indicator 6.4 2 MICS indicator 9.20; MDG indicator 6.4 * Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.								

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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 Nyanza Multiple Indicator Cluster Survey was to produce statistically reliable estimates of most indicators, at the national level, for urban and rural areas, and for the 6 County regions (Siaya, Kisumu, Homabay, Migori, Kisii, Nyamira) of the province.

A multi-stage, stratified cluster sampling approach was used for the selection of the survey sample.

Sample Size and Sample Allocation

The target sample size for the Nyanza MICS was calculated as 7500 households, 1250 households per county. For the calculation of the sample size, the key indicator used was the proportion of children with HAZ below -2 SD among children aged 0-59 months. The following formula was used to estimate the required sample size for this indicator:

$$n = \frac{[4 (r) (1-r) (f) (1.1)]}{[(0.13r)^2 (p) (n_h)]}$$

Where

- n is the required sample size, expressed as number of households
- 4 is a factor to achieve the 95 per cent level of confidence
- r is the predicted or anticipated prevalence (coverage rate) of the indicator
- 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)
- $0.13r$ is the margin of error to be tolerated at the 95 per cent level of confidence, defined as 13 per cent of r (relative sampling error of r)
- p is the proportion of the total population upon which the indicator, r , is based
- n_h is the average household size.

For the calculation of the sample size, r (the proportion of children with HAZ below -2 SD among children aged 0-59 months) was assumed to be 30.9 per cent as per the 2008-09 KDHS. The value of *deff* (design effect) was taken as 1.4 based on the 2008-09 KDHS, p (percentage of children aged 0-59 months in Nyanza) was taken as 15 per cent and n_h (average household size in Nyanza) was taken as 4.58. Both p and n_h were based on the results from the 2009 Kenya Population Census. The margin of error to be tolerated at the 95 per cent level of confidence was fixed at $0.13r$.

The resulting number of households from this exercise was 1187 households which is the sample size needed in each County. However, it was decided to sample 1250 households per County based on a number of considerations, including the possibility to improve on precision of low prevalence estimates at the County levels, budget available, and the time that would be needed per team to complete one cluster. Therefore dividing the total number of households by the number of sample households per cluster, it was calculated that a total of 52 clusters will be selected in each County giving a total of 300 EAs for the whole of Nyanza province.

Hence the overall sample size for MICS4 at the provincial level is $6 \times 1250 = 7500$ households.

Equal allocation of the total sample size to the six regions was used. Therefore, 50 clusters were allocated to each region, with the final sample size calculated at 7500 households (50 clusters * 6 counties * 25 sample households per cluster). In each County, the clusters (primary sampling units) were distributed to urban and rural domains, proportional to the size of urban and rural populations in that region. 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

County	Total	Population (2009 Estimates)			Number of Clusters		
		Rural	Urban	Peri-urban	Urban	Rural	Total
Siaya	833984	745922	66605	21457	5	45	50
Kisumu	952828	461145	291625	200053	27	23	50
Homabay	955203	820029	62981	72193	7	43	50
Migori	907743	603728	125434	178581	18	32	50
Kisii	1142032	917260	87884	136888	11	39	50
Nyamira	592324	516335	23618	52371	7	43	50
Total					75	225	300

Sampling Frame and Selection of Clusters

To attain the desired sample size, a two-stage stratified sampling design was used. The primary sampling units (PSUs) for the survey were the recently created enumeration areas (EAs) based on the 2009 Kenya Population and Housing Census with the households being the ultimate units. PSUs were selected from each of the sampling strata by using systematic pps (probability proportional to size) sampling procedures, based on the estimated sizes of the enumeration areas from the 2009 Population Census. The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the 6 counties, separately by urban and rural strata.

Listing Activities

The sampling team created a stand-alone statistical frame for each of the Nyanza counties based on the 2009 census EAs for the purpose of MICS 4. To create the sampling frame, a complete listing of the selected EAs was undertaken by identifying and mapping all existing structures and households. The listing process ensured that the EAs had one measure of size (MoS). One MoS was defined as an EA having an average of 100 households. Prior to undertaking the fieldwork that informed the development of the frame, office processing of the EAs in the selected districts was done so that each EA with less than 50 households is amalgamated with the most convenient adjoining one. On the other hand, the EAs with more than 149 households were segmented during household listing and eventually one segment scientifically selected and developed into a cluster. From this master frame, households were selected to participate in the MICS4 main survey.

The listing and mapping teams were oriented in a 4 day training program in Kisumu, which included class room sessions and field practice. The training was facilitated by experts from KNBS and UNICEF. The listing and mapping team consisted of 12 teams; each having a lister and a mapper. The teams were led by a Supervisor, overseen by the District Statistical Officer (DSO) on a daily basis, who also attended the 4 days training programme. The County team was led by a County coordinator who was in charge of managing all the quality assurance activities of the teams in each County. One team was given two days to list an EA. The whole exercise of listing was also monitored by the UNICEF independent team that included a consultant.

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 KNBS Office, where the selection of 25 households in each enumeration area was carried out using random systematic selection procedures.

Calculation of Sample Weights

The Nyanza province Multiple Indicator Cluster Survey sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the regions, different sampling fractions were used in each region since the size of the regions 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 for the i -th sample PSU in the h -th stratum, is the product of probabilities of selection at every stage in each sampling stratum:

$$f_{hi} = p_{hi} \times p_{2hi} \times p_{3hi}$$

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

Since the estimated number 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:

$$RR_h = \text{Number of interviewed households in stratum } h / \text{Number of occupied households listed in stratum } h$$

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 Nyanza province Multiple Indicator Cluster Survey 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:

$$RR_{hi} = \text{Completed women's (or under-5's) questionnaires in stratum } h / \text{Eligible women (or under-5s) in stratum } h$$

The non-response adjustment factors for women's and under-5's questionnaires are 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 performed by dividing the aforementioned design weights by the average design weight at the national level. The average design weight is calculated as the sum of the design weights divided by the unweighted total). 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.

Appendix B. List of Personnel Involved in the Survey

Survey Director

A.K Kilele, Director General, KNBS 2011

Technical Co-ordinators

James Gatungu, KNBS
Macdonald Obudho, KNBS
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Appendix C. Estimates of Sampling Errors

The sample of respondents selected in the Siaya Multiple Indicator Cluster Survey 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 per cent of all possible samples of identical size and design.

For the calculation of sampling errors from MICS 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 regions, and for urban and rural areas. Three of the selected indicators are based on households, 8 are based on household members, 13 are based on women, and 15 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. Table SE.2 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, Country, Year		
MICS4 Indicator		Base Population
HOUSEHOLDS		
2.16	Iodized salt consumption	All households in which salt was tested or with no salt
3.12	Household availability of insecticide-treated nets (ITNs)	All households
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 ratio (adjusted)	Children of secondary school age
8.2	Child labour	Children age 5-14 years
9.18	Prevalence of children with at least one parent dead	Children age 0-17 years
9.19	School attendance of orphans	Children age 10-14 years who have lost both parents
9.20	School attendance of non-orphans	Children age 10-14 years, whose parents are alive, and who are living with at least one parent
8.5	Violent discipline	Children age 2-14 years
WOMEN		
-	Pregnant women	Women age 15-49 years
3.19	Pregnant women sleeping under insecticide-treated nets (ITNs)	Pregnant 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
8.12	Prevalence of female genital mutilation/cutting (FGM/C) among women	Women age 15-49 years
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
9.16	Condom use with non-regular partners	Women age 15-24 years who had a non-marital, non-cohabiting partner in the 12 months preceding the survey
8.13	Prevalence of female genital mutilation/cutting (FGM/C) among girls	Girls age 0-14 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
3.15	Children under age 5 sleeping under insecticide-treated nets (ITNs)	Children under age 5
3.18	Anti-malarial treatment of children under age 5	Children under age 5 reported to have had fever in the previous 2 weeks
6.1	Support for learning	Children age 36-59 months
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

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Country, Year

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deff)	Weighted count	Un-weighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLDS										
	Iodized salt consumption	0.873	0.011	0.013	1.284	1.133	1197	1169	0.851	0.895
HOUSEHOLD MEMBERS										
	Use of improved drinking water sources	0.517	0.033	0.063	5.021	2.241	4981	1181	0.452	0.582
	Use of improved sanitation facilities	0.096	0.011	0.117	1.697	1.303	4981	1181	0.073	0.118
	Secondary school net attendance ratio (adjusted)	0.166	0.021	0.125	1.440	1.200	484	467	0.125	0.208
	Child labour	0.582	0.015	0.025	1.266	1.125	1491	1446	0.553	0.611
	Prevalence of children with at least one parent dead	0.222	0.012	0.053	2.110	1.453	2684	2613	0.198	0.245
	School attendance of orphans	0.917	0.053	0.058	1.955	1.398	58	54	0.811	1.000
	School attendance of non-orphans	0.996	0.004	0.004	1.585	1.259	384	374	0.988	1.000
	Violent discipline	0.886	0.013	0.015	1.330	1.153	1968	792	0.860	0.912
WOMEN										
	Pregnant women	0.067	0.008	0.111	0.849	0.922	916	949	0.052	0.082
	Pregnant women sleeping under insecticide-treated nets (ITNs)	0.815	0.042	0.052	0.726	0.852	62	62	0.731	0.900
	Intermittent preventive treatment for malaria	0.267	0.026	0.096	1.002	1.001	290	299	0.216	0.319
	Early childbearing	0.418	0.038	0.090	0.952	0.976	159	164	0.342	0.493
	Contraceptive prevalence	0.427	0.026	0.061	1.695	1.302	598	617	0.375	0.478
	Antenatal care coverage - at least once by skilled personnel	0.912	0.016	0.018	1.098	1.048	318	328	0.879	0.945
	Antenatal care coverage - at least four times by any provider	0.448	0.022	0.050	0.662	0.814	318	328	0.404	0.493
	Skilled attendant at delivery	0.559	0.032	0.058	1.389	1.179	318	328	0.494	0.623
	Institutional deliveries	0.535	0.034	0.063	1.514	1.231	318	328	0.467	0.603
	Caesarean section	0.056	0.011	0.195	0.738	0.859	318	328	0.034	0.078
	Literacy rate among young women	0.859	0.015	0.018	0.745	0.863	378	390	0.828	0.889
	Marriage before age 18	0.450	0.023	0.052	1.574	1.255	697	723	0.403	0.496
	Polygyny	0.1896	0.01871	0.099	1.403	1.185	598	617	0.153	0.226

	MICS Indicator	Value (<i>r</i>)	Standard error (<i>se</i>)	Coefficient of variation (<i>se/r</i>)	Design effect (<i>deff</i>)	Square root of design effect (<i>deff</i>)	Weighted count	Un-weighted count	<i>r</i> - 2 <i>se</i>	<i>r</i> + 2 <i>se</i>
Comprehensive knowledge about HIV prevention among young people	9.2	0.605	0.021	0.036	0.747	0.864	378	390	0.563	0.648
Knowledge of mother- to-child transmission of HIV	9.3	0.604	0.018	0.029	1.220	1.105	916	949	0.568	0.639
Accepting attitudes towards people living with HIV	9.4	0.169	0.014	0.085	1.397	1.182	916	949	0.140	0.198
Women who have been tested for HIV and know the results	9.6	0.588	0.018	0.030	1.223	1.106	916	949	0.553	0.623
Sexually active young women who have been tested for HIV and know the results	9.7	0.428	0.044	0.103	1.787	1.337	221	228	0.340	0.516
Sex before age 15 among young women	9.11	0.213	0.019	0.088	0.818	0.905	378	390	0.175	0.250
Condom use with non-regular partners	9.16	0.478	0.229	0.478	0.839	0.916	4	5	0.021	0.936
UNDER-5s										
Underweight prevalence	2.1a	0.136	0.011	0.080	0.798	0.893	800	793	0.115	0.158
Stunting prevalence	2.2a	0.277	0.017	0.060	1.103	1.050	800	793	0.244	0.311
Wasting prevalence	2.3a	0.014	0.005	0.371	1.555	1.247	800	793	0.004	0.025
Exclusive breastfeeding under 6 months	2.6	0.287	0.046	0.161	0.987	0.994	100	96	0.195	0.379
Age-appropriate breastfeeding	2.14	0.541	0.026	0.047	0.875	0.936	340	334	0.490	0.592
Tuberculosis immunization coverage	-	0.965	0.013	0.014	0.701	0.837	137	135	0.939	0.992
Received polio immunization	-	0.857	0.028	0.032	0.845	0.919	137	135	0.801	0.913
Received DPT immunization	-	0.896	0.027	0.030	1.061	1.030	137	135	0.842	0.951
Received measles immunization	-	0.938	0.016	0.017	0.608	0.780	137	135	0.905	0.970
Diarrhoea in the previous 2 weeks	-	0.195	0.016	0.082	1.295	1.138	809	801	0.163	0.227
Illness with a cough in the previous 2 weeks	-	0.132	0.015	0.115	1.603	1.266	809	801	0.102	0.162
Fever in last two weeks	-	0.292	0.022	0.074	1.794	1.339	809	801	0.249	0.335
Oral rehydration therapy with continued feeding	3.8	0.663	0.041	0.061	1.197	1.094	158	162	0.582	0.745
Antibiotic treatment of suspected pneumonia	3.1	0.560	0.061	0.108	1.573	1.254	107	106	0.439	0.682
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.796	0.022	0.027	2.349	1.533	809	801	0.752	0.839
Anti-malarial treatment of children under age 5	3.18	0.400	0.036	0.090	1.247	1.117	236	234	0.328	0.471
Support for learning	6.1	0.271	0.030	0.111	1.443	1.201	317	316	0.211	0.331
Attendance to early childhood education	6.7	0.301	0.024	0.081	0.892	0.945	317	316	0.252	0.349
Birth registration	8.1	0.502	0.020	0.039	1.223	1.106	809	801	0.463	0.541

Appendix D. Data Quality Tables

Table DQ.1: Age distribution of household population
Single-year age distribution of household population by sex, Siaya County, 2011a

		Sex					
		Male		Female		Missing	
		Number	Per cent	Number	Per cent	Number	Per cent
Age	0	116	4.9	88	3.4	0	0.0
	1	72	3.0	64	2.5	0	0.0
	2	75	3.1	77	2.9	0	0.0
	3	81	3.4	91	3.5	0	0.0
	4	83	3.5	71	2.7	0	0.0
	5	85	3.6	87	3.3	0	0.0
	6	84	3.5	79	3.0	0	0.0
	7	63	2.7	92	3.5	0	0.0
	8	77	3.2	65	2.5	0	0.0
	9	69	2.9	69	2.7	0	0.0
	10	70	2.9	78	3.0	0	0.0
	11	63	2.6	93	3.6	0	0.0
	12	69	2.9	79	3.1	0	0.0
	13	81	3.4	79	3.0	0	0.0
	14	39	1.6	69	2.6	0	0.0
	15	74	3.1	58	2.2	0	0.0
	16	60	2.5	52	2.0	0	0.0
	17	75	3.2	58	2.2	0	0.0
	18	65	2.8	45	1.7	0	0.0
	19	46	1.9	43	1.6	0	0.0
	20	43	1.8	39	1.5	0	0.0
	21	36	1.5	36	1.4	0	0.0
	22	42	1.8	37	1.4	0	0.0
	23	26	1.1	32	1.2	0	0.0
	24	35	1.5	39	1.5	0	0.0
	25	38	1.6	51	2.0	0	0.0
	26	46	1.9	33	1.3	0	0.0
	27	23	1.0	33	1.3	0	0.0
	28	29	1.2	25	1.0	0	0.0
	29	28	1.2	32	1.2	0	0.0
	30	33	1.4	21	0.8	0	0.0
	31	19	0.8	30	1.1	0	0.0
	32	26	1.1	36	1.4	0	0.0
	33	21	0.9	25	1.0	0	0.0
	34	17	0.7	25	1.0	0	0.0
	35	25	1.0	19	0.7	0	0.0
	36	14	0.6	21	0.8	0	0.0
	37	17	0.7	25	1.0	0	0.0
	38	17	0.7	23	0.9	0	0.0
	39	23	1.0	26	1.0	0	0.0

		Sex					
		Male		Female		Missing	
		Number	Per cent	Number	Per cent	Number	Per cent
Age	40	19	0.8	10	0.4	0	0.0
	41	11	0.5	14	0.5	0	0.0
	42	18	0.7	26	1.0	0	0.0
	43	12	0.5	24	0.9	0	0.0
	44	1	0.0	13	0.5	0	0.0
	45	7	0.3	13	0.5	0	0.0
	46	11	0.5	9	0.4	0	0.0
	47	15	0.6	15	0.6	0	0.0
	48	13	0.5	23	0.9	0	0.0
	49	12	0.5	10	0.4	0	0.0
	50	11	0.5	14	0.5	0	0.0
	51	13	0.5	22	0.9	0	0.0
	52	7	0.3	23	0.9	0	0.0
	53	12	0.5	16	0.6	0	0.0
	54	7	0.3	9	0.4	0	0.0
	55	11	0.5	23	0.9	0	0.0
	56	10	0.4	14	0.5	0	0.0
	57	7	0.3	22	0.9	0	0.0
	58	12	0.5	15	0.6	0	0.0
	59	11	0.5	17	0.6	0	0.0
	60	22	0.9	18	0.7	0	0.0
	61	8	0.3	19	0.7	0	0.0
	62	3	0.1	17	0.6	0	0.0
	63	6	0.2	15	0.6	0	0.0
	64	8	0.3	10	0.4	0	0.0
	65	8	0.3	16	0.6	0	0.0
	66	7	0.3	8	0.3	0	0.0
	67	8	0.3	10	0.4	0	0.0
	68	4	0.2	11	0.4	0	0.0
	69	6	0.3	8	0.3	0	0.0
	70	8	0.3	17	0.7	0	0.0
	71	8	0.3	10	0.4	0	0.0
72	7	0.3	10	0.4	0	0.0	
73	2	0.1	8	0.3	0	0.0	
74	7	0.3	2	0.1	0	0.0	
75	3	0.1	6	0.2	0	0.0	
76	10	0.4	3	0.1	0	0.0	
77	2	0.1	2	0.1	0	0.0	
78	8	0.3	4	0.1	0	0.0	
79	5	0.2	5	0.2	0	0.0	
80+	13	0.6	29	1.1	0	0.0	
DK/missing	0	0.0	0	0.0	0	0.0	
Total		2378	100.0	2603	100.0	0	0.0

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, Siaya County, 2011					
		Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed (Completion rate)
		Number	Number	Per cent	
Age	10-14	399	0.0	0.0	0.0
	15-19	255	233	23.9	91.2
	20-24	183	169	17.4	92.7
	25-29	174	167	17.2	96.2
	30-34	137	134	13.8	98.0
	35-39	114	113	11.6	99.2
	40-44	87	87	8.9	100.0
	45-49	71	71	7.3	100.0
Total (15-49)		1020	974	100.0	95.5

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, Siaya County, 2011					
		Household population of children 0-7 years	Interviewed under-5 children		Percentage of eligible under-5s interviewed (Completion rate)
		Number	Number	Per cent	
Age	0	204	204	25.2	100.0
	1	136	136	16.8	100.0
	2	152	150	18.5	98.9
	3	171	170	21.0	99.1
	4	154	151	18.6	97.9
	5	172	.	.	.
	6	163	.	.	.
	7	155	.	.	.
Total (0-4)		817	811	100.0	99.2

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, Siaya County, 2011						
		Household population of women age 15-49 years		Interviewed women age 15-49 years		Per cent of eligible women interviewed (Completion rates)
County	Siaya	1020	100.0	974	100.0	95.5
Area	Rural	938	92.0	894	91.8	95.3
	Urban	82	8.0	80	8.2	97.6
Household size	1-3	773	75.8	188	19.3	93.0
	4-6	190	18.6	506	52.0	97.6
	7+	56	5.5	280	28.8	93.5
Education of household head	None	150	14.7	143	14.6	95.2
	Primary	637	62.5	609	62.6	95.6
	Secondary +	232	22.7	221	22.7	95.4
	Missing/DK	1	.1	1	.1	100.0
Wealth index quintiles	Poorest	132	12.9	128	13.2	97.4
	Second	173	17.0	169	17.4	97.5
	Middle	260	25.5	251	25.8	96.3
	Fourth	239	23.4	226	23.2	94.6
	Richest	215	21.1	200	20.5	92.7
Total		1020	100.0	974	100.0	95.5

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, Siaya County, 2011						
		Household population of under-5 children Number Per cent		Interviewed under-5 children Number Per cent		Per cent of eligible under-5s with completed under-5 questionnaires (Completion rates)
County	Siaya	817	100.0	811	100.0	99.2
Area	Rural	749	91.6	742	91.5	99.1
	Urban	69	8.4	69	8.5	100.0
Household size	1-3	101	12.3	87	10.8	100.0
	4-6	494	60.4	468	57.8	100.0
	7+	223	27.3	255	31.5	97.6
Education of household head	None	93	11.3	93	11.4	100.0
	Primary	543	66.4	539	66.5	99.4
	Secondary +	180	22.0	177	21.8	98.3
	Missing/DK	2	0.3	2	0.3	100.0
Wealth index quintiles	Poorest	126	15.4	123	15.2	97.4
	Second	166	20.3	166	20.4	100.0
	Middle	190	23.2	190	23.4	100.0
	Fourth	176	21.5	173	21.3	98.2
	Richest	160	19.5	160	19.7	100.0
Total		817	100.0	811	100.0	99.2

Table DQ.6: Completeness of reporting

Percentage of observations that are missing information for selected questions and indicators, SIAYA County, 2011		
	Per cent with missing/incomplete information*	Number of cases
Woman's date of birth: Only month	13.3	916
Woman's date of birth: Both month and year	0.2	916
Date of first birth: Only month	1.2	726
Date of first birth: Both month and year	0.0	726
Completed years since first birth	0.0	726
Date of last birth: Only month	1.3	726
Date of last birth: Both month and year	0.0	726
Date of first marriage/union: Only month	1.7	704
Date of first marriage/union: Both month and year	1.1	704
Age at first marriage/union	0.1	704
Age at first intercourse	0.0	265
Time since last intercourse	0.0	265
Starting time of interview	0.1	916
Ending time of interview	0.2	916
Salt testing	0.1	1209
Starting time of interview	0.1	1209
Ending time of interview	0.0	1209
Date of birth: Only month	0.1	809
Date of birth: Both month and year	0.0	809
Anthropometric measurements: Weight	0.4	809
Anthropometric measurements: Height	0.4	809
Anthropometric measurements: Both weight and height	0.4	809
Starting time of interview	0.2	809
Ending time of interview	0.2	809

Table DQ.7a: Completeness of information for anthropometric indicators

Distribution of children under 5 by completeness of information for anthropometric indicators, Siaya County, 2011									
		Valid weight and date of birth	Reason for exclusion from analysis				Total	Per cent of children excluded from analysis	Number of children under 5
			Weight not measured	Incomplete date of birth	Weight not measured, incomplete date of birth	Flagged cases (outliers)			
Weight by age	<6 months	100.0	0.0	0.0	0.0	0.0	100.0	0.0	96
	6-11 months	98.1	0.0	0.0	0.0	0.0	100.0	0.0	103
	12-23 months	99.3	0.7	0.0	0.0	0.0	100.0	0.7	135
	24-35 months	99.3	0.0	0.7	0.0	0.0	100.0	0.7	151
	36-47 months	100.0	0.0	0.0	0.0	0.0	100.0	0.0	169
	48-59 months	99.3	0.0	0.0	0.0	0.0	100.0	0.0	147
Total		99.4	0.1	0.1	0.0	0.0	100.0	0.2	801

Table DQ.7b: Completeness of information for anthropometric indicators

Distribution of children under 5 by completeness of information for anthropometric indicators, Siaya County, 2011									
		Valid height and date of birth	Reason for exclusion from analysis				Total	Per cent of children excluded from analysis	Number of children under 5
			Height not measured	Incomplete date of birth	Height not measured, incomplete date of birth	Flagged cases (outliers)			
Height by age	<6 months	100.0	0.0	0.0	0.0	0.0	100.0	0.0	96
	6-11 months	98.1	0.0	0.0	0.0	0.0	100.0	0.0	103
	12-23 months	100.0	0.0	0.0	0.0	0.0	100.0	0.0	135
	24-35 months	99.3	0.0	0.7	0.0	0.0	100.0	0.7	151
	36-47 months	100.0	0.0	0.0	0.0	0.0	100.0	0.0	169
	48-59 months	99.3	0.0	0.0	0.0	0.0	100.0	0.0	147
Total		99.5	0.0	0.1	0.0	0.0	100.0	0.1	801

Table DQ.7c: Completeness of information for anthropometric indicators

Distribution of children under 5 by completeness of information for anthropometric indicators, Siaya County, 2011												
Weight by height	Valid weight and height	Weight not measured				Weight and height 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)	Total	Per cent of children excluded from analysis	Number of children under 5
		Weight not measured	Weight not measured, incomplete date of birth	Height not measured	Weight not measured, incomplete date of birth							
<6 months	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	96	
6-11 months	98.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	103	
12-23 months	99.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.7	135	
24-35 months	99.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0	100.0	0.7	151	
36-47 months	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	169	
48-59 months	99.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	147	
Total	99.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	100.0	0.2	801	

Table DQ.8: Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for decimals, Siaya County, Kenya, 2011					
		Weight		Height	
		Number	Per cent	Number	Per cent
Digits	0	97	12.2	89	11.2
	1	81	10.2	78	9.8
	2	94	11.8	82	10.3
	3	93	11.7	73	9.1
	4	80	10.0	79	9.9
	5	72	9.0	115	14.4
	6	70	8.8	77	9.6
	7	70	8.8	72	9.0
	8	75	9.4	50	6.3
	9	65	8.2	83	10.4
	0 or 5	169	21.2	204	25.6
Total		797	100.0	798	100.0

Table DQ.9: Observation of bednets and places for hand washing

Percentage of bednets in all households interviewed observed by the interviewer, and percentage of places for handwashing observed by the interviewer in all interviewed households, Siaya County, 2011a								
		Percentage of bednets observed by interviewer	Total number of bednets	Observation of places for handwashing: Observed	Place for handwashing not in dwelling	No permission to see handwashing place	Total	Number of households interviewed
County	Siaya	82.8	2807	2.5	97.5	0.0	100.0	1181
Area	Rural	82.8	2638	2.6	97.4	0.0	100.0	1097
	Urban	82.9	169	0.0	100.0	0.0	100.0	84
Wealth index quintiles	Poorest	86.4	310	0.0	100.0	0.0	100.0	146
	Second	84.9	534	1.3	98.7	0.0	100.0	231
	Middle	83.6	722	1.7	98.3	0.0	100.0	294
	Fourth	84.0	650	1.1	98.9	0.0	100.0	267
	Richest	76.4	591	7.4	92.6	0.0	100.0	243
Total		82.8	2807	2.5	97.5	0.0	100.0	1181

Table DQ.10: Observation of women's health cards

Per cent 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, Siaya County, Kenya, 2011a								
		Woman does not have health card	Woman has health card		Missing/DK	Total	Per cent 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)				
Area	Rural	23.4	49.2	26.1	1.3	100.0	65.3	299
	Urban	3.4	69.0	24.1	3.4	100.0	74.1	29
Wealth index quintiles	Poorest	37.3	45.1	15.7	2.0	100.0	74.2	51
	Second	27.3	40.9	28.8	3.0	100.0	58.7	66
	Middle	10.5	57.9	31.6	0.0	100.0	64.7	76
	Fourth	23.3	47.9	28.8	0.0	100.0	62.5	73
	Richest	14.5	61.3	21.0	3.2	100.0	74.5	62
Total		21.6	50.9	25.9	1.5	100.0	66.3	328

Table DQ.11: Observation of under-5s birth certificates

Per cent distribution of children under 5 by presence of birth certificates, and percentage of birth calendar seen, Siaya County , 2011a								
		Child does not have birth certificate	Child has birth certificate		Missing/DK	Total	Per cent 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)				
Area	Rural	83.8	6.4	9.0	0.8	100.0	41.6	735
	Urban	78.8	6.1	15.2	0.0	100.0	28.6	66
Child's age	0	86.0	4.0	10.0	0.0	100.0	28.6	200
	1	82.8	6.0	10.4	0.7	100.0	36.4	134
	2	82.7	6.7	10.0	0.7	100.0	40.0	150
	3	80.6	7.6	10.0	1.8	100.0	43.3	170
	4	84.4	8.2	6.8	0.7	100.0	54.5	147
Total		83.4	6.4	9.5	0.7	100.0	40.2	801

Table DQ.12: Observation of vaccination cards

Per cent distribution of children under 5 by presence of a vaccination card, and the percentage of vaccination cards seen by the interviewers, Siaya County, 2011a								
		Child has vaccination card			Missing/ DK	Total	Per cent of vaccination cards seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
		Has, Seen by the interviewer (1)	Has, not seen by the interviewer (2)	Child has no vaccination card				
Area	Rural	69.1	24.1	6.8	0.0	100.0	74.2	735
	Urban	62.1	33.3	4.5	0.0	100.0	65.1	66
Child's age	0	86.0	8.0	6.0	0.0	100.0	91.5	200
	1	74.6	21.6	3.7	0.0	100.0	77.5	134
	2	64.7	29.3	6.0	0.0	100.0	68.8	150
	3	55.9	37.6	6.5	0.0	100.0	59.7	170
	4	57.8	31.3	10.9	0.0	100.0	64.9	147
Total		68.5	24.8	6.6	0.0	100.0	73.4	801

Table DQ.13: 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, Siaya County, 2011a						
		Mother in the household		Mother not in the household		Number of children under 5
		Mother interviewed	Father interviewed	Other adult female interviewed	Total	
Age	0	99.1	0.4	0.6	100.0	204
	1	94.0	0.8	5.2	100.0	136
	2	90.6	0.7	8.8	100.0	152
	3	86.9	0.0	13.1	100.0	171
	4	87.6	1.3	11.1	100.0	154
Total		91.9	.6	7.5	100.0	817

Table DQ.14: Selection of children age 2-14 years for the child discipline module

Per cent of households with at least two children age 2-14 years where correct selection of one child for the child discipline module was performed, Siaya County, 2011a			
		Per cent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
County	Siaya	95.8	544
Area	Rural	95.9	508
	Urban	94.4	36
Number of households by number of children 2-14	2	99.0	209
	3	95.8	166
	4	91.7	169
Total		95.8	544

Table DQ.15: School attendance by single age

Distribution of household population age 5-24 by educational level and educational level and grade attended in the current (or most recent) school year, Siaya County, Kenya, 2011a																			
Age at beginning of school year	Not attending school	Preschool/ kinder-garten	Primary								Post primary	Second-ary	Higher	Non-standard curriculum	DK	Total	Number of household members		
			1	2	3	4	5	6	7	8									
5	25.0	71.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	172		
6	11.0	73.8	10.6	4.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	163		
7	4.5	33.0	35.5	23.5	1.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	100.0	155		
8	1.2	14.8	32.4	33.6	16.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	142		
9	3.8	4.4	14.1	36.8	27.3	10.3	2.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	139		
10	1.1	1.2	7.5	14.6	30.6	27.9	13.0	3.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	148		
11	1.0	1.1	3.0	11.4	26.5	29.3	19.5	7.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	156		
12	0.7	0.0	0.7	2.7	11.9	28.2	28.0	20.4	4.9	2.5	0.0	0.0	0.0	0.0	0.0	100.0	148		
13	1.9	0.0	0.0	0.6	1.5	11.1	27.1	26.9	20.9	9.2	0.0	0.7	0.0	0.0	0.0	100.0	160		
14	1.7	0.0	0.0	0.9	0.0	7.8	19.3	27.4	28.3	13.8	0.0	0.0	0.0	0.0	0.8	100.0	108		
15	6.1	0.0	0.0	0.0	0.0	1.4	6.7	24.5	25.3	23.9	0.0	12.0	0.0	0.0	0.0	100.0	131		
16	11.8	0.0	0.0	0.9	0.0	1.9	2.3	11.9	22.9	24.5	0.0	22.9	0.0	0.8	0.0	100.0	112		
17	21.4	0.0	2.1	0.0	0.0	1.0	0.7	8.5	15.2	21.1	0.9	28.5	0.0	0.6	0.0	100.0	133		
18	45.3	0.0	0.0	0.0	0.0	1.6	0.0	1.8	8.9	6.9	0.9	33.9	0.7	0.0	0.0	100.0	110		
19	55.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.9	0.0	37.0	0.0	0.0	0.0	100.0	89		
20	66.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	26.4	2.4	0.0	0.0	100.0	82		
21	82.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	14.1	2.1	0.0	0.0	100.0	72		
22	80.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.4	14.6	2.3	0.0	0.0	100.0	79		
23	81.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	7.8	8.6	0.0	0.0	100.0	58		
24	97.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.9	0.0	0.0	100.0	74		

Table DQ.16: 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, Siaya County, 2011											
		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	
Age	15-19	52	27	1.93	49	27	1.81	3	0	.	226
	20-24	168	153	1.10	150	129	1.16	18	24	0.75	164
	25-29	260	268	0.97	214	227	0.94	46	41	1.12	163
	30-34	286	310	0.92	226	257	0.88	60	53	1.13	132
	35-39	334	308	1.08	268	246	1.09	66	62	1.06	110
	40-44	269	238	1.13	213	184	1.16	56	54	1.04	83
	45-49	245	265	0.92	176	207	.85	69	58	1.19	71
	Total	1614	1569	1.15	1296	1277	1.13	318	292	1.05	949

Appendix E. MICS4 Indicators: Numerators and Denominators

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
1. MORTALITY					
1.1	Under-five mortality rate ¹²	CM - BH	Probability of dying by exact age 5 years		MDG 4.1
1.2	Infant mortality rate ¹³	CM - BH	Probability of dying by exact 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 and five, during the 5-year period preceding the survey		
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 age 12-15 months	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

10 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.

11 MDG indicators as of February 2010

12 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

13 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

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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 ¹⁴	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 ¹⁵ 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 per cent 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 ¹⁶ 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 ¹⁷ 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	

14 Infants receiving breast milk, and not receiving any other fluids or foods, with the exception of oral rehydration solution, vitamins, mineral supplements and medicines

15 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)

16 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

17 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 ¹⁰	Numerator	Denominator	MDG ¹¹
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	
2.18	Low birth weight infants	MN	Number of last live births in the 2 years preceding the survey weighing below 2,500 grams at birth	Total number of last live births in the 2 years preceding the survey	
2.19	Infants weighed at birth	MN	Number of last live births in the 2 years preceding the survey who were weighed at birth	Total number of last live births in the 2 years preceding the survey	
3. CHILD HEALTH					
3.1	Tuberculosis immunization coverage	IM	Number of children age 12-23 months who received BCG vaccine before their first birthday	Total number of children age 12-23 months	
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	Yellow fever immunization coverage	IM	Number of children age 12-23 months who received yellow fever vaccine before their first birthday	Total number of children age 12-23 months	
3.7	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 ¹⁸ prior to giving birth	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
3.8	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	

¹⁸ See MICS4 manual for a detailed description

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
3.9	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	
3.10	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	
3.11	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	
3.12	Household availability of insecticide-treated nets (ITNs) ¹⁹	TN	Number of households with at least one insecticide treated net (ITN)	Total number of households	
3.13	Households protected by a vector control method	TN - IR	Number of households with at least one insecticide-treated net (ITN) and/or that received spraying through an IRS ²⁰ campaign in the last 12 months preceding the survey	Total number of households	
3.14	Children under age 5 sleeping under any type of mosquito net	TN	Number of children under age 5 who slept under any type of mosquito net the previous night	Total number of children under age 5	
3.15	Children under age 5 sleeping under insecticide-treated nets (ITNs)	TN	Number of children under age 5 who slept under an insecticide-treated mosquito net (ITN) the previous night	Total number of children under age 5	MDG 6.7
3.17	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	
3.18	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
3.19	Pregnant women sleeping under insecticide-treated nets (ITNs)	TN	Number of pregnant women who slept under an insecticide-treated net (ITN) the previous night	Total number of pregnant women	
3.20	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	

19 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 insecticide within the past 12 months

20 Indoor residual spraying

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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	
4.5	Place for handwashing	HW	Number of households with a designated place for hand washing where water and soap are present	Total number of households	
4.6	Availability of soap	HW	Number of households with soap anywhere in the dwelling	Total number of households	
5. REPRODUCTIVE HEALTH					
5.1	Adolescent birth rate ²¹	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 traditional) contraceptive method	Total number of women age 15-49 years who are currently married or in union	MDG 5.3
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

21 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 ¹⁰	Numerator	Denominator	MDG ¹¹
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	
5.11	Post-natal health check for the newborn	PN	Number of last live births in the last 2 years who received a health check while in facility or at home following delivery, or a post-natal care visit within 2 days after birth	Total number of last live births in the last 2 years	
6. CHILD DEVELOPMENT					
6.1	Support for learning	EC	Number of children age 36-59 months with whom an adult has engaged in four or more activities to promote learning and school readiness in the past 3 days	Total number of children age 36-59 months	
6.2	Father's support for learning	EC	Number of children age 36-59 months whose father has engaged in one or more activities to promote learning and school readiness in the past 3 days	Total number of children age 36-59 months	
6.3	Learning materials: children's books	EC	Number of children under age 5 who have three or more children's books	Total number of children under age 5	
6.4	Learning materials: playthings	EC	Number of children under age 5 with two or more playthings	Total number of children under age 5	
6.5	Inadequate care	EC	Number of children under age 5 left alone or in the care of another child younger than 10 years of age for more than one hour at least once in the past week	Total number of children under age 5	
6.6	Early child development Index	EC	Number of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains	Total number of children age 36-59 months	
6.7	Attendance to early childhood education	EC	Number of children age 36-59 months who are attending an early childhood education programme	Total number of children age 36-59 months	

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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 ratio (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 ratio (adjusted)	ED	Number of children of secondary school age currently attending secondary school or higher	Total number of children of secondary-school 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 (of any age) 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 who are attending the first grade of secondary school	
7.9	Gender parity index (primary school)	ED	Primary school net attendance ratio (adjusted) for girls	Primary school net attendance ratio (adjusted) for boys	MDG 3.1
7.10	Gender parity index (secondary school)	ED	Secondary school net attendance ratio (adjusted) for girls	Secondary school net attendance ratio (adjusted) for boys	MDG 3.1
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	Child labour	CL	Number of children age 5-14 years who are involved in child labour	Total number of children age 5-14 years	
8.3	School attendance among child labourers	ED - CL	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years involved in child labour	

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
8.4	Child labour among students	ED - CL	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years attending school	
8.5	Violent discipline	CD	Number of children age 2-14 years who experienced psychological aggression or physical punishment during the past month	Total number of children age 2-14 years	
8.6	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	
8.7	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	
8.8	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	
8.9	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	
8.10a 8.10b	Spousal age difference	MA	Number of women currently married or in union whose spouse is 10 or more years older, (a) for women age 15-19 years, (b) for women age 20-24 years	Total number of women currently married or in union (a) age 15-19 years, (b) age 20-24 years	
8.11	Approval for female genital mutilation/cutting (FGM/C)	FG	Number of women age 15-49 years favouring the continuation of female genital mutilation/cutting (FGM/C)	Total number of women age 15-49 years who have heard of FGM/C	
8.12	Prevalence of female genital mutilation/cutting (FGM/C) among women	FG	Number of women age 15-49 years who report to have undergone any form of female genital mutilation/cutting (FGM/C)	Total number of women age 15-49 years	
8.14	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	
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 ²² , 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	

22 Using condoms and limiting sex to one faithful, uninfected partner

MICS4 INDICATOR ^[M]		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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 ²³ 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 ²⁴ toward people living with HIV	Total number of women age 15-49 years who have heard of HIV	
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	
9.7	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 survey and 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 survey and 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 than they were	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	

23 Transmission during pregnancy, during delivery, and by breastfeeding

24 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 ¹⁰	Numerator	Denominator	MDG ¹¹
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 survey who 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
9.17	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	
9.18	Prevalence of children with at least one parent dead	HL	Number of children age 0-17 years with at least one dead parent	Total number of children age 0-17 years	
9.19	School attendance of orphans	HL - ED	Number of children age 10-14 years who have lost both parents and are attending school	Total number of children age 10-14 years who have lost both parents	MDG 6.4
9.20	School attendance of non-orphans	HL - ED	Number of children age 10-14 years, whose parents are alive, who are living with at least one parent, and who are attending school	Total number of children age 10-14 years, whose parents are alive, and who are living with at least one parent	MDG 6.4

Appendix F: Questionnaires

Multiple Indicator Cluster Surveys – Round 4 Flow of Model Questionnaires v3.0

The fourth round of MICS includes four model questionnaires: (1) the Household Questionnaire, (2) the Questionnaire for Individual Women, (3) the Questionnaire for Individual Men, and (4) the Questionnaire for Children Under Five.

The flexible, modular nature of MICS4 questionnaires makes it easy to remove modules which may not be relevant, and modules for which there is already good quality data from other sources.

The table below shows the flow of all four MICS4 questionnaires by modules. Refer to Chapter I.3 of the MICS4 Manual for more detailed information on the flow of questionnaires and contents of the modules.

HOUSEHOLD QUESTIONNAIRE

Household Questionnaire	Questionnaire for Individual Women	Questionnaire for Children Under Five	Questionnaire for Individual Men
<ul style="list-style-type: none"> • Household Information Panel • Household Listing Form • Education • Water and Sanitation • Household Characteristics • Insecticide Treated Nets • Indoor Residual Spraying • Child Labour • Child Discipline • Handwashing • Salt Iodization 	<ul style="list-style-type: none"> • Woman's Information Panel • Woman's Background • Access to Mass Media and Use of Information and Communication Technology • Child Mortality including Birth History • Desire for Last Birth • Maternal and New-born Health • Post-natal Health Checks • Illness Symptoms • Contraception • Unmet Need • Female Genital Mutilation/ Cutting • Attitudes Toward Domestic Violence • Marriage/Union • Sexual Behaviour • HIV/AIDS • Maternal Mortality • Tobacco and Alcohol Use • Life Satisfaction 	<ul style="list-style-type: none"> • Under Five Child Information Panel • Age • Birth Registration • Early Childhood Development • Breastfeeding • Care of Illness • Malaria • Immunization • Anthropometry 	<ul style="list-style-type: none"> • Man's Information Panel • Man's Background • Access to Mass Media and Use of Information and Communication Technology • Child Mortality • Attitudes Toward Domestic Violence • Marriage/Union • Sexual Behaviour • HIV/AIDS • Circumcision • Tobacco and Alcohol Use • Life Satisfaction

Additionally, two questionnaire forms are available: (1) the Questionnaire Form for Child Disability, and (2) the Questionnaire Form for Vaccinations at Health Facility.

The Questionnaire Form for Child Disability is administered to mother or caretakers of all children age 2-9, and should be used in countries where medical assessment (of children identified by this form as potentially having a disability, and of 10 per cent of children screening negative to all the questions in the form) is planned after the survey.

The Questionnaire Form for Vaccinations at Health Facility should be used in countries where vaccination cards of significant numbers of children are kept at health facilities. Survey teams are expected to visit health facilities and complete this form.

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

UNDER-FIVE CHILD INFORMATION PANEL		UF
<p>This questionnaire is to be administered to all mothers or caretakers (see household listing, column HL8) who care for a child that lives with them and is under the age of 5 years (see household listing, column HL5). A separate questionnaire should be used for each eligible child.</p> <p>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.</p>		
UF-A. Province Name & Code: _____	UF-B. County Name & Code: _____	
UF-C. District Name & Code: _____		
UF1. Cluster number: _____	UF2. Household number: _____	
UF3. Child's Name:	UF4. Child's Line Number: _____	
UF5. Mother's/Caretaker's Name: _____	UF6. Mother's/Caretaker's Line Number:	
UF7. Interviewer name and number: _____	UF8. Day/Month/Year of interview: ____ / ____ / ____	
<p>Repeat greeting if not already read to this respondent: WE ARE FROM KENYA NATIONAL BUREAU OF STATISTICS (KNBS). WE ARE WORKING ON A PROJECT CONCERNED WITH FAMILY HEALTH AND EDUCATION. I WOULD LIKE TO TALK TO YOU ABOUT THIS. THE INTERVIEW USUALLY TAKES AROUND 20-25 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE IDENTIFIED. ALSO, YOU ARE NOT OBLIGED TO ANSWER ANY QUESTION YOU DON'T WANT TO, AND YOU MAY WITHDRAW FROM THE INTERVIEW AT ANY TIME. MAY I START NOW?</p> <p>If permission is given, begin the interview. If the respondent does not agree to continue, thank him/her and go to the next interview. Discuss this result with your supervisor for a future revisit.</p>		
<i>UF9. Result of interview for children under 5 (Codes refer to mother/caretaker.)</i>	<i>Completed..... 1</i> <i>Not at home..... 2</i> <i>Refused 3</i> <i>Partly completed 4</i> <i>Incapacitated..... 5</i> <i>Other (specify) 6</i>	
<i>INTERVIEWER/EDITOR/SUPERVISOR NOTES: USE THIS SPACE TO RECORD NOTES ABOUT THE INTERVIEW WITH THIS HOUSEHOLD, SUCH AS CALL-BACK TIMES, INCOMPLETE INDIVIDUAL INTERVIEW FORMS, NUMBER OF ATTEMPTS TO RE-VISIT, ETC.</i>		
<i>UF91. Supervisor (name and number):</i> <i>Name _____</i>	<i>UF92. Field edited by (name and number):</i> <i>Name _____</i>	
<i>UUF93. Data Entry (name and number):</i> <i>Name _____</i>		
<i>UF9A. Record the time.</i>	<i>Hour and minutes ____ : ____</i>	

<p>UF10. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE HEALTH OF EACH CHILD UNDER THE AGE OF 5 IN YOUR CARE, WHO LIVES WITH YOU NOW. NOW I WANT TO ASK YOU ABOUT (name). IN WHAT MONTH AND YEAR WAS (name) BORN?</p> <p>Probe: WHAT IS HIS/HER BIRTHDAY?</p> <p>If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day</p> <p>MONTH AND YEAR MUST BE RECORDED.</p>	<p>Date of birth:</p> <p>Day _ _</p> <p>DK day..... 98</p> <p>Month _ _</p> <p>Year..... _ _ _ _</p>
<p>UF11. HOW OLD WAS (name) AT HIS/HER LAST BIRTHDAY?</p> <p>Record age in completed years.</p> <p>_____</p>	<p>Age in completed years..... _</p>

BIRTH REGISTRATION AND EARLY LEARNING		BR
BR1. DOES (name) HAVE A BIRTH CERTIFICATE?	Yes, seen 1 Yes, not seen 2 No 3 DK 8	1 → BR5
BR2. HAS (name's) BIRTH BEEN NOTIFIED OR REGISTERED WITH THE CIVIL AUTHORITIES?	Yes 1 No 3 DK 8	1 → BR5 8 → BR5
BR3. WHY IS (name's) BIRTH NOT REGISTERED?	Costs too much 1 Must travel too far 2 Did not know it should be registered 3 Did not want to pay fine 4 Does not know where to register 5 Other (specify) 6 DK 8	
BR4. DO YOU KNOW HOW TO REGISTER YOUR CHILD'S BIRTH?	Yes 1 No 2	
BR5. Check age of child in UF11: Child is 3 or 4 years old? • Yes. → Continue with BR6 • No. → Go to BR8		
BR6. 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 → BR8 8 → BR8
BR7. SINCE (day of the week), EXCLUDING TODAY, ABOUT HOW MANY HOURS DID (name) ATTEND?	No. of hours..... _ _	

<p>BR8. IN THE PAST 3 DAYS, DID YOU OR ANY HOUSEHOLD MEMBER OVER 15 YEARS OF AGE ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES WITH (name):</p> <p>For each item: If yes, ask: WHO ENGAGED IN THIS ACTIVITY WITH (name) - THE MOTHER, THE CHILD'S FATHER OR ANOTHER ADULT MEMBER OF THE HOUSEHOLD (INCLUDING THE CARETAKER/RESPONDENT)?</p> <p>Circle all that apply.</p> <p>BR8A. READ BOOKS, LOOK AT PICTURE BOOKS, OR TELL STORIES TO/WITH (name)?</p> <p>BR8D. TAKE (name) OUTSIDE THE HOME, COMPOUND, YARD OR ENCLOSURE?</p> <p>BR8E. PLAY WITH (name)?</p> <p>BR8F. NAME, COUNT, OR DRAW THINGS TO/WITH (name)?</p>	<table border="1"> <thead> <tr> <th></th> <th>Mother</th> <th>Father</th> <th>Other</th> <th>No one</th> </tr> </thead> <tbody> <tr> <td>Books/Stories</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Take outside</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Play with</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Name/count</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> </tbody> </table>		Mother	Father	Other	No one	Books/Stories	A	B	X	Y	Take outside	A	B	X	Y	Play with	A	B	X	Y	Name/count	A	B	X	Y	<p>2 —▶ NEXT MODULE</p>
	Mother	Father	Other	No one																							
Books/Stories	A	B	X	Y																							
Take outside	A	B	X	Y																							
Play with	A	B	X	Y																							
Name/count	A	B	X	Y																							

CHILD DEVELOPMENT		CE
<p>CE2. HOW MANY CHILDREN'S BOOKS OR PICTURE BOOKS DO YOU HAVE FOR (name)?</p> <p>If 'none' enter 0</p>	<p>Number of children's books0 __</p> <p>Ten or more books 10</p>	
<p>CE3. I AM INTERESTED IN LEARNING ABOUT THE THINGS THAT (name) PLAYS WITH WHEN HE/SHE IS AT HOME.</p> <p>WHAT DOES (name) PLAY WITH?</p> <p>DOES HE/SHE PLAY WITH?</p> <p>HOUSEHOLD OBJECTS OR OBJECTS FOUND OUTSIDE (SUCH AS BOWLS OR POTS, STICKS, ROCKS, ANIMAL SHELLS OR LEAVES)?</p> <p>HOMEMADE TOYS (SUCH AS DOLLS, CARS, OR OTHER TOYS MADE AT HOME)?</p> <p>TOYS THAT CAME FROM A SHOP?</p> <p>If the respondent says "YES" to the categories above, then probe to learn specifically what the child plays with to ascertain the response</p>	<p>Household objects or outside objects 1 2 8</p> <p>Homemade toys 1 2 8</p> <p>Toys that came from a shop 1 2 8</p> <p>Y N D K</p>	
<p>CE4. SOMETIMES ADULTS TAKING CARE OF CHILDREN HAVE TO LEAVE THE HOUSE TO GO SHOPPING, WASH CLOTHES, OR FOR OTHER REASONS AND HAVE TO LEAVE YOUNG CHILDREN.</p> <p>ON HOW MANY DAYS IN THE PAST WEEK WAS (name):</p> <p>LEFT ALONE?</p> <p>LEFT IN THE CARE OF ANOTHER CHILD (THAT IS, SOMEONE LESS THAN 10 YEARS OLD)?</p> <p>If 'none' enter 0</p>	<p>Number of days left alone__</p> <p>Number of days left with other child__</p>	

<p><i>CE5. Check UF11: Age of child 3 or 4?</i></p> <ul style="list-style-type: none"> • Age 0, 1 or 2 → Go to Next Module • Age 3 or 4 → Continue with CE6 		
<p><i>CE6. I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE HEALTH AND DEVELOPMENT OF YOUR CHILD. CHILDREN DO NOT ALL DEVELOP AND LEARN AT THE SAME RATE. FOR EXAMPLE, SOME WALK EARLIER THAN OTHERS. THESE QUESTIONS ARE RELATED TO SEVERAL ASPECTS OF YOUR CHILD'S DEVELOPMENT.</i></p> <p><i>CAN (name) IDENTIFY/ NAME AT LEAST TEN LETTERS OF THE ALPHABET?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE7. CAN (name) ATTACH SOUNDS TO MOST OR MORE THAN HALF OF THE LETTERS?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE8. CAN (name) READ AT LEAST FOUR SIMPLE, ONE-SYLLABLE, POPULAR WORDS?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE9. IS (name) INTERESTED IN NUMBERS, COUNTING, SORTING OR ADDING?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE10. DOES (name) KNOW THE NAME AND RECOGNIZE THE SYMBOL OF ALL NUMBERS FROM 1 TO 10 MOST OF THE TIME?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE11. WHEN YOU COMPARE TWO NUMBERS UP TO 10, DOES (name) KNOW WHICH ONE IS BIGGER MOST OF THE TIME?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE12. IS (name) ABLE TO USE AND MANIPULATE SMALL OBJECTS AND TOYS?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE13. IS (name) SOMETIMES TOO TIRED, SLEEPY OR SICK TO PLAY?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	
<p><i>CE14. IS (name) SOMETIMES TOO HUNGRY TO PLAY?</i></p>	<p>Yes..... 1</p> <p>No 2</p> <p>DK 8</p>	

<p>CE15. DOES (name) DO EVERYDAY ROUTINE ACTIVITIES WITHOUT BEING REMINDED? ACTIVITIES SUCH AS BRUSHING TEETH, TIDYING UP AFTER PLAY OR A MEAL, OR HELPING WITH CHORES?</p> <p>If yes: <i>WOULD YOU SAY OFTEN OR SOMETIMES</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE16. DOES (name) FOLLOW SIMPLE DIRECTIONS ON HOW TO DO SOMETHING CORRECTLY?</p> <p>If yes: <i>WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE17. IS (name) ABLE TO WORK ON A TASK, INCLUDING PLAY TASKS, BY HIMSELF/HERSELF?</p> <p>If yes: <i>WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE18. DOES (name) PLAY WITH SIBLINGS OR OTHER CHILDREN FOR A CONSIDERABLE TIME WITHOUT GETTING INTO TROUBLE?</p> <p>If yes: <i>WOULD YOU SAY OFTEN OR SOMETIMES</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE19. DOES (name) SHOW RESPECT FOR OTHER CHILDREN?</p> <p>Probe: DOES (name) LISTEN TO WHAT ANOTHER CHILD HAS TO SAY AND RECOGNIZE THAT HE OR SHE MAY BE DIFFERENT OR WANT DIFFERENT THINGS?</p> <p>If yes: <i>WOULD YOU SAY OFTEN OR SOMETIMES</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE20. WHAT IS (name)'S ABILITY TO GET ALONG WITH OTHER CHILDREN? WOULD YOU SAY IT IS VERY GOOD, AVERAGE, OR POOR/BAD?</p>	<p>Very good 1 Average 2 Poor/Bad 3 DK 8</p>	

<p>CE21. HOW OFTEN DOES (name) BULLY OTHER CHILDREN OR IS MEAN TO OTHER CHILDREN?</p> <p>Probe: DOES (name) OFTEN MAKE OTHER CHILDREN AFRAID OF HIM/HER, OR SAY MEAN/BAD WORDS TO OTHER CHILDREN?</p> <p>If yes: <i>WOULD YOU SAY OFTEN OR SOMETIMES</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3</p> <p>DK 8</p>	
<p>CE22. HOW OFTEN DOES (name) KICK, BITE, OR HIT OTHER CHILDREN OR ADULTS?</p> <p>IF YES: WOULD YOU SAY OFTEN OR SOMETIMES?</p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3</p> <p>DK 8</p>	
<p>CE23. DOES (name) OFTEN GET VERY EASILY/QUICKLY DISTRACTED?</p> <p>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3</p> <p>DK 8</p>	

VITAMIN A		VA
VA1. 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 (Blue), 200,000 IU for those 12-59 months old.(Red)	Yes..... 1 No 2 DK 8	2—▶NEXT MODULE 8—▶NEXT MODULE
VA2. HOW MANY MONTHS AGO DID (name) TAKE THE LAST DOSE?	Months ago __ __ DK 98	
VA3. WHERE DID (name) GET THIS LAST DOSE?	On routine visit to health facility 1 Sick child visit to health facility 2 National Immunization Day campaign..... 3 Other (specify) 6 DK 8	

BF3L. DID (name) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE YESTERDAY DURING THE DAY OR NIGHT?	Yes.....	1	
	No	2	
	DK	8	

CARE OF ILLNESS		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 three or more loose or watery stools per day, or blood in stool.	Yes 1 No 2 DK 8	2—►CA5 8—►CA5
CA1A. WAS THERE BLOOD IN THE STOOLS?	Yes 1 No 2 DK 8	
CA2. DURING THIS LAST EPISODE OF DIARRHOEA, DID (name) DRINK ANY OF THE FOLLOWING: Read each item aloud and record response before proceeding to the next item.		
CA2A. A FLUID MADE FROM A SPECIAL PACKET CALLED ORS?	Yes No DK	
CA2B. HOMEMADE SUGAR AND SALT SOLUTION?	A. Fluid from ORS packet..... 1 2 8 B. Sugar and salt solution 1 2 8	
CA2C. A PRE-PACKAGED ORS FLUID FOR DIARRHOEA?	C. Pre-packaged ORS fluid 1 2 8	
CA2D. WAS ANYTHING (ELSE) GIVEN TO TREAT THE DIARRHOEA?	Yes 1 No 2 DK 8	2—►CA3 8—►CA3
CA2E. WHAT (ELSE) WAS GIVEN TO TREAT THE DIARRHOEA? Probe: ANYTHING ELSE? Record all treatments given	Pill or Syrup Antibiotic.....A AntimotilityB ZincC Other (Not antibiotic, antimotility or zinc)D Unknown pill or syrupE Injection Antibiotic.....F Non-antibioticG Unknown injectionH Intravenous.....I Home remedy/herbal medicineJ Other (specify)X	
CA2F. Check CA2E: Zinc given? • Yes. —► Continue with CA2G • No. —► Go to CA3		
CA2G. HOW MANY TIMES WAS (name) GIVEN ZINC?	Number of times ___	

CA3. DURING (name's) ILLNESS, DID HE/SHE DRINK MUCH LESS, ABOUT THE SAME, OR MORE THAN USUAL?	Much less or none 1 About the same (or somewhat less) 2 More 3 DK 8	
CA4. DURING (name's) ILLNESS, DID HE/SHE EAT LESS, ABOUT THE SAME, OR MORE FOOD THAN USUAL? If "less", probe: MUCH LESS OR A LITTLE LESS?	None 1 Much less 2 Somewhat less 3 About the same 4 More 5 DK 8	
CA4A. Check CA2A: ORS packet used? • Yes. → Continue with CA4B • No. → Go to CA5		
CA4B. WHERE DID YOU GET THE ORS PACKET FROM? <hr/> <i>(Name of place)</i>	Public Sector Government hospital 21 Government health center 22 Government dispensary 23 Other public (specify) 26 Private medical sector Mission hospital/clinic 31 Private hospital/clinic 32 Nursing/maternity home 33 Pharmacy 34 Other private medical (specify) 36 Mobile clinic 41 Community health worker 42 Other source Shop 51 Traditional practitioner 52 Relative/friend 53 Other (specify) 96 DK 98	
CA4C. HOW MUCH DID YOU PAY FOR THE (local name for ORS packet from CA2A)?	Shillings _____ Free 9995 DK 9998	
CA5. HAS (name) HAD AN ILLNESS WITH A COUGH 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 → CA12 8 → CA12
CA6. WHEN (name) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, QUICK BREATHS OR HAVE DIFFICULTY BREATHING?	Yes 1 No 2 DK 8	2 → CA12 8 → CA12

<p>CA7. WERE THE SYMPTOMS DUE TO A PROBLEM IN THE CHEST OR A BLOCKED NOSE?</p>	<p>Problem in chest 1 Blocked nose..... 2 Both..... 3 Other (specify) 6 DK 8</p>	<p>2—►CA12 6—►CA12</p>
<p>CA8. DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS OUTSIDE THE HOME?</p>	<p>Yes..... 1 No 2 DK 8</p>	<p>2—►CA10 8—►CA10</p>
<p>CA9. FROM WHERE DID YOU SEEK CARE?</p> <p>Probe: ANYWHERE ELSE?</p> <p>Circle all providers mentioned, but do NOT prompt with any suggestions.</p> <p>If source is hospital, health center, or clinic, write the name of the place below. Probe to identify the type of source and circle the appropriate code.</p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector Government hospitalC Government health centerD Government dispensary..... E Other public (specify)..... F</p> <p>Private medical sector Mission hospital/clinicG Private hospital/clinic.....H Nursing/maternity home I Pharmacy..... J Other private medical (specify)..... K</p> <p>Mobile clinic L Community health worker M</p> <p>Other source ShopO Traditional practitioner P Relative/friend.....Q</p> <p>Other (specify) X</p>	
<p>CA10. WAS (name) GIVEN MEDICINE TO TREAT THIS ILLNESS?</p>	<p>Yes..... 1 No 2 DK 8</p>	<p>2—►CA12 8—►CA12</p>
<p>CA11. WHAT MEDICINE WAS (name) GIVEN?</p> <p>Probe: ANYTHING ELSE?</p> <p>Circle all medicines given.</p>	<p>Antibiotic A Paracetamol/Panadol/Acetaminophen P AspirinQ Ibuprofen R Other (specify) X DK Z</p>	
<p>CA11A. Check CA11: Antibiotic given?</p> <ul style="list-style-type: none"> • Yes.—► Continue with CA11B • No.—► Go to CA12 		

<p>CA11B. WHERE DID YOU GET THE ANTIBIOTIC?</p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector</p> <p>Government hospital 21</p> <p>Government health center 22</p> <p>Government dispensary..... 23</p> <p>Other public (specify)..... 26</p> <p>Private medical sector</p> <p>Mission hospital/clinic 31</p> <p>Private hospital/clinic..... 32</p> <p>Nursing/maternity home 33</p> <p>Pharmacy..... 34</p> <p>Other private medical (specify)..... 36</p> <p>Mobile clinic 41</p> <p>Community health worker 42</p> <p>Other source</p> <p>Shop 51</p> <p>Traditional practitioner 52</p> <p>Relative/friend..... 53</p> <p>Other (specify) 96</p> <p>DK 98</p>	
<p>CA11C. HOW MUCH DID YOU PAY FOR THE ANTIBIOTIC?</p>	<p>Shillings _ _ _ _ _</p> <p>Free 9995</p> <p>DK 9998</p>	
<p>CA12. Check UF11: Child aged under 3?</p> <p>• Yes. —> Continue with CA13</p> <p>• No. —> Go to Next Module</p>		
<p>CA13. THE LAST TIME (name) PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?</p>	<p>Child used toilet/latrine..... 01</p> <p>Put/rinsed into toilet or latrine 02</p> <p>Put/rinsed into drain or ditch..... 03</p> <p>Thrown into garbage (solid waste) 04</p> <p>Buried 05</p> <p>Left in the open 06</p> <p>Other (specify) 96</p> <p>DK 98</p>	

MALARIA		ML
ML1. IN THE LAST TWO WEEKS, THAT IS, SINCE (day of the week) OF THE WEEK BEFORE LAST, HAS (name) BEEN ILL WITH A FEVER?	Yes 1 No 2 DK 8	2 → NEXT MODULE 8 → NEXT MODULE
ML2. WAS (name) SEEN AT A HEALTH FACILITY DURING THIS ILLNESS?	Yes 1 No 2 DK 8	2 → ML6 8 → ML6
ML3. DID (name) TAKE MEDICINE FOR FEVER OR MALARIA THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY?	Yes 1 No 2 DK 8	2 → ML5 8 → ML5
ML4. WHAT MEDICINE DID (name) TAKE THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY? Probe: ANYTHING ELSE? Circle all medicines mentioned.	Anti-malarials: SP/Fansidar A Chloroquine B Amodiaquine C Quinine D Artemisinin-based combinations E Other anti-malarial (specify) H Other medications: Paracetamol/Panadol/Acetaminophen P Aspirin Q Ibuprofen R Other (specify) X DK Z	
ML5. WAS (name) GIVEN MEDICINE FOR THE FEVER OR MALARIA BEFORE BEING TAKEN TO THE HEALTH FACILITY?	Yes 1 No 2 DK 8	1 → ML7 2 → ML8 8 → ML8
ML6. WAS (name) GIVEN MEDICINE FOR FEVER OR MALARIA DURING THIS ILLNESS?	Yes 1 No 2 DK 8	2 → ML8 8 → ML8
ML7. WHAT MEDICINE WAS (name) GIVEN? Circle all medicines given. Ask to see the medication if type is not known. If type of medication is still not determined, show typical anti-malarials to respondent.	Anti-malarials: SP/Fansidar A Chloroquine B Amodiaquine C Quinine D Artemisinin-based combinations E Other anti-malarial (specify) H Other medications: Paracetamol/Panadol/Acetaminophen P Aspirin Q Ibuprofen R Other (specify) X DK Z	
ML8. Check ML4 and ML7: Anti-malarial mentioned (codes A - H)?		
<ul style="list-style-type: none"> • Yes. → Continue with ML9 • No. → Go to Next Module 		

<p>ML9. HOW LONG AFTER THE FEVER STARTED DID (name) FIRST TAKE (name of anti-malarial from ML4 or ML7)?</p> <p>If multiple anti-malarials mentioned in ML4 or ML7, name all anti-malarial medicines mentioned.</p> <p>Record the code for the day on which the first anti-malarial was given.</p>	<p>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</p> <p>DK 8</p>	
<p>ML9A. WHERE DID YOU GET THE (name of anti-malarial from ML4 or ML7)?</p> <p>If more than one anti-malarial is mentioned in ML4 or ML7, refer to the first anti-malarial given for the fever (the anti-malarial given on the day recorded in ML9).</p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector Government hospital 21 Government health center 22 Government dispensary..... 23 Other public (specify)..... 26</p> <p>Private medical sector Mission hospital/clinic 31 Private hospital/clinic..... 32 Nursing/maternity home 33 Pharmacy 34 Other private medical (specify)..... 36</p> <p>Mobile clinic 41 Community health worker 42</p> <p>Other source Shop 51 Traditional practitioner 52 Relative/friend 53</p> <p>Other (specify) 96</p> <p>DK 98</p>	
<p>ML9B. HOW MUCH DID YOU PAY FOR THE (name of anti-malarial from ML4 or ML7)?</p> <p>Refer to the same anti-malarial as in ML9A above</p>	<p>Shillings _ _ _ _</p> <p>Free 9996 DK 9998</p>	

IMMUNIZATION		IM
<p>If an immunization card is available, copy the dates in IM2-IM8B for each type of immunization or vitamin A dose recorded on the card. IM10-IM18 will only be asked when a card is not available or not shown.</p>		
<p>IM1. IS THERE A VACCINATION CARD FOR (name)?</p>	<p>Yes, seen 1 Yes, not seen 2 No 3</p>	<p>2 → IM10 3 → IM10</p>
<p>(a) Copy dates for each vaccination from the card. (b) Write '44' in day column if card shows that vaccination was given but no date recorded.</p>	<p>Date of Immunization</p>	
	<p>DAY</p>	<p>MONTH</p>
		<p>YEAR</p>
IM2. BCG BCG		
IM3A. POLIO AT BIRTH OPV0		
IM3B. POLIO 1 OPV1		
IM3C. POLIO 2 OPV2		
IM3D. POLIO 3 OPV3		
IM4A. DPT1-HepB + Hib: 1 DPT1 (Pentavalent-1)		
IM4B. DPT1-HepB + Hib: 2 DPT2 (Pentavalent-2)		
IM4C. DPT1-HepB + Hib: 3 DPT3 (Pentavalent-3)		
IM6. MEASLES MEASLES		
IM7. YELLOW FEVER YF		
IM8A. VITAMIN A (1) VITA1 (Last but one)		
IM8B. VITAMIN A (2) VITA2 (Most recent)		
<p>IM9. IN ADDITION TO THE VACCINATIONS AND VITAMIN A CAPSULES SHOWN ON THIS CARD, DID (name) RECEIVE ANY OTHER VACCINATIONS – INCLUDING VACCINATIONS RECEIVED IN CAMPAIGNS OR IMMUNIZATION DAYS? Record 'Yes' only if respondent mentions BCG, OPV 0-3, DPT 1-3, Hepatitis B 1-3, Measles, Yellow Fever vaccine(s), or Vitamin A supplements.</p>	<p>Yes 1 (Probe for vaccinations and write '66' in the corresponding day column on IM2 to IM8B.) No 2 DK 8</p>	<p>1 → IM19 2 → M19 8 → IM19</p>
<p>IM10. HAS (name) EVER RECEIVED ANY VACCINATIONS TO PREVENT HIM/HER FROM GETTING DISEASES, INCLUDING VACCINATIONS RECEIVED IN A CAMPAIGN OR IMMUNIZATION DAY?</p>	<p>Yes 1 No 2 DK 8</p>	<p>2 → M19 8 → IM19</p>

IM11. HAS (name) EVER BEEN GIVEN A BCG VACCINATION AGAINST TUBERCULOSIS – THAT IS, AN INJECTION IN THE ARM OR SHOULDER THAT CAUSED A SCAR?	Yes..... 1 No 2 DK 8	
IM12. HAS (name) EVER BEEN GIVEN ANY POLIO VACCINATION, THAT IS, VACCINATION DROPS IN THE MOUTH TO PROTECT HIM/HER FROM GETTING DISEASES?	Yes..... 1	2→IM15 8→IM15
IM13. HOW OLD WAS HE/SHE WHEN THE FIRST DOSE WAS GIVEN – WITHIN THE TWO WEEKS AFTER BIRTH OR LATER?	Just after birth (within two weeks)..... 1 Later 2	
IM14. HOW MANY TIMES HAS HE/SHE BEEN GIVEN THESE DROPS?	No. of times _ _	
IM15. HAS (name) EVER BEEN GIVEN “DPT VACCINATION INJECTIONS” – THAT IS, AN INJECTION IN THE THIGH OR BUTTOCKS – TO PREVENT HIM/HER FROM GETTING TETANUS, WHOOPING COUGH, DIPHTHERIA? (SOMETIMES GIVEN AT THE SAME TIME AS POLIO)	Yes..... 1 No 2 DK 8	2→M17 8→M17
IM16. HOW MANY TIMES?	No. of times _ _	
IM17. HAS (name) EVER BEEN GIVEN “MEASLES VACCINATION INJECTIONS” – 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 BEEN GIVEN “YELLOW FEVER VACCINATION INJECTIONS” – THAT IS, A SHOT IN THE ARM AT THE AGE OF 9 MONTHS OR OLDER - TO PREVENT HIM/HER FROM GETTING YELLOW FEVER? (SOMETIMES GIVEN AT THE SAME TIME AS MEASLES)	Yes..... 1 No 2 DK 8	

<p>IM19. Please tell me if (name) has participated in any of the following campaigns, national immunization days and/or vitamin A or child health days:</p> <p>IM19A. National Immunization Day in 2010?</p> <p>IM19B. Malezibora, in May 2010?</p> <p>IM19C. Malezibora, in November 2010?</p>	<p style="text-align: right;">Y N DK</p> <p>National Imm Day 2010..... 1 2 8</p> <p>Malezibora May 2010 1 2 8</p> <p>Malezibora Nov 2010 1 2 8</p>	
<p>UT2. Record the time.</p>	<p>Hour and minutes..... __ __ : __ __</p>	
<p>IM20. Does another eligible child reside in the household for whom this respondent is mother/caretaker? Check household listing, column HL8.</p> <ul style="list-style-type: none"> • Yes. —▶ End the current questionnaire and then Go to Under-5 Questionnaire to administer the questionnaire for the next eligible child. • No. —▶ End the interview with this respondent by thanking him/her for his/her cooperation. <p>If this is the last eligible child in the household, go on to ANTHROPOMETRY MODULE</p>		

ANTHROPOMETRY MODULE		AN
<p>After questionnaires for all children are complete, the measurer weighs and measures each child. 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 line number on the household listing before recording measurements.</p>		
AN0A. Measurer's identification code.	Measurer code	— —
AN0B. Result of measurement.	Measured..... 1 Not present..... 2 Refused 3 Other (specify) 6	2—►AN5 3—►AN5 6—►AN5
AN1. Child's weight.	Kilograms (kg).....	<input type="text"/> <input type="text"/> . <input type="text"/>
AN2. Child's length or height.	Length (cm) Check age of child in UF11: • Child under 2 years old. —► Measure length (lying down). • Child age 2 or more years. —► Measure height (standing up).	Lying down 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> Height (cm) Standing up 2 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/>
AN3. WHETHER THE CHILD IS HAVING OEDEMA? (OBSERVE AND RECORD)	Checked Oedema present 1 Oedema not present 2 Unsure 3 Not checked (<i>specify reason</i>) 7	

AN5. Is there another child in the household who is eligible for measurement?

- Yes. —► Record measurements for next child.
- 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.

REMARKS AND OBSERVATIONS

SUPERVISOR

FIELD EDITOR

FIELD MONITORS/CO-ORDINATORS

OFFICE EDITOR

