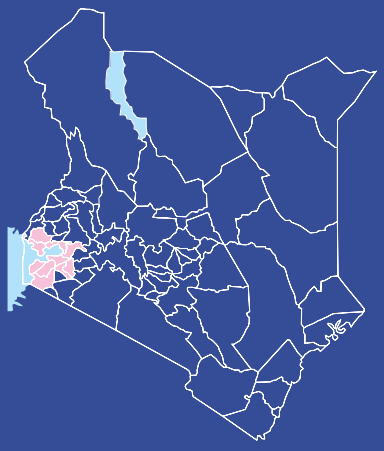
Kenya, Nyanza Province



Monitoring the situation of children and women

Multiple Indicator Cluster Survey 2011

KNBS
KENYA NATIONAL BUREAU OF STATISTICS
Keeping you informed

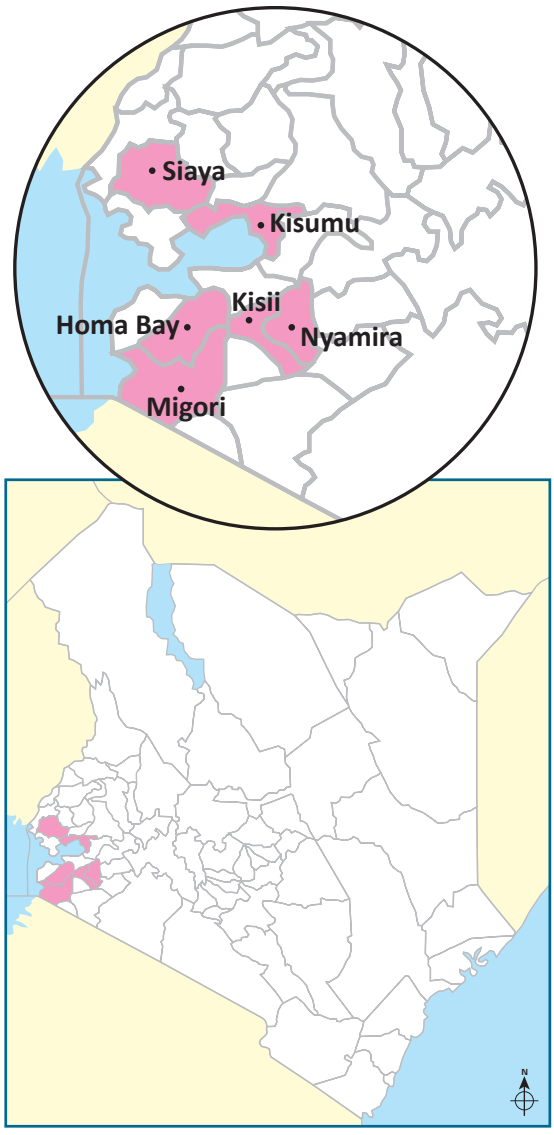
Kenya National Bureau of Statistics

unicef United Nations Children's Fund

MICS

Kenya, Nyanza Province

Multiple Indicator Cluster Survey 2011



July, 2013

unicef

MICS

KNBS
KENYA NATIONAL BUREAU OF STATISTICS
Keeping you informed

The Nyanza province Multiple Indicator Cluster Survey (MICS) was carried out in 2011 by Kenya National Bureau of Statistics in collaboration with County and Provincial administration. The survey covered all the 6 constituent counties of Nyanza, namely: Siaya, Kisumu, Homa Bay, Migori, Kisii, and Nyamira. 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 Nyanza province 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.

Suggested citation:

Kenya National Bureau of Statistics. 2013. Nyanza Province Multiple Indicator Cluster Survey 2011, Final Report. Nairobi, Kenya: Kenya National Bureau of Statistics.

Nyanza Province
Multiple Indicator Cluster Survey
2011

Kenya National Bureau of Statistics
and
United Nations Children's Fund

July, 2013

Table of Contents

List of Tables

List of Figures

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	Diptheria Pertusis 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 Nyanza 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 Nyanza 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 Nyanza Province County-based MICS survey 2011 is a representative sample survey drawn using the 2009 Census Enumeration Areas (EAs) as the sampling frame. A stand-alone statistical frame for each of the Nyanza counties was constructed based on the 2009 census EAs for the purpose of this MICS survey. The 300 EAs were sampled using the probability proportional to size (PPS) sampling methodology, and information from a total of 6828 households were collected using structured questionnaires. The Nyanza Province County-based MICS survey is the first largest household sample surveys ever conducted with the inclusion of the County governance structures that came into effect as part of the Constitution of Kenya, 2010.

The survey used a two stage design. In the first stage, EAs were selected and in the second stage households were selected systematically using a random start from the list of households[1]. The data was collected by twelve teams comprising of seven members each (one supervisor, one editor, one measurer and 4 interviewers).

The survey was implemented by the Kenya National Bureau of Statistics (KNBS) with support from UNICEF. The summary findings from the survey are presented below.

Child Mortality

The mortality rates for children under five years were calculated using the birth history data collected during the survey. The under-five mortality rate is 91 deaths per 1,000 live births and the infant mortality rate is 60 deaths per 1,000 live births for the five year period preceeding the survey. The under five mortality rate within the counties ranges from 52 deaths per 1000 live births in Nyamira County to 167 deaths per 1000 live births in Siaya, whereas the infant mortality rate ranges from 43 in Kisii and Nyamira Counties to 112 deaths per 1000 live births in Siaya for the ten year period preceeding the survey.

Nutritional Status and Breastfeeding

Based on the new WHO standards, 15 per cent of children under five years old in Nyanza Province are severely or moderately underweight while 27 per cent were stunted. The prevalence of wasting is 4 per cent.

Only 41 per cent of the children are timely breastfed (given breast milk within an hour of birth), and about a third of children age 0-5 months are exclusively breastfed. Overall, nearly half of all children aged 0-5 months (53 per cent) in Nyanza Province are appropriately breastfed for their age.

Only three out of five (59 per cent) children under 5 years who live in Nyanza Province were reportedly weighed at the time of birth and the prevalence of low birth weight is at 5 per cent.

In 88 per cent of the sampled households cooking salt was tested for its iodine content and among these, 87 per cent were found to have adequate iodine content (15ppm or more).

Immunisation

Seventy per cent of children age 12-23 months received full vaccination (BCG, 3 doses of Polio, 3 doses of DPT and measles) before reaching 12 monthsof age. BCG is given to 98 per cent of children age 12-23 months and the measles vaccine is received by 95 per cent. The dropout rate of DPT and polio vaccines from first dose to third dose is 6 and 13 per cent respectively.

The yellow fever vaccination coverage among children age 12-23 months in Nyanza province is 85 per cent.

Sixty four per cent of the mothers who gave birth in the last two years preceding the survey reportedly received adequate protection against tetanus (i.e., received two or more doses of TT injection during the two year period prior to delivery).

1 The household listing was carried out by 12 teams, each team comprised of a lister and mapper.

Care of illness

Reported incidence of diarrhoea during the last two weeks preceding the survey among children aged 0-59 months stood at 16 per cent. Of the reported diarrhoea cases, 35 per cent received oral rehydration therapy or recommended homemade fluid.

About one in ten children less than five years reportedly had suspected pneumonia (acute respiratory infection (ARI) during the two weeks prior to the survey. About one in two (51 per cent) children who had suspected pneumonia reportedly sought appropriate treatment with 51 per cent reporting to have received antibiotic treatment.

Malaria prevention

In Nyanza Province, 93 per cent of the households have at least one mosquito net, and about 91 per cent have at least one treated net. Eighty one per cent of children below 5 years slept under any type of mosquito net while 78 per cent slept under an insecticide treated net the previous night. The proportion of pregnant women who reported sleeping under an insecticide treated net the previous night of the survey was 77 per cent.

About one in five (22 per cent) children under five were reported to have had fever during the two weeks preceding the survey. Of those who had fever, only 47 per cent were given appropriate anti-malarial treatment.

Sixty nine per cent of mothers who gave birth during two years preceding the survey received any medication to prevent malaria at an ANC visit during pregnancy, but only 27 per cent received SP/Fansidar two or more times during pregnancy.

Water and sanitation

Forty eight per cent of the population living in Nyanza Province use drinking water from an improved source – 62 per cent in urban areas and 46 per cent in rural areas. 60 per cent of household population that use an unimproved water source reportedly treat the drinking water. Only 36 per cent of the household population take less than 30 minutes round trip to fetch improved drinking water or have access to improved drinking water within their households. Among the household population who fetch water, in 79 per cent of cases an adult woman, in 12 per cent of cases an adult man and in 9 per cent of cases, a child below 15 years is the one responsible for collecting water.

Thirty two per cent of the population is using improved sanitation toilet facilities, 22 per cent use a pit latrine with slab. Pit latrines without a slab and open pits are used by 53 per cent of the population who live in Nyanza province. In 73 per cent of cases, stool of children aged 0-2 years are disposed off safely.

Only four per cent of the households in Nyanza Province were observed to have a designated place for hand washing. Among households where a designated place for handwashing was observed, 64 per cent had water and soap for handwashing.

Reproductive health

The total fertility rate (TFR) in Nyanza Province for the three year period preceding the survey is 4.9 children per woman. Teenage pregnancy, i.e., the proportion of women aged between 15 and 19 years who have began child bearing, is 34 per cent.

About one in two (45 per cent) married or in union women aged 15-49 years who live in Nyanza Province use a modern contraceptive method and another three per cent use a traditional method of contraception.

Ninety one per cent of mothers who gave birth in the past 2 years had an antenatal check-up and 46 per cent had four or more antenatal care visits. Fifty six per cent of the deliveries during the 2 year period preceding the survey were assisted by skilled personnel. About 22 per cent of births were delivered by traditional birth attendants, and this was more common in Kisumu, Migori and Homa Bay Counties where 30 to 33 per cent of all births were delivered by traditional birth attendants.

Childhood development

In Nyanza Province, 44 per cent of children aged 36 - 59 months are currently attending early childhood development education. Thirty two per cent of children aged 36-59 months received support from a household member by being engaged in four or more activities that promote learning and school readiness during the three days preceding the survey. Sixty two per cent of children aged 0-59 months had 2 or more playthings to play with in their homes.

About 55 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.

Child development index is calculated as the percentage of children who are developmentally on target in at least three of the four component domains such as language-cognitive, physical, social-emotional, and approaches to learning. In Nyanza Province, 32 per cent of children aged 36-59 months are developmentally on track.

Education

Seventy nine per cent of children in primary school going age in Nyanza province are attending primary school or secondary school. However, the adjusted secondary school net attendance ratio is only 25 per cent. The transition rate to secondary school is at 63 per cent. The gender parity index for primary school and for secondary school are 1.03 and 1.02 respectively.
Female adult literacy rate in Nyanza Province is 86 per cent and literacy varies by place of residence (urban areas about 91 per cent versus 85 in rural areas).

Child protection

One out of two children (53 per cent) under five years in Nyanza Province has their births registered. Among the children from the poorest households, only 46 per cent are registered, compared to 71 among those from the richest households.

Fifty one per cent of children aged 5-14 years in Nyanza Province are engaged in child labour. This proportion varies by counties and across age groups. For example, about 75 per cent of children in Siaya County aged 5-11 years are involved in child labour compared to 59 per cent for those living in Kisumu County.

About three out of four children (65 per cent) aged 2-14 years received some form of psychological aggression during one month prior to the survey. More importantly, 88 per cent of children were subjected to any violent discipline method.

In Nyanza Province 22 per cent of the women in the adolescent age group 15-19 years are married or in union. This proportion does not vary much between household wealth index levels (23 per cent in the poorest and 22 per cent among those from richest households), but varies by level of education (34 per cent among those with no education and 12 per cent among those with secondary or higher level of education).

Among married women aged 20-24 years, nearly one in five (17 per cent) have partners who are 10 or more years older than their age.

Female genital mutilation/cutting (FGM/C) and domestic violence

Thirty seven per cent of women aged 15-49 years in Nyanza Province report to have undergone some form of female genital mutilation or cutting (FGM/C). The practice is more common in rural areas at 39 per cent versus 21 per cent in urban areas. Interestingly, within Nyanza there are two counties where the practice is very common i.e. Kisii and Nyamira counties with nearly 94 per cent of women reporting that they have had FGM.

One in five (20 per cent) women believes that FGM/C should be continued while 69 per cent believe it should be discontinued. Women in Kisii and Nyamira counties are more likely to approve of the continuation of the practice of FGM/C than women in other counties.

Sixty five per cent of women in Nyanza Province agree to wife beating under various circumstances.

For example, 50 per cent of women believe that a husband is justified to beat his wife if the wife neglected children while 38 per cent support wife beating if the wife argued with the husband.

HIV and AIDS

Almost all women aged 15-49 years (99.7 per cent) in Nyanza province have heard about HIV. However, only 53 per cent have comprehensive knowledge about HIV prevention.

Knowledge about mother-to-child transmission of HIV is high in Nyanza Province, with 95 per cent reporting knowing that HIV can be transmitted from mother to child.

Ninety five per cent of women age 15-49 years knew where to be tested, while 55 per cent reported having ever been tested. Ninety five per cent of women aged 15-24 years know where to get HIV tested and 42 per cent have been tested. Of those tested, 40 per cent received results of the HIV test.

In Nyanza, 79 per cent of women aged 15-49 year who delivered a child in the 2 years preceding the survey received counselling on prevention of mother-to-child transmission of HIV and 78 per cent had the HIV test done during antenatal care visits.

In Nyanza Province, 25 per cent of women aged 15-24 years reportedly had sex before age 15. Among those who had sex during the past 12 months, 13 per cent reportedly had sex with a man who is 10 or more years older than them.

Orphans and vulnerable children

Eighteen per cent of all children aged between 0 and 17 years have been orphaned by one or both parents. Fifteen per cent of children in the same age group do not live with a biological parent and only 56 per cent are living with both parents.

Summary Table of Findings

Multiple Indicator Cluster Surveys (MICS) and Millennium Development Goals (MDG) Indicators, Nyanza Province, Kenya, 2011

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units	
SAMPLE					
Households			Households interviewed	6828	Number
Women			Number of women interview	5908	Number
Children			Number of children under-5 years with completed information	5045	Number
CHILD MORTALITY					
Child mortality	1.1	4.1	Under-five mortality rate	91	per thousand
	1.2	4.2	Infant mortality rate	60	per thousand
NUTRITION					
Nutritional status			Underweight prevalence		
	2.1a	*1.8*	Moderate and Severe (- 2 SD)	14.9	per cent
	2.1b		Severe (- 3 SD)	2.7	per cent
			Stunting prevalence		
	2.2a		Moderate and Severe (- 2 SD)	27.1	per cent
	2.2b		Severe (- 3 SD)	10.6	per cent
			Wasting prevalence		
			Moderate and Severe (- 2 SD)	3.9	per cent
			Severe (- 3 SD)	0.6	per cent
Breastfeeding and infant feeding	2.4		Children ever breastfed	96.4	per cent
	2.5		Early initiation of breastfeeding	41.2	per cent
	2.6		Exclusive breastfeeding under 6 months	35.8	per cent
	2.7		Continued breastfeeding at 1 year	82.2	per cent
	2.8		Continued breastfeeding at 2 years	43.9	per cent
	2.9		Predominant breastfeeding under 6 months	52.2	per cent
	2.10		Duration of breastfeeding	20.5	Median (months)
	2.11		Bottle feeding	11.7	per cent
	2.12		Introduction of solid, semi-solid or soft foods	56.7	per cent
	2.13		Minimum meal frequency	32.2	per cent
	2.14		Age-appropriate breastfeeding	53.3	per cent
Salt iodization	2.16		Iodized salt consumption	87.4	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units	
Vitamin A	2.17		Vitamin A supplementation (children under age 5)	47.4	per cent
Low birth weight	2.18		Low-birth weight infants	5.4	per cent
	2.19		Infants weighed at birth	58.8	per cent
CHILD HEALTH					
Vaccinations	3.1		Tuberculosis immunization coverage	97.6	per cent
	3.2		Polio immunization coverage	84.4	per cent
	3.3		Immunization coverage for diphtheria, pertussis and tetanus (DPT)	91.1	per cent
	3.4	*4.3*	Measles immunization coverage	95.3	per cent
	3.5		Hepatitis B immunization coverage	91.1	Per cent
	3.6		Yellow fever immunization coverage	84.6	per cent
Tetanus toxoid	3.7		Neonatal tetanus protection	64.0	per cent
Care of illness	3.8		Oral rehydration therapy with continued feeding	43.2	per cent
	3.9		Care seeking for suspected pneumonia	50.7	per cent
	3.10		Antibiotic treatment of suspected pneumonia	50.6	per cent
Solid fuel use	3.11		Solid fuels	97.0	per cent
Malaria	3.12		Household availability of insecticide-treated nets (ITNs)	91.4	per cent
	3.13		Households protected by a vector control method	93.5	per cent
	3.14		Children under age 5 sleeping under any mosquito net	80.5	per cent
	3.15	*6.7*	Children under age 5 sleeping under insecticide-treated nets (ITNs)	77.9	per cent
	3.17		Antimalarial treatment of children under 5 the same or next day	32.9	per cent
	3.18	*6.8*	Antimalarial treatment of children under age 5	47.1	per cent
	3.19		Pregnant women sleeping under insecticide-treated nets (ITNs)	77.2	per cent
	3.20		Intermittent preventive treatment for malaria	26.9	per cent
WATER AND SANITATION					
Water and sanitation	4.1	*7.8*	Use of improved drinking water sources	48.3	per cent
	4.2		Water treatment	60.2	per cent
	4.3	*7.9*	Use of improved sanitation facilities	15.1	per cent
	4.4		Safe disposal of child's faeces	72.5	per cent
	4.5		Place for hand-washing (water and soap are available)	63.6	per cent
	4.6		Availability of soap (soap available, water not available)	85.2	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units	
REPRODUCTIVE HEALTH					
Contraception and unmet need	5.1	*5.4*	Adolescent birth rate	184	per 1,000
	5.2		Early childbearing	39.9	per cent
	5.3	*5.3*	Contraceptive prevalence rate	47.5	per cent
Maternal and new-born health		*5.5*	Antenatal care coverage		
	5.5a		At least once by skilled personnel	91.3	per cent
	5.5b		At least four times by any provider	46.0	per cent
	5.6		Content of antenatal care	62.9	per cent
	5.7	*5.2*	Skilled attendant at delivery	55.6	per cent
	5.8		Institutional deliveries	52.7	per cent
	5.9		Caesarean section	6.1	per cent
CHILD DEVELOPMENT					
Child development	6.1		Support for learning	31.9	per cent
	6.2		Father's support for learning	30.5	per cent
	6.3		Learning materials: children's books	4.4	per cent
	6.4		Learning materials: playthings	61.6	per cent
	6.5		Inadequate care	55.3	per cent
	6.6		Early child development index	31.8	per cent
	6.7		Attendance to early childhood education	44.2	per cent
EDUCATION					
Literacy and education	7.1	*2.3*	Literacy rate among young women	85.6	per cent
	7.2		School readiness	76.8	per cent
	7.3		Net intake rate in primary education	21.0	per cent
	7.4	*2.1*	Primary school net attendance ratio (adjusted)	78.9	per cent
	7.5		Secondary school net attendance ratio (adjusted)	25.3	per cent
	7.6	*2.2*	Children reaching last grade of primary	89.1	per cent
	7.7		Primary completion rate	76.5	per cent
	7.8		Transition rate to secondary school	62.8	per cent
	7.9		Gender parity index (primary school)	1.03	ratio
	7.10		Gender parity index (secondary school)	1.02	ratio
CHILD PROTECTION					
Birth registration	8.1		Birth registration	52.7	per cent
Child labour	8.2		Child labour	50.7	per cent
	8.3		School attendance among child labourers	96.6	per cent
	8.4		Child labour among students	51.0	per cent
Child discipline	8.5		Violent discipline	88.4	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units	
Early marriage and polygyny	8.6		Marriage before age 15	12.5	per cent
	8.7		Marriage before age 18	45.4	per cent
	8.8		Young women age 15-19 currently married or in union	22.1	per cent
	8.9		Polygyny	18.6	per cent
			Spousal age difference		
	8.10a		Women age 15-19	16.9	per cent
	8.10b		Women age 20-24	17.1	per cent
Female genital mutilation/cutting	8.11		Approval for female genital mutilation/cutting (FGM/C)	19.9	per cent
	8.12		Prevalence of female genital mutilation/cutting (FGM/C) among women	36.5	per cent
Domestic violence	8.14		Attitudes towards domestic violence	65.1	per cent
HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN					
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention	53.0	per cent
	9.2	*6.3*	Comprehensive knowledge about HIV prevention among young people	53.3	per cent
	9.3		Knowledge of mother-to-child transmission of HIV	50.1	per cent
	9.4		Accepting attitude towards people living with HIV	20.1	per cent
	9.5		Women who know where to be tested for HIV	95.2	per cent
	9.6		Women who have been tested for HIV and know the results	54.9	per cent
	9.7		Sexually active young women who have been tested for HIV and know the results	39.8	per cent
	9.8		HIV counselling during antenatal care	79.0	per cent
	9.9		HIV testing during antenatal care	76.8	per cent
Sexual behaviour	9.10		Young women who have never had sex	44.6	per cent
	9.11		Sex before age 15 among young women	25.4	per cent
	9.12		Age-mixing among sexual partners	13.2	per cent
	9.13		Sex with multiple partners	2.4	per cent
	9.14		Condom use during sex with multiple partners	43.1	per cent
	9.15		Sex with non-regular partners	5.8	per cent
	9.16	*6.2*	Condom use with non-regular partners	68.1	per cent
Orphaned children	9.17		Children's living arrangements	15.2	per cent
	9.18		Prevalence of children with at least one parent dead	18.2	per cent
	9.19	*6.4*	School attendance of orphans	95.5	per cent
	9.20	*6.4*	School attendance of non-orphans	99.2	per cent

I. Introduction

Background

This report is based on the Nyanza province Multiple Indicator Cluster Survey, conducted in 2011 by the Kenya National Bureau of Statistics in collaboration with County and Provincial administration and UNICEF. The survey provides valuable information on the situation of children and women in Nyanza province and its 6 counties, and was based, in large part, on the needs to monitor progress towards goals and targets emanating from recent international agreements: the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000, and the Plan of Action of A World Fit For Children, adopted by 189 Member States at the United Nations Special Session on Children in May 2002. Both of these commitments build upon promises made by the international community at the 1990 World Summit for Children.

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

A Commitment to Action: National and International Reporting Responsibilities

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

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

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

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

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

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

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

Presently, the Government's Vision 2030 – which is the road map for Kenya's political, economic and social development - commits to creating a better future for all children, and hence is very much in line with the achievement of the above mentioned goals. Specific policy responses and programmes exist such as the Free Primary Education, Free Day Secondary Schooling, and Cash Transfers for Orphans and Vulnerable Children[2], and slum upgrading programmes and all these are geared towards challenging the current and future bottlenecks within all the social sectors. On the legal framework , there are enough local acts, several international statutes and policies that have been domesticated to obligate the Government, communities and families to take more action and efforts in ensuring and guaranteeing the well-being of all citizen and children in Kenya.

The Kenya constitution 2010 is very elaborate and supportive on citizen's empowerment and human rights. Providing timely data is therefore vital for monitoring the progress that the country is making using internationally existing benchmarks, goals and targets. This latest provincial level survey aims to increase the in-depth analysis of data at disaggregated levels, with a particular focus on areas with less available planning data as well as those exhibiting significant inequities. This approach is in line with the on-going devolution of power in Kenya with substantial powers for administration, governance and planning expected to move to the County levels.

This final report presents the results of the indicators and topics covered in the survey.

Survey Objectives

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

- To provide up-to-date information for assessing the situation of children and women in Nyanza Province;
- 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 Nyanza province 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.

2 Kenya Government Vision 2030 (Ministry of Planning and Vision 2030).

II. Sample and Survey Methodology

Sample Design

The sample for the Nyanza Province Multiple Indicator Cluster Survey (MICS) was designed to provide estimates for a large number of indicators on the situation of children and women at the provincial level, for urban and rural areas, and for counties: Siaya, Migori, Kisumu, Homa Bay, Kisii, and Nyamira. The urban and rural areas within each County were identified as the main sampling strata and the sample was selected in two stages. 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 sampling units.

A stand-alone statistical frame for each of the Nyanza counties based on the 2009 census EAs was created for the purpose of MICS. 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. 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 exercise within the selected enumeration areas, a systematic sample of 25 households was drawn from each of the sampled enumeration area. The sample was stratified by County, urban and rural areas, and is not self-weighting. For reporting provincial 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
- Orphaned and vulnerable children
- Disability

Findings from the disability module will be separately disseminated as a standalone report as part of wider focus on the status of disability in Kenya 2013.

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
- Maternal and Newborn Health
- Illness Symptoms
- Contraception
- Female Genital Mutilation/Cutting
- Attitudes Towards Domestic Violence
- Marriage/Union
- Sexual Behaviour
- HIV/AIDS
- Birth History
- Tetanus Toxoid

The Questionnaire for Children under Five was administered to mothers or caretakers of children under 5 years of age[3] living in the households. Normally, the questionnaire was administered to mothers of under-5 children; in cases when the mother was not listed in the household roster, a primary caretaker for the child was identified and interviewed. The questionnaire included the following modules:

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

The questionnaires are based on the MICS4 model questionnaire tested at the begining of the fourth round of MICS[4]. From the MICS4 model English version, the questionnaires were translated into Swahili, Luo, and Kisii languages and back-translated to ensure that the meaning of the translations remained the same. Based on the results of the back-translations, adjustments were made to the wording and translation of the questionnaires. A copy of the Nyanza Province MICS questionnaires is provided in Appendix F.

In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine content, observed the place for handwashing and measured the weights and heights of children age under 5 years. Salt samples were also collected and labelled in incidences where the testing kits were not available and testing undertaken within the local offices. Details and findings of these measurements are provided in the respective sections of the report.

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

4 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 Kisumu County within clusters that were not sampled for the main survey exercise.

Data were collected by 12 teams; each was comprised of 5 interviewers, one driver, one editor, one measurer and a supervisor. Fieldwork began in October 2011 and was concluded in December 2011.

Data Processing

Data were entered using the CSPro software. The data were entered into microcomputers by 23 data entry operators and 4 data entry supervisors. In order to ensure quality control, all questionnaires were double entered and internal consistency checks were performed. Procedures and standard programs developed under the global MICS4 programme and adapted to the Nyanza Province questionnaire were used throughout. Data processing began three weeks after commencing 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 7500 households selected for the sample, 6994 were found to be occupied. Of these, 6828 were successfully interviewed for a household response rate of 97.6 per cent. In the interviewed households, 6581 women (age 15-49 years) were identified. Of these, 5908 were successfully interviewed, yielding a response rate of 89.8 per cent within interviewed households. In addition, 5157 children under age five were listed in the household questionnaire. Questionnaires were completed for 5045 of these children, which corresponds to a response rate of 97.8 per cent within interviewed households. Overall response rates of 87.6 and 95.5 are calculated for the women's and under-5's interviews respectively (Table HH.1).

Table HH.1: Results of household, women's, and under-5 interviews

Number of households, women and children under 5 by results of the household, women's and under-5's interviews, and household, women's and under-5's response rates, Nyanza Province, Kenya, 2011									
	Area		County						
	Rural	Urban	Siaya	Kisumu	Homa Bay	Migori	Kisii	Nyamira	Total
Households Sampled	6475	1025	1250	1250	1250	1250	1250	1250	7500
Households Occupied	6099	895	1190	1154	1182	1159	1191	1118	6994
Households Interviewed	5984	844	1181	1119	1164	1123	1161	1080	6828
Household response rate	98.1	94.3	99.2	97.0	98.5	96.9	97.5	96.6	97.6
Women Eligible	5747	834	992	1033	1117	1094	1223	1122	6581
Women Interviewed	5171	737	949	926	1033	952	1078	970	5908
Women's response rate	90.0	88.4	95.7	89.6	92.5	87.0	88.1	86.5	89.8
Women's overall response rate	88.3	83.3	94.9	86.9	91.1	84.3	85.9	83.5	87.6
Children under 5 Eligible	4608	549	805	771	926	1008	918	729	5157
Children under 5 Mother/ Caretaker Interviewed	4519	526	801	765	911	975	897	696	5045
Under-5's response rate	98.1	95.8	99.5	99.2	98.4	96.7	97.7	95.5	97.8
Under-5's overall response rate	96.2	90.4	98.8	96.2	96.9	93.7	95.3	92.2	95.5

There are some differentials in response rates by urban and rural areas. Overall household responses rates were 98 per cent 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 differentials were observed for women response rates across counties. Overall women response rates were lowest in Nyamira County at 84 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. The reasons for the lower response rates for Nyamira County are not readily available, but a range of explanations for this lower performance include that a large section of the population who were not reachable on certain prayer days, in addition, heavy downpours 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 6828 households successfully interviewed in the survey, 30439 household members were listed. Of these, 14829 were males, and 15610 were females.

Table HH.2: Household age distribution by sex

Percentage 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, Nyanza Province, Kenya, 2011

	Males		Females		Missing		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Age								
0-4	2571	17.3	2502	16.0	0	0.0	5073	16.7
5-9	2446	16.5	2460	15.8	0	0.0	4907	16.1
10-14	2116	14.3	2208	14.1	1	14.6	4324	14.2
15-19	1783	12.0	1524	9.8	0	0.0	3307	10.9
20-24	1105	7.5	1343	8.6	0	0.0	2448	8.0
25-29	1012	6.8	1231	7.9	0	0.0	2243	7.4
30-34	778	5.2	794	5.1	0	0.0	1572	5.2
35-39	683	4.6	715	4.6	1	22.9	1399	4.6
40-44	448	3.0	498	3.2	0	0.0	946	3.1
45-49	395	2.7	462	3.0	0	0.0	857	2.8
50-54	377	2.5	536	3.4	0	0.0	913	3.0
55-59	341	2.3	417	2.7	0	0.0	759	2.5
60-64	268	1.8	301	1.9	0	0.0	569	1.9
65-69	159	1.1	198	1.3	0	0.0	358	1.2
70-74	141	0.9	175	1.1	0	0.0	316	1.0
75-79	100	0.7	94	0.6	2	42.1	196	0.6
80-84	54	0.4	95	0.6	0	0.0	149	0.5
85+	38	0.3	48	0.3	0	0.0	86	0.3
Missing/DK	10	0.1	5	0.0	1	20.4	16	0.1
Dependency age groups								
0-14	7133	48.1	7170	45.9	1	14.6	14304	47.0
15-64	7190	48.5	7821	50.1	1	22.9	15013	49.3
65+	492	3.3	611	3.9	2	42.1	1105	3.6
Missing/DK	10	0.1	5	0.0	1	20.4	16	0.1
County								
Siaya	2378	16.0	2603	16.7	0	0.0	4981	16.4
Kisumu	2606	17.6	2652	17.0	2	43.3	5260	17.3
Homa Bay	2436	16.4	2574	16.5	1	14.6	5010	16.5
Migori	2621	17.7	2711	17.4	0	0.0	5333	17.5
Kisii	3301	22.3	3548	22.7	2	42.1	6851	22.5
Nyamira	1485	10.0	1519	9.7	0	0.0	3004	9.9
Children and adult populations								
Children age 0-17 years	8245	55.6	8133	52.1	1	14.6	16379	53.8
Adults age 18+ years	6571	44.3	7469	47.9	3	65.0	14043	46.1
Missing/DK	11	0.1	5	0.0	1	20.4	17	0.1
Total	**14827**	**100**	**15607**	**100**	**5**	**100**	**30439**	**100**

The population pyramid shows a high proportion of population in the younger dependency age groups, i.e., 0-14 years. The proportion of males in the age group 0-14 years is nearly balanced with females in the same group, but slightly different for the age group 20-24 i.e. 3.5 per cent for males and 4.5 per cent for females, respectively. A similar pattern is observed for, the proportion of males in 30-49 years age groups being slightly smaller than that of females, respectively. The low proportion of people in the potential working age groups clearly show the possibility of selective out-migration of young workers from this region to other areas within the country.

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

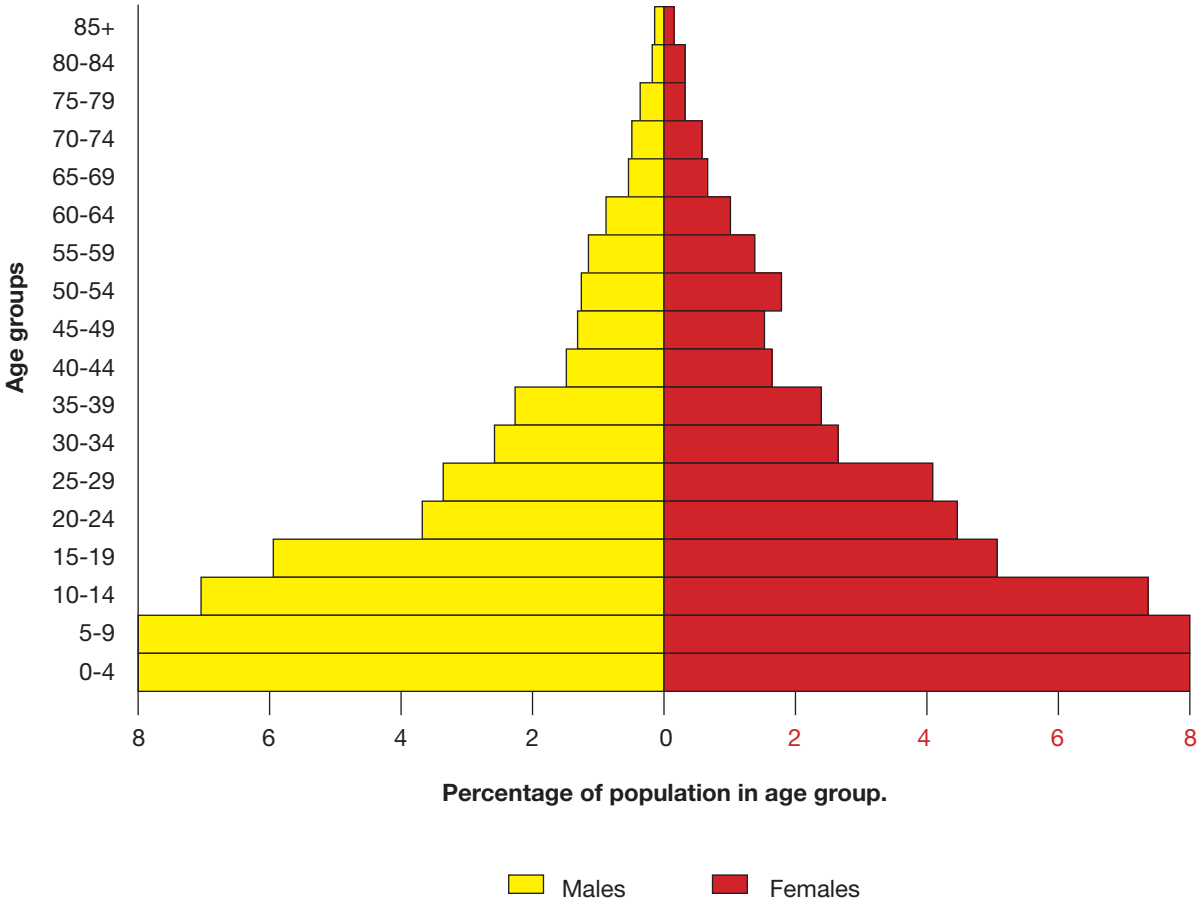


Table HH.3 - HH.5 provide basic information on the households, female respondents age 15-49, and children under-5 by presenting the unweighted, as well as the weighted numbers. Information on the basic characteristics of households, women and children under-5 interviewed in the survey is essential for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

Table HH.3 provides basic background information on the households. Within households, the sex of the household head, region, residence, number of household members, and education of household head are shown. 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.

Table HH.3: Household composition

Percentage and frequency distribution of households by selected characteristics, Nyanza Province, Kenya, 2011			
	Weighted per cent	Number of households	
		Weighted	Unweighted
Sex of household head			
Male	66.2	4518	4566
Female	33.8	2308	2261
County			
Siaya	17.7	1209	1181
Kisumu	18.5	1261	1119
Homa Bay	16.0	1089	1164
Migori	16.5	1128	1123
Kisii	21.7	1483	1161
Nyamira	9.6	657	1080
Residence			
Rural	84.2	5751	5984
Urban	15.8	1077	844
Number of household members			
1	11.2	762	724
2	10.3	702	671
3	14.8	1014	1020
4	17.5	1192	1203
5	15.4	1049	1053
6	12.5	856	881
7	8.3	565	572
8	5.1	348	354
9	2.5	171	177
10+	2.5	168	173
Education of household head			
None	20.9	1430	1395
Primary	54.1	3691	3713
Secondary+	24.6	1681	1696
Missing/Don't know	0.4	26	24
Total	**100.0**	**6828**	**6828**
Households with at least			
One child age 0-4 years	50.3	6828	6828
One child age 0-17 years	80.0	6828	6828
One woman age 15-49 years	74.2	6828	6828
Mean household size	**4.5**	**6828**	**6828**

The weighted and unweighted numbers of total 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, at least one child under 5, and at least one eligible woman age 15-49. The table also shows the weighted average household size estimated by the survey.

In Nyanza, nearly 34 per cent of the households are female headed which is comparable to the rural national average of 36 per cent (KDHS, 2008/9). Fifty per cent of the households have at least one child below five years of age and 80 per cent of the households have at least one child below 18 years of age.

About three in four households (74 per cent) have at least one woman in the 15-49 years reproductive age group. It is also important to note that about one in ten households in Nyanza province is one-member households and about one in four households (25 per cent) have 2-3 persons. The mean household size in Nyanza is 4.5 persons. The distribution of the sampled households by educational level of the household head shows that, 54 per cent are educated up to primary level and another 25 per cent are educated up to secondary or higher levels. The remaining 21 per cent have no-education or have never been to school.

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 characteristics, Nyanza Province, Kenya, 2011			
	Weighted per cent	Number of women	
		Weighted	Unweighted
Area			
Rural	84.4	4985	5171
Urban	15.6	923	737
County			
Siaya	15.5	916	949
Kisumu	17.9	1057	926
Homa Bay	16.0	944	1033
Migori	16.3	963	952
Kisii	23.8	1404	1078
Nyamira	10.5	623	970
Age			
15-19	20.6	1216	1215
20-24	20.2	1192	1175
25-29	19.6	1159	1166
30-34	12.6	747	745
35-39	11.4	675	689
40-44	8.1	478	479
45-49	7.4	440	439
Marital/Union status			
Currently married/in union	66.2	3912	3941
Widowed	7.3	431	434
Divorced	0.6	35	38
Separated	3.4	200	190
Never married/in union	22.5	1330	1305
Motherhood status			
Ever gave birth	80.5	4757	4778
Never gave birth	19.5	1151	1130
Births in last two years			
Had a birth in last two years	30.7	1812	1844
Had no birth in last two years	69.3	4096	4064
Education			
None	7.3	430	391
Primary	63.5	3752	3797
Secondary +	29.2	1725	1720
Wealth index quintiles			
Poorest	18.9	1115	1147
Second	19.4	1144	1151
Middle	19.5	1150	1199
Fourth	20.1	1188	1218
Richest	22.2	1311	1193
Total	**100.0**	**5908**	**5908**

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, regions, age, marital status, motherhood status, births in last two years, education[5], and wealth index quintiles[6]. Overall, 66 per cent of the women age 15-49 years in Nyanza province are currently married or in union and another 23 per cent have never married or been in union. Eighty one per cent have ever given birth while 7 per cent have no education and 29 per cent have secondary or higher level of education. The wealth index ranked 19 and 22 per cent of the women in the poorest and richest income categories respectively. The weighted and unweighted numbers in particular categories vary due to extensive over-sampling or under-sampling for some areas/counties.

Some background characteristics of children under 5 are presented in Table HH.5. These include the distribution of children by several attributes: sex, region and residence, age, mother's or caretaker's education, and wealth quintiles.

An almost equal proportion of male children under-five years (50.7 per cent) were found in the sample compared to female children (49.3 per cent). About 10 per cent of children below-five years belong to 0-5 months of age and another 10 per cent in 6-11 month category. Twenty three per cent of the children belong to mothers/care taker who have secondary or higher education, 70 per cent belong to mothers with primary education and 7 per cent belong to mothers or caretakers with no education. The distribution of children below 5 years by the wealth quintiles of the household show that, 23 per cent are from the poorest households, 20 per cent from middle wealth quintiles and 18 per cent from the richest households. These categories are mostly used in the subsequent tabulations of this report. There are considerable variations in the weighted and unweighted numbers in particular categories due to extensive over-sampling or under-sampling, and this is more evident with the County regions e.g. Nyamira County.

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

6 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, color Tv, mobile phone, non-mobile phone, fridge, blender, water heater, animal-drawn cart, boat with motor, washing machine, computer, internet, watch, bicycle, car or truck, motorcycle, sewing machine, air conditioner, VCR VCD 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

Percentage and frequency distribution of children under five years of age by selected characteristics, Nyanza Province, Kenya, 2011			
	Weighted per cent	Number of children	
		Weighted	Unweighted
Sex			
Male	50.7	2559	2561
Female	49.3	2486	2484
County			
Siaya	16.0	809	801
Kisumu	17.1	861	765
Homa Bay	17.2	868	911
Migori	18.4	930	975
Kisii	22.5	1135	897
Nyamira	8.8	442	696
Area			
Rural	87.8	4429	4519
Urban	12.2	616	526
Age			
0-5	9.5	480	488
6-11	10.3	522	509
12-23	17.2	868	879
24-35	20.7	1047	1043
36-47	21.7	1094	1105
48-59	20.5	1034	1021
Mother's education			
None	6.8	345	319
Primary	69.8	3523	3558
Secondary+	23.3	1175	1166
Missing/Don't know	0.1	3	2
Wealth index quintiles			
Poorest	23.2	1168	1191
Second	20.9	1054	1053
Middle	19.5	985	1025
Fourth	18.7	944	955
Richest	17.7	894	821
Total	**100.0**	**5045**	**5045**

IV. Child Mortality

One of the overarching goals of the Millennium Development Goals (MDGs) and the World Fit for Children (WFFC) is to reduce infant and under-five mortality. Specifically, the MDGs call 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. However, the Nyanza province Survey utilised direct measures of child mortality from birth histories which is 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 survey, information on age of the child at the time of death is also obtained.

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.

Though 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 tend to under estimate the mortality levels.

Levels of Childhood Mortality

Table CM.1 provides estimates of childhood mortality for the five year period preceding the survey for the Nyanza province. The infant mortality rate (IMR) is estimated at 60 per thousand live births, while the under-5 mortality rate (U5MR) is 91 per thousand live births.

Table CM.1: Early childhood mortality rates

Neonatal, post-neonatal, Infant, child and under-five mortality rates for five year periods preceding the survey, Nyanza Province, Kenya, 2011					
Years preceding the survey	Neonatal mortality rate [1]	Post-neonatal mortality rate [2]	Infant mortality rate [3]	Child mortality rate [4]	Under-five mortality rate [5]
0-4	25	35	60	33	91
5-9	27	57	84	48	128
10-14	27	68	95	62	151
15-19	35	77	112	80	183

[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

Table CM.2 provides estimates of child mortality by selected socio-economic and demographic background characteristics. To ensure a sufficient number of births to study mortality differentials across the population sub-groups, period-specific rates for Table CM.2 are presented for the 10-year period preceding the survey (approximately 2002 to 2011).

The results in Table CM.2 indicate that the under-five mortality rate is 111 deaths per 1,000 live births in rural areas and 92 in urban areas. Within counties, under-five mortality rates ranges from 52 deaths per 1,000 live births in Nyamira County to 167 deaths per 1000 live births in Siaya county. The infant mortality rates ranges from 43 deaths per 1,000 live births in Nyamira and Kisii to 112 in Siaya County.

Under-5 mortality rate is 117 per 1000 among males and 100 per 1000 among females in Nyanza. The infant mortality rate is 80 per 1000 live births for males and 63 per 1000 live birth for females.

Under-5 mortality among children whose mothers have secondary or higher levels of education is 69 per 1000 live births, while for those with mothers having no education its 110 per 1000 live births. Further differentials in under-5 mortality rates by selected background characteristics are shown in Figure CM.2

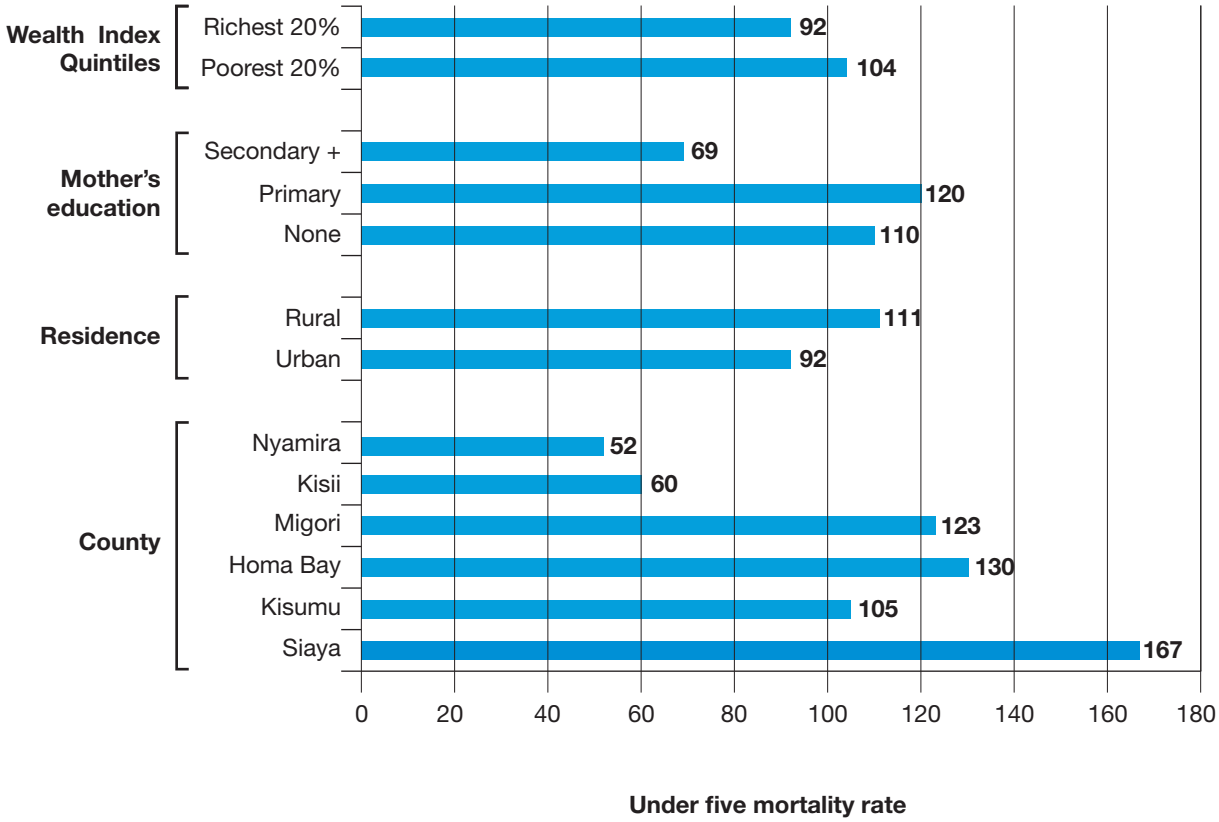
Table CM.2: Early childhood mortality rates by socioeconomic characteristics

Neonatal, post-neonatal, infant, child and under-five mortality rates for the ten year period preceding the survey, by socioeconomic characteristics, Nyanza Province, Kenya, 2011

	Neonatal mortality rate [1]	Post-neonatal mortality rate [2]	Infant mortality rate [3]	Child mortality rate [4]	Under-five mortality rate [5]
County					
Siaya	32	80	112	62	167
Kisumu	23	52	75	33	105
Homa Bay	26	51	77	57	130
Migori	27	49	76	50	123
Kisii	23	19	43	18	60
Nyamira	26	17	43	10	52
Residence					
Urban	20	39	59	35	92
Rural	27	47	74	41	111
Mother's education					
None	20	33	53	61	110
Primary	27	52	79	45	120
Secondary+	24	29	53	17	69
Wealth index quintile					
Poorest	24	43	67	40	104
Second	27	48	75	37	109
Middle	28	47	75	42	114
Fourth	25	54	78	49	123
Richest	26	37	64	30	92
Sex of child					
Male	29	51	80	41	117
Female	23	41	63	39	100
Total	**26**	**47**	**73**	**41**	**110**

[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

Figure CM.1 Under-5 mortality rates by background characteristics, Nyanza province, Kenya, 2011



V. Nutrition

Nutritional Status

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

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

In a well-nourished population, there is a reference distribution of height and weight for children under age five. Under-nourishment in a population can be gauged by comparing children to a reference population. The reference population used in this report is based on new WHO growth standards[7]. Each of the three nutritional status indicators can be expressed in standard deviation units (z-scores) from the median of the reference population.

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

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

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

In Nyanza province 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.

7 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, Nyanza Province, Kenya, 2011

	Weight for age				Height for age				Weight for height				
	Underweight				Stunted				Wasted		Overweight		
	per cent below		Mean Z-Score	Number of children under age 5	per cent below		Mean Z-Score	Number of children under age 5	per cent below		per cent above	Mean Z-Score	Number of children under age 5
	- 2 SD [1]	- 3 SD [2]	(SD)		- 2 SD [3]	- 3 SD [4]	(SD)		- 2 SD [5]	- 3 SD [6]	+ 2 SD	(SD)	
Sex													
Male	15.6	2.9	-0.9	2476	28.1	11.5	-1.3	2476	4.2	1.0	3.2	-0.1	2476
Female	14.1	2.5	-0.7	2395	26.0	9.6	-1.1	2395	3.5	0.3	3.8	0.0	2395
County													
Siaya	13.6	3.7	-0.8	800	27.7	10.7	-1.3	800	1.4	0.2	3.2	0.1	800
Kisumu	14.9	2.4	-0.7	823	23.7	9.4	-1.0	823	4.1	0.5	4.0	-0.1	823
Homa Bay	15.0	2.2	-0.7	836	26.3	10.7	-1.1	836	4.2	0.8	2.4	-0.1	836
Migori	17.1	2.8	-0.9	879	32.3	13.9	-1.3	879	6.4	1.3	4.8	-0.1	879
Kisii	14.7	2.5	-0.9	1105	26.3	9.0	-1.2	1105	3.4	0.5	3.4	-0.1	1105
Nyamira	12.9	2.5	-0.8	428	25.0	9.5	-1.2	428	3.4	0.2	2.9	-0.1	428
Residence													
Urban	13.6	1.4	-0.6	583	23.2	9.4	-1.0	583	2.9	0.3	5.8	0.1	583
Rural	15.1	2.9	-0.8	4288	27.6	10.7	-1.2	4288	4.0	0.7	3.2	-0.1	4288
Age													
0-5 months	2.1	.8	0.4	437	2.9	0.6	-0.1	437	5.4	1.7	9.7	0.4	437
6-11 months	14.0	2.8	-0.6	514	13.2	4.3	-0.6	514	7.8	1.1	5.1	-0.1	514
12-23 months	22.2	4.2	-1.1	849	34.7	12.3	-1.5	849	6.9	1.0	3.6	-0.3	849
24-35 months	18.5	4.3	-1.0	1033	31.4	11.8	-1.3	1033	2.2	0.4	2.1	-0.2	1033
36-47 months	13.8	1.9	-0.9	1054	33.4	13.0	-1.4	1054	2.2	0.2	1.7	-0.1	1054
48-59 months	12.1	1.3	-0.9	983	27.1	12.8	-1.3	983	2.1	0.3	3.1	0.0	983
Mother's education													
None	10.9	2.6	-0.6	319	17.0	9.6	-.8	319	3.2	0.7	3.4	0.0	319
Primary	16.1	2.9	-0.9	3405	29.4	11.2	-1.3	3405	4.1	0.7	3.1	-0.1	3405
Secondary+	12.2	2.0	-0.7	1145	22.9	8.7	-1.0	1145	3.6	0.3	4.6	-0.1	1145
Missing/DK	(*)	(*)	(*)	3	(*)	(*)	(*)	3	(*)	(*)	(*)	(*)	3
Wealth index quintile													
Poorest	18.6	4.0	-1.0	1123	32.7	13.4	-1.4	1123	4.8	0.9	2.7	-0.2	1123
Second	16.5	2.9	-0.9	1024	28.2	10.2	-1.3	1024	4.3	0.8	3.3	-0.1	1024
Middle	13.4	2.3	-0.8	963	26.3	10.5	-1.2	963	3.8	0.5	3.2	-0.1	963
Fourth	14.8	2.4	-0.8	915	26.8	11.1	-1.2	915	3.5	0.7	2.8	-0.1	915
Richest	9.9	1.3	-0.5	846	19.3	6.7	-0.8	846	2.6	0.1	5.8	0.1	846
Total	**14.9**	**2.7**	**-0.8**	**4871**	**27.1**	**10.6**	**-1.2**	**4871**	**3.9**	**0.6**	**3.5**	**-0.1**	**4871**

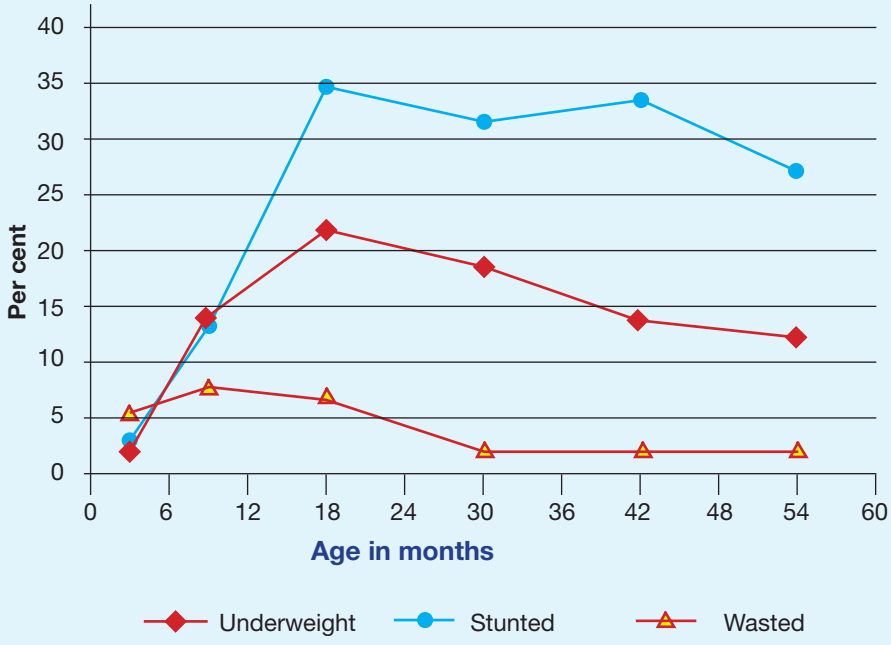
[1] MICS indicator 2.1a and MDG indicator 1.8, [2] MICS indicator 2.1b, [3] MICS indicator 2.2a, [4] MICS indicator 2.2b, [5] MICS indicator 2.3a, [6] MICS indicator 2.3b

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 98% of children had both their weights and heights measured (Table DQ.6), with 2% and 2.3% of children being excluded due to weight and height measurements not being available or out of the acceptable ranges. Table DQ.7 shows that due to incomplete dates of birth, implausible measurements, and missing weight and/or height, 2.5 per cent of children have been excluded from calculations of the weight-for-age indicator, while the figures are 3.0% for the height-for-age indicator, and 2.8% for the weight-for-height indicator.

About 15 per cent of children under age five in Nyanza province are moderately or severely underweight and 3% per cent are classified as severely underweight (Table NU.1). More than a quarter of children (27% per cent) are moderately or severely stunted or too short for their age and 4 per cent are moderately or severely wasted or too thin for their height. The prevalence of stunting is 26 per cent in female children and 28 per cent in male children whereas it is 23 per cent in children living in urban areas of Nyanza and 26 per cent in children living in the rural areas.

It is also of interest to note that malnutrition levels decline with increasing levels of the wealth index. For example, 33 per cent of children from the poorest wealth index are moderately or severely stunted compared to 19 per cent among those from richest wealth index households. This pattern is also true for underweight indicators where 19% of children from the poorest wealth quintile are moderately or severely underweight compared to 10 per cent among those from the richest households.

Figure NU.1: Percentage of children under age 5 who are underweight, stunted and wasted, Nyanza Province, Kenya, 2011



Among the 6 counties, the underweight prevalence ranged from 13 per cent to 17 per cent. The prevalance of stunting ranged from 24 to 32 per cent while wasting ranged from 1 per cent to 6 per cent. Moderate or severe underweight prevalence ranged from 11 and 12 per cent among children with mothers having no education and secondary education or higher to 16 per cent among those with mothers having primary level education. This pattern is expected and is related to the age at which many children cease to be breastfed and are exposed to contamination in water, food, and environment. Overweight prevalence is low across the entire province (3.5%), and ranged from 3% among children from the poorest households to 6 per cent among children from the richest households (Table NU.1).

Breastfeeding and Infant and Young Child Feeding

Breastfeeding for the first few years of life protects children from infection, provides an ideal source of nutrients, and is economical and safe. However, many mothers stop breastfeeding too soon and there are often pressures to switch to infant formula, which can contribute to growth faltering and micronutrient malnutrition and is unsafe if clean water is not readily available. The World Fit for Children goal states that children should be exclusively breastfed for 6 months and continue to be breastfed with safe, appropriate and adequate complementary feeding for up to 2 years of age and beyond.

WHO/UNICEF have the following feeding recommendations:

- Exclusive breastfeeding for first six months
- Continued breastfeeding for two years or more
- 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. This is to ensure that the colostrum available in the first breast milk received by the child.

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, Nyanza Province, Kenya, 2011

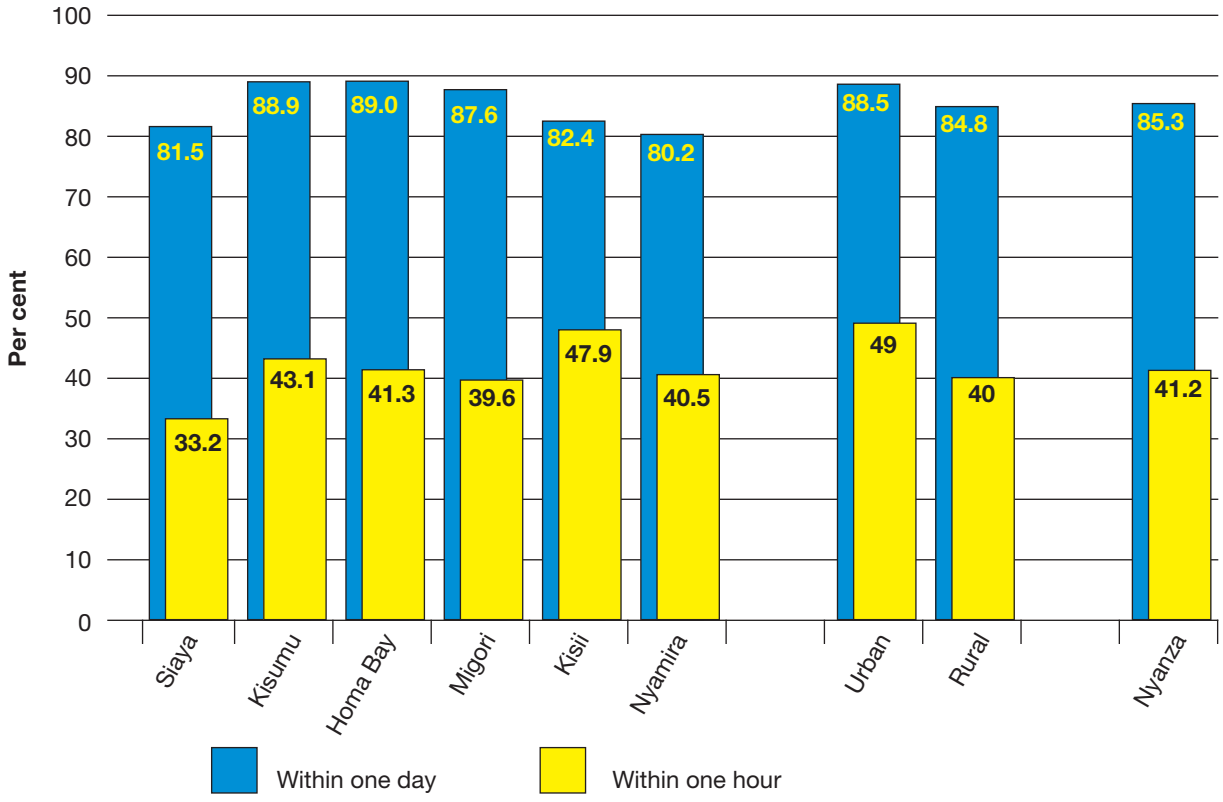
	Percentage who were ever breastfed [1]	Percentage who were first breastfed:		Number of last-born children in the two years preceding the survey
		Within one hour of birth [2]	Within one day of birth	
County				
Siaya	96.0	33.2	81.5	318
Kisumu	97.1	43.1	88.9	318
Homa Bay	97.7	41.3	89.0	316
Migori	96.2	39.6	87.6	326
Kisii	96.2	47.9	82.4	370
Nyamira	94.6	40.5	80.2	164
Residence				
Urban	96.3	49	88.5	240
Rural	96.4	40	84.8	1572
Months since birth				
0-11 months	97.7	41.8	86.3	946
12-23 months	96.6	41.1	85.5	802
Assistance at delivery				
Skilled attendant	98.3	46.9	88.3	1008
Traditional birth attendant	97.8	35.5	86.9	400
Other	90.3	31.9	74.9	280
No attendant	90.5	33.4	78.9	124
Place of delivery				
Public sector health facility	98.5	49.0	88.8	711
Private sector health facility	98.4	42.5	86.6	244
Home	97.6	35.0	85.3	779
Other	59.6	27.2	49.1	78
Mother's education				
None	94.8	41.7	83.9	89
Primary	96.8	39.5	85.5	1287
Secondary+	95.7	46.0	85.0	436
Wealth index quintile				
Poorest	95.3	34.8	81.1	415
Second	96.2	35.8	84.6	355
Middle	99.3	43.6	88.7	354
Fourth	96.9	47.4	88.5	345
Richest	94.5	45.5	84.3	341
Total	**96.4**	**41.2**	**85.3**	**1812**

[1] MICS indicator 2.4
[2] MICS indicator 2.5

Table NU.2 provides the proportion of children born in the last two years who were ever breastfed, those who were first breastfed within one hour and one day of birth. Although a very important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother, only 41 per cent of babies were breastfed for the first time within one hour of birth, while 85 per cent of newborns in Nyanza province start breastfeeding within one day of birth.

The proportion of newborns of mothers with secondary or higher level of education who receives first breast milk within one hour of birth is 46 per cent, while it is 42 per cent for those with mothers with no education. 84 per cent of mothers with no education and 85 per cent of mothers by secondary education or higher breast fed their newborn children within the first day of birth. Almost one in two mothers in urban areas breastfeed within an hour of birth (49 per cent) while the corresponding figure is 40 per cent for those from rural areas. At the regional level, breastfeeding within one hour ranges from 33 per cent in Siaya County to 48 per cent in Kisii County.

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



In Table NU.3, breastfeeding status is 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, Nyanza Province, Kenya, 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	34.2	49.1	238	81.6	175	35.5	140
Female	37.4	55.2	242	83.0	133	52.3	140
County							
Siaya	28.7	42.9	100	(83.4)	45	(52.5)	50
Kisumu	38.5	58.1	84	(83.1)	50	(39.7)	46
Homa Bay	35.0	53.8	88	80.7	63	(36.8)	48
Migori	35.6	56.3	73	78.9	49	50.5	55
Kisii	41.6	55.6	88	83.4	72	(41.2)	54
Nyamira	(37.1)	(45.8)	47	(84.9)	30	(39.7)	27
Residence							
Urban	(46.2)	(57.1)	55	(63.9)	28	(48.6)	45
Rural	34.5	51.6	425	84.1	280	43.0	235
Mother's education							
None	(48.0)	(55.7)	28	(*)	21	(*)	20
Primary	35.4	52.4	334	82.8	217	44.9	193
Secondary+	34.2	50.7	118	82.5	70	37.6	67
Wealth index quintile							
Poorest	38.2	51.6	112	86.4	57	42.5	62
Second	28.0	41.0	80	89.4	77	41.1	53
Middle	35.1	57.9	100	79.5	65	40.6	54
Fourth	30.6	53.1	86	80.9	59	(40.1)	49
Richest	44.5	55.2	102	71.8	51	53.6	62
Total	**35.8**	**52.2**	**480**	**82.2**	**309**	**43.9**	**280**

[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

Approximately 36 per cent of children aged less than six months are exclusively breastfed, a level considerably lower than recommended. By age 12-15 months, 82 per cent of children are still being breastfed and by age 20-23 months, 44 per cent are still breastfed. Continued breastfeeding at 2 years ranges from 36 per cent among boys to 52 per cent among girls (Table NU.3).

Different criteria of adequate feeding are used depending on the age of the child. For infants aged 0-5 months, exclusive breastfeeding is considered as adequate feeding. Infants aged 6-8 months are considered to be adequately fed if they are receiving breast milk and complementary food at least two times per day, while infants aged 9-11 months are considered to be adequately fed if they are receiving breast milk and eating complementary food at least three times a day.

Figure NU.3 shows the detailed pattern of breastfeeding by the child's age in months. This figure is obtained by using data from Table NU.A1. Even at the earliest ages i.e before 6 months, the majority of children are receiving liquids or foods other than breast milk. By the end of the fourth month, the percentage of children exclusively breastfed is below 30 per cent. Only about 36 per cent of children are being breastfed by the age of 22-23 months.

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

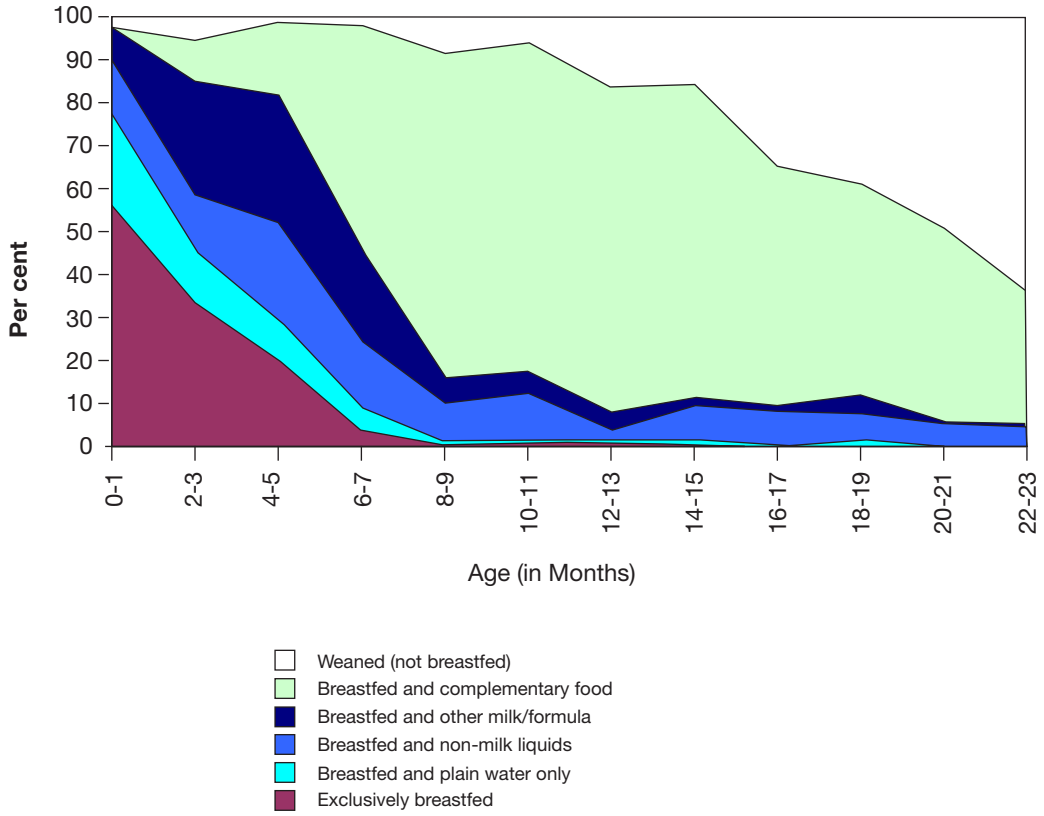


Table NU.4 shows the median duration of breastfeeding by selected background characteristics. Among children under age 3, the median duration is 20.5 months for any breastfeeding, 1.3 months for exclusive breastfeeding, and 2.7 months for predominant breastfeeding. Median duration of exclusive breastfeeding is higher among women with no education (2.4 months) compared to those with secondary or higher education (0.6 months). In contrast, duration of any breastfeeding is comparable across all women irrespective of the education level. Median duration of any breastfeeding for women from rural areas is 20.4 while that for those from urban areas is 21.1 months.

Table NU.4: Duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Nyanza Province, Kenya, 2011				
	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding [1]	Exclusive breastfeeding	Predominant breastfeeding	
Sex				
Male	19.2	1.4	2.5	1465
Female	21.3	1.1	3.0	1453
County				
Siaya	21.7	0.7	2.1	492
Kisumu	21.0	1.1	3.2	502
Homa Bay	19.5	1.8	2.9	512
Migori	21.0	1.6	3.3	522
Kisii	19.2	0.7	3.0	635
Nyamira	20.8	1.8	2.3	253
Residence				
Urban	21.1	1.9	3.4	369
Rural	20.4	1.2	2.6	2548
Mother's education				
None	20.7	2.4	3.1	171
Primary	20.6	1.5	2.7	2033
Secondary+	20.0	0.6	2.6	713
Wealth index quintile				
Poorest	18.8	1.7	2.6	677
Second	20.8	0.7	2.1	584
Middle	20.3	1.1	3.1	557
Fourth	20.7	0.9	2.8	561
Richest	21.5	1.9	3.1	537
Median	**20.5**	**1.3**	**2.7**	**2917**
Mean for all children (0-35 months)	**20.0**	**2.2**	**3.6**	**2917**
[1] MICS indicator 2.10				

The adequacy of infant feeding in children under 24 months is provided in Table NU.5. Different criteria of adequate feeding are used depending on the age of the child. For infants age 0–5 months, exclusive breastfeeding is considered as adequate feeding, while infants age 6–23 months are considered to be adequately fed if they are receiving breastmilk and solid, semi-solid or soft food (breastfeeding is recommended to be continued up to 24 months of age or beyond). The results show that most children are not fed in the appropriate way. About one third of children less than six months (36 per cent) are exclusively breastfed. From six months of age, complementary feeding is to be introduced while breastfeeding continues. However, about 59 per cent of children of children 6–23 months were receiving complementary foods and breastmilk at the same time. Overall, only about 53 per cent of children of children 0–23 months are appropriately breastfeed. Appropriate breastfeeding of infants aged 0-23 months ranges from 42 per cent in Kisumu county to 61 per cent in Nyamira county.

Table NU.5: Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Nyanza Province, Kenya, 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	34.2	238	58.3	698	52.2	936
Female	37.4	242	60.4	692	54.4	934
County						
Siaya	28.7	100	64.7	240	54.1	340
Kisumu	38.5	84	42.9	237	41.7	320
Homa Bay	35.0	88	55.2	252	50.0	340
Migori	35.6	73	62.6	249	56.4	322
Kisii	41.6	88	64.5	297	59.2	385
Nyamira	(37.1)	47	71.1	116	61.3	163
Residence						
Urban	46.2	55	52.2	174	50.7	230
Rural	34.5	425	60.4	1216	53.7	1641
Mother's education						
None	(48.0)	28	54.8	72	52.9	100
Primary	35.4	334	59.2	988	53.2	1322
Secondary+	34.2	118	60.7	330	53.7	448
Wealth index quintile						
Poorest	38.2	112	57.5	324	52.5	436
Second	28.0	80	64.4	282	56.4	362
Middle	35.1	100	60.7	278	53.9	378
Fourth	30.6	86	59.1	265	52.1	351
Richest	44.5	102	54.7	242	51.7	343
Total	**35.8**	**480**	**59.4**	**1390**	**53.3**	**1870**

[1] MICS indicator 2.6
[2] MICS indicator 2.14
( ) 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 needed 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, 57 per cent of infants age 6-8 months received solid, semi-solid, or soft foods during the previous day (Table NU.6). Among currently breastfeeding infants this percentage is 56 while only a few infants in this age-range were not currently breastfeeding. There are no major variations in the proportions of 6-8 months who received solid, semi-solid or soft foods during the previous day, by gender.

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, Nyanza Province, Kenya, 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	54.7	127	(*)	4	56.3	132
Female	56.9	125	(*)	4	57.2	130
Residence						
Urban	(38.8)	34	-	0	(38.8)	34
Rural	58.4	219	(*)	8	59.4	228
Total	**55.8**	**253**	**(*)**	**8**	**56.7**	**262**

[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). Overall, about one-third of the children age 6-23 months (32 per cent) were receiving solid, semi-solid and soft foods the minimum number of times. The proportion of females enjoying the minimum meal frequency is 31 per cent while for males it is 33 per cent. The minimum meal frequency proportion ranges from in 18 per cent in Kisumu County - a more urbanized County- to 40 per cent in Nyamira and 43 per cent in Migori County.

Table NU.7: Minimum meal frequency

Percentage of children age 6-23 months who received solid, semi-solid, or soft foods (and milk feeds for non-breastfeeding children) the minimum number of times or more during the previous day, according to breastfeeding status, Nyanza Province, Kenya, 2011

	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
County							
Siaya	34.1	188	25.6	35.9	52	34.5	240
Kisumu	19.8	181	13.5	10.4	56	17.6	237
Homa Bay	26.2	184	18.9	29.0	68	27.0	252
Migori	40.7	193	45.7	50.3	56	42.8	249
Kisii	32.9	219	26.1	38.4	78	34.4	297
Nyamira	38.9	86	(37.9)	(45.0)	30	40.4	116
Sex							
Male	33.2	514	25.0	32.5	184	33.0	698
Female	30.1	538	28.9	36.0	154	31.4	692
Age							
6-8 months	41.4	253	(*)	(*)	9	41.8	262
9-11 months	28.2	242	(*)	(*)	18	28.4	261
12-17 months	25.5	343	26.0	42.3	98	29.3	441
18-23 months	33.6	214	26.2	29.8	213	31.7	427
Area							
Rural	31.3	923	24.3	34.1	293	32.0	1216
Urban	33.7	129	(42.7)	(33.6)	45	33.7	174
Mother's education							
None	(38.9)	49	(54.0)	(45.7)	24	41.1	72
Primary	31.6	754	22.9	31.2	234	31.5	988
Secondary+	30.1	249	30.0	39.1	81	32.3	330
Wealth index quintiles							
Poorest	26.9	240	15.0	28.2	84	27.3	324
Second	29.4	222	18.1	25.3	60	28.5	282
Middle	36.5	208	34.1	39.0	70	37.1	278
Fourth	32.6	205	31.6	49.0	60	36.3	265
Richest	33.9	177	37.8	30.7	65	33.0	242
Total	**31.6**	**1052**	**26.8**	**34.1**	**339**	**32.2**	**1390**

1] MICS indicator 2.15

[2] MICS indicator 2.13

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

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 prevalent in Nyanza province. About one in ten children under 24 months are fed using a bottle with a nipple.

Table NU.8: Bottle feeding

Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, Nyanza Province, Kenya, 2011			
		Percentage of children age 0-23 months fed with a bottle with a nipple [1]	Number of children age 0-23 months
County	Siaya	10.5	340
	Kisumu	11.8	320
	Homa Bay	12.5	340
	Migori	21.0	322
	Kisii	5.1	385
	Nyamira	9.0	163
Sex	Male	11.4	936
	Female	11.9	934
Age	0-5 months	13.7	480
	6-11 months	14.5	522
	12-23 months	8.8	868
Area	Rural	11.4	1641
	Urban	13.8	230
Mother's education	None	15.6	100
	Primary	11.0	1322
	Secondary+	12.7	448
Wealth index quintiles	Poorest	10.2	436
	Second	9.6	362
	Middle	12.5	378
	Fourth	11.4	351
	Richest	15.1	343
Total		**11.7**	**1870**
[1] MICS indicator 2.11			

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 indicator is the percentage of households consuming adequately iodized salt (>15 parts per million).

In Kenya, the nutrition program in the Ministry of Public Health shares responsibility with the Kenya Bureau of Standards, for regulation of iodized salt and for managing the national salt iodization program. A national committee, headed by the MOPH, deals with iodine, iron, and vitamin A, and works with WHO, UNICEF, salt producers, and others. Recommendations by the MOPH for increasing compliance with the iodine contents include more training for district mid-level health officers and the operational staff, IEC for iodized salt, monitoring of salt for iodine content, and utilization of the national laboratory for urinary iodines.

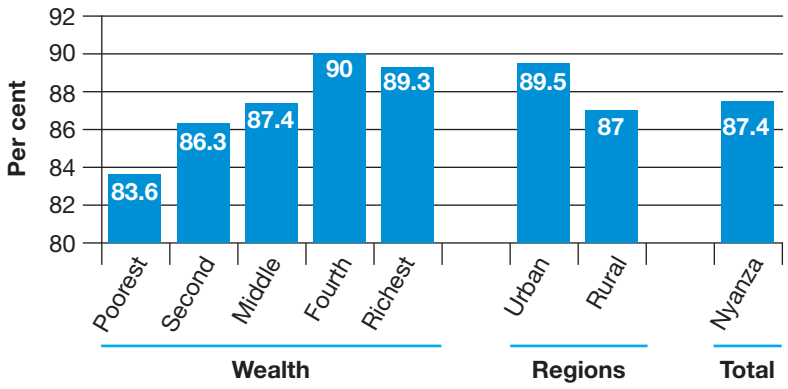
Table NU.9: Iodized salt consumption

Percentage distribution of households by consumption of iodized salt, Nyanza Province, Kenya, 2011								
	Percentage of households in which salt was tested	Number of households	Percent of households with					Number of households in which salt was tested or with no salt
				Salt test result				
			No salt	Not iodized 0 PPM	>0 and <15 PPM	15+ PPM [1]	Total	
County								
Siaya	90.0	1209	9.1	0.2	3.4	87.3	100.0	1197
Kisumu	88.9	1261	8.6	0.2	1.0	90.3	100.0	1226
Homa Bay	82.0	1089	15.8	0.0	0.7	83.5	100.0	1061
Migori	92.4	1128	7.1	0.1	1.7	91.2	100.0	1121
Kisii	87.6	1483	10.7	0.6	1.0	87.6	100.0	1455
Nyamira	81.6	657	17.2	1.0	0.8	81.0	100.0	648
Residence								
Urban	89.6	1077	8.8	0.1	1.5	89.5	100.0	1059
Rural	87.2	5751	11.2	0.3	1.5	87.0	100.0	5649
Wealth index quintile								
Poorest	83.8	1347	14.7	0.2	1.5	83.6	100.0	1323
Second	86.9	1311	11.5	0.7	1.4	86.3	100.0	1288
Middle	88.2	1319	10.5	0.3	1.8	87.4	100.0	1300
Fourth	89.6	1340	8.6	0.2	1.3	90.0	100.0	1313
Richest	89.2	1510	9.2	0.2	1.4	89.3	100.0	1483
Total	**87.6**	**6828**	**10.9**	**0.3**	**1.5**	**87.4**	**100.0**	**6708**

[1] MICS indicator 2.16

During the 2011 Nyanza MICS survey, in about 88 per cent of households, the salt used for cooking was tested for iodine content by using salt test kits and testing for the presence of potassium iodate content. Table NU.9 shows that in about one out of ten households (11 per cent), there was no salt available. In 87 per cent of households, salt was found to contain 15 parts per million (ppm) or more of iodine. Use of iodized salt ranges from 81 per cent in Nyamira County and 84 per cent in Homa Bay County to 91 per cent in Migori County. A majority of households from both rural and urban areas were found to be using adequately iodized salt (90 per cent in urban households and 87 per cent in rural areas. Similarly, iodized salt consumption ranges from 84 per cent among poorest households to 90 and 89 per cent among households in the fourth and richest wealth quintiles, (Figure NU.4).

Figure NU.4 Percentage of households consuming adequately iodized salt, Nyanza Province, Kenya, 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 six to 59 months living in affected areas. Providing young children with two high-dose vitamin A capsules a year is a safe, cost-effective, efficient strategy for eliminating vitamin A deficiency and improving child survival. Giving vitamin A to new mothers who are breastfeeding helps protect their children during the first months of life and helps to replenish the mother's stores of vitamin A, which are depleted during pregnancy and lactation. For countries with vitamin A supplementation programs, the definition of the indicator is the per cent of children 6-59 months of age receiving at least one high dose vitamin A supplement in the last six months.

Undernutrition is associated with widespread micronutrient deficiencies. Although recent data are not available, it is likely that iodine deficiency disorders are still prevalent. The national salt iodisation programme needs to be evaluated. Vitamin A deficiency and iron deficiency anaemia are both highly prevalent in the country. The implementation of supplementation in vitamin A and iron is still insufficient. More long-term strategies are needed such as fortification, dietary diversification and nutritional education. Based on UNICEF/WHO guidelines, the Kenya Ministry of Public Health recommends that children aged 6-11 months be given one high dose Vitamin A capsules and children aged 12-59 months given a vitamin A capsule every 6 months. In some parts of the country, Vitamin A capsules administration are linked to immunization services and are given when the child has contact with these services after six months of age. It is also recommended that mothers take a Vitamin A supplement within eight weeks of giving birth due to increased Vitamin A requirements during pregnancy and lactation.

Table NU.10 shows children's vitamin A supplementation by selected background characteristics such as sex and age of child, mother's education, and household's wealth index. Within the six months prior to the survey, 47 per cent of children aged 6-59 months received a high dose Vitamin A supplement. The proportion of female children receiving Vitamin A supplementation within last six months at 48 per cent is comparable with male children (47 per cent). There is a consistent decline in Vitamin A supplementation with the age of children within the 6 months window prior to the survey. For example, supplementation in the last six months declines from 74 per cent among children aged 6-11 months to 38 per cent among children aged 48-59 months. The differentials by household wealth index show no clear variation with Vitamin A supplementation coverage. For example, 46 per cent of children from poorest wealth index households received Vitamin A supplementation compared to 52 and 46 per cent among those from the

fourth and richest wealth index households. At the county levels, Vitamin A supplementation coverage during the last 6 months ranges from 39 per cent in Nyamira County to 59 per cent in Siaya County.

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, Nyanza Province, Kenya, 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		
County						
Siaya	7.2	5.7	69.0	58.1	58.6	710
Kisumu	7.2	4.2	53.3	43.2	43.6	777
Homa Bay	6.8	3.8	49.1	40.4	41.7	780
Migori	3.9	2.1	60.4	50.4	50.9	857
Kisii	6.6	4.2	55.4	46.4	46.9	1046
Nyamira	11.3	7.5	49.6	37.9	39.4	395
Sex						
Male	6.7	4.3	56.3	46.2	46.7	2321
Female	6.8	4.2	56.8	47.1	48.1	2244
Area						
Rural	6.5	4.1	56.5	46.8	47.5	4004
Urban	8.7	5.3	56.2	45.6	46.6	561
Age						
6-11	17.5	16.5	77.2	72.8	74.1	522
12-23	15.4	7.6	71.6	52.0	53.8	868
24-35	4.6	2.5	52.1	42.8	43.6	1047
36-47	2.1	1.0	49.8	41.7	42.0	1094
48-59	1.1	0.6	44.9	38.0	38.1	1034
Mother's education						
None	6.3	4.3	47.2	37.6	37.9	317
Primary	5.8	3.8	56.2	46.9	47.5	3189
Secondary+	9.8	5.7	60.3	48.8	49.9	1056
Missing/DK	(*)	(*)	(*)	(*)	(*)	3
Wealth index quintiles						
Poorest	5.6	3.6	54.1	44.9	45.7	1056
Second	5.6	3.9	55.0	46.2	47.1	974
Middle	6.2	2.9	56.9	46.9	47.2	885
Fourth	7.4	5.1	61.6	50.8	51.6	857
Richest	9.6	6.1	55.5	44.8	45.6	793
Total	**6.7**	**4.3**	**56.5**	**46.6**	**47.4**	**4565**

[1] MICS indicator 2.17

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

The mother's level of education is also related to the likelihood of Vitamin A supplementation. The percentage receiving a supplement in the last six months [increases] from 38 per cent among children whose mothers have no education to 48 per cent of those whose mothers have primary education and 50 per cent among children of mothers with secondary or higher education.

Low Birth Weight

Weight at birth is a good indicator not only of a mother's health and nutritional status but also the new-born's chances for survival, growth, long-term health and psychosocial development. Low birth weight (less than 2,500 grams) carries a range of grave health risks for children. Babies who were 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, with 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 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. In developed and developing countries alike, teenagers who give birth when their own bodies have yet to finish growing run the 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 for most developing countries because 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 be 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 birth[8].

Table NU.11 shows the incidence of low birth weight infants by County, residence, the education level of mother, and household wealth index. Overall, 59 per cent of births were weighed at birth and 5.4 per cent of infants weighed less than 2500 grams at birth. A higher proportion of children born to mothers who reside in urban areas were weighed at birth (80 per cent) compared with those born to mothers from rural areas (56 per cent). There is a noticeable increasing trend in the proportion of children weighed at birth with increase in the wealth index. For example, 42 per cent of the children from the poorest wealth index category were weighed at birth, compared to 77 per cent among those from the richest household wealth index category (Table NU.11).

8 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.

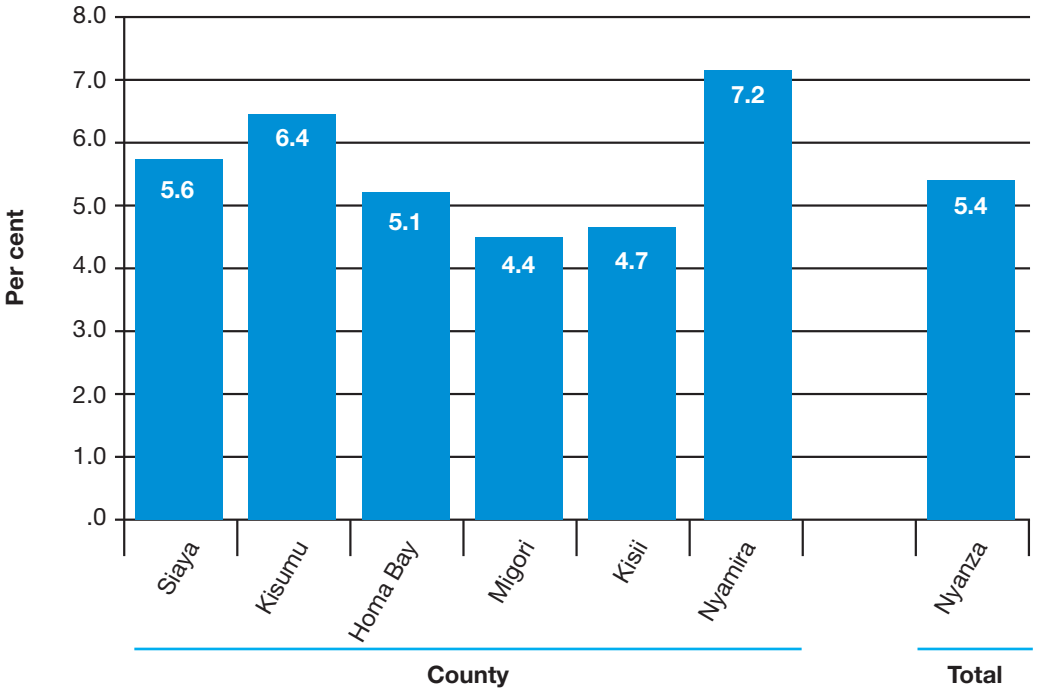
Table NU.11: Low birth weight infants

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, Nyanza Province, Kenya, 2011			
	Percentage of live births:		Number of live births in the last 2 years
	Below 2500 grams [1]	Weighed at birth [2]	
County			
Siaya	5.6	53.8	318
Kisumu	6.4	71.5	318
Homa Bay	5.1	45.8	316
Migori	4.4	57.1	326
Kisii	4.7	59.3	370
Nyamira	7.2	71.0	164
Residence			
Urban	6.1	80.2	240
Rural	5.3	55.5	1572
Mother's education			
None	6.1	72.3	89
Primary	5.3	52.6	1287
Secondary+	5.6	74.2	436
Wealth index quintile			
Poorest	5.4	42.4	415
Second	4.4	52.7	355
Middle	5.1	59.8	354
Fourth	5.7	65.8	345
Richest	6.4	76.8	341
Total	**5.4**	**58.8**	**1812**

[1] MICS indicator 2.18
[2] MICS indicator 2.19

There was significant variation in the proportions of live births weighed at birth by County regions, as well as the proportions of those who weighed below 2500 grams at birth. In Kisumu and Nyamira counties, more than 70 per cent of children were weighed at birth, compared to only 46 per cent and 54 per cent in Homa Bay and Siaya counties.

Figure NU.5 Percentage of infants weighing less than 2500 grams at birth, Nyanza Province, Kenya, 2011



VI. Child Health

Vaccinations

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

A World Fit for Children goal is to ensure full immunization of children under one year of age at 90 per cent nationally, with at least 80 per cent coverage in every district or equivalent administrative unit. The Kenya Expanded Programme on Immunizations (KEPI) and the Malezi Bora campaigns are playing key roles in this regard.

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 influenzae type B disease, four doses of polio vaccine and a single dose of measles vaccine by the age of 9 months.

In the Nyanza province MICS Survey, mothers or care givers of children below five years of age were asked to provide vaccination cards and interviewers copied vaccination information from the cards onto the questionnaire. However, information about children with no immunization card was obtained using a set of structured direct questions on immunization. The immunization coverage shown in this report includes information from card as well as re-call, unless mentioned other-wise.

Overall, 77 per cent of children 12-23 months 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 age 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 so that only children who are old enough to be fully vaccinated are counted. In the first three 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, Nyanza Province, Kenya, 2011				
	Vaccinated at any time before the survey according to			Vaccinated by 12 months of age
	Vaccination card	Mother's report	Either	
BCG [1]	76.5	21.1	97.6	97.2
Polio				
At birth	73.8	17.2	91.0	90.7
1	76.3	20.4	96.7	96.2
2	76.1	15.8	91.8	91.4
3 [2]	74.3	10.1	84.4	83.3
DPT				
1	76.9	20.2	97.1	96.0
2	76.9	18.3	95.2	94.5
3 [3]	76.9	14.2	91.1	90.0
Measles [4]	75.9	19.4	95.3	89.1
All vaccinations	77.2	1.2	78.3	70.3
No vaccinations	0.0	1.6	1.6	1.6
Yellow fever [6]	76.9	7.7	84.6	79.1
Number of children age 12-23 months	868	868	868	868

[1] MICS indicator 3.1; [2] MICS indicator 3.2; [3] MICS indicator 3.3; [4] MICS indicator 3.4; MDG indicator 4.3; [6] MICS indicator 3.6

Approximately 97 per cent of children age 12-23 months received a BCG vaccination by the age of 12 months and the first dose of DPT was given to 96 per cent. The percentage declines for subsequent doses of DPT to 95 per cent for the second dose, and 90 per cent for the third dose (Figure CH.1). Similarly, 96 per cent of children received Polio 1 by age 12 months and this declines to 83 per cent by the third dose. The coverage for measles vaccine by 12 months was at 89 per cent. This is primarily because, although 95 per cent of children received the vaccine, a good number don't receive it by their first birthday. As a result, the percentage of children who had all the recommended vaccinations by their first birthday is low at only 70 per cent. The proportion of children receiving yellow fever vaccination in Nyanza is 79 per cent. The proportion of children who received all vaccines at age 12 months is 70 % whereas the proportion of children who did not receive any type of vaccination is only 2 per cent.

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

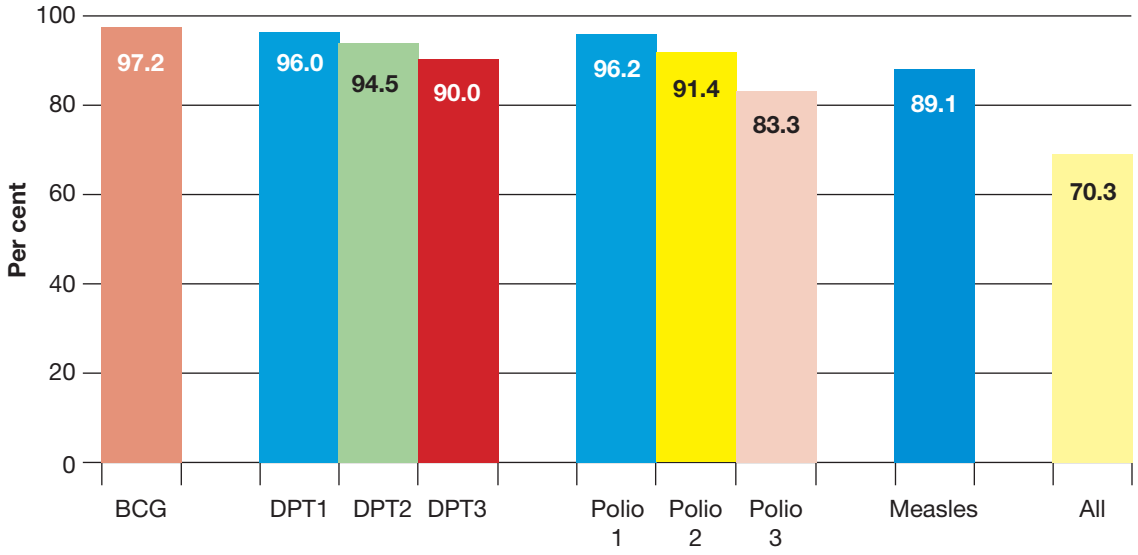


Table CH.2 shows vaccination coverage rates among children 12-23 months by background characteristics. The figures indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and mothers'/caretakers' reports.

The figures indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and mothers'/caretakers' reports. The coverage of BCG, DPT1 and Polio1 is all above 95% in Nyanza province as a whole. However, the coverage of DPT3 and Polio3 by 12 months of age drops by 6 per cent and 12 percentage points respectively. The measles vaccination was received by 95 per cent of children age 12-23 months. Overall, 78 per cent of children aged 12-23 months are fully vaccinated. That is, they had received BCG, 3 doses of DPT, 3 doses of Polio and measles vaccines. The immunization coverage across gender is similary distributed between girls and boys. Vaccination coverage ranges from 70 per cent in urban areas to 78 per cent in rural areas. The good coverage for rural areas is likely due to the fact that around the period of the survey, there was an on-going targeted and mop-up vaccination campaign on polio and other vaccines in majority of the rural areas visited. Similarly, the proportion of children receiving all vaccination across counties ranges from 69 per cent in Homa Bay County to 84 per cent in Migori County. Overall, the proportion of children not receiving any vaccinations is less than 2 per cent and does not vary much by any of the background characteristics considered.

Table CH.2: Vaccinations by background characteristics

Percentage of children age 12-23 months currently vaccinated against childhood diseases, Nyanza Province, Kenya, 2011

	Percentage of children who received:											Percentage with vaccination card seen	Number of children age 12-23 months
	BCG	Polio				DPT			Measles	Yellow fever	None	All		
		At birth	1	2	3	1	2	3						
Sex														
Male	98.7	91.3	95.5	91.8	83.9	97.5	95.0	91.7	95.8	84.9	1.1	78.2	77.5	443
Female	96.4	90.8	97.9	91.9	85.0	96.7	95.3	90.6	94.7	84.3	2.1	78.5	76.0	425
County														
Siaya	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
Kisumu	99.3	91.3	94.9	85.2	79.1	97.7	94.4	87.5	96.1	83.4	0.7	74.0	73.7	147
Homa Bay	94.8	85.4	97.2	89.4	75.6	95.6	92.2	86.7	91.5	78.5	2.8	68.5	66.6	165
Migori	96.6	93.1	96.4	92.9	87.5	97.7	96.6	94.0	96.4	89.0	2.3	84.3	82.9	152
Kisii	100.0	96.3	98.2	95.2	91.0	98.2	96.6	95.0	96.8	87.1	0.0	83.6	82.1	187
Nyamira	98.3	92.2	96.6	95.7	89.2	97.4	96.8	94.8	98.2	87.6	1.7	82.9	83.8	80
Area														
Urban	100.0	94.8	95.8	87.4	81.9	96.1	93.2	89.6	92.9	82.7	0.0	71.6	69.5	107
Rural	97.2	90.5	96.8	92.5	84.8	97.3	95.5	91.3	95.6	84.8	1.8	79.3	77.8	762
Mother's education														
None	95.1	92.3	93.9	89.6	82.2	95.1	91.7	91.7	95.1	82.1	4.9	71.4	68.3	52
Primary	97.3	90.4	96.6	92.2	84.9	97.0	95.1	91.1	94.4	83.5	1.8	78.4	77.0	613
Secondary+	98.9	92.5	97.7	91.3	83.6	98.1	96.4	91.1	98.0	88.3	0.2	80.0	78.2	203
Wealth index quintile														
Poorest	95.4	88.2	95.6	92.2	85.3	95.5	93.2	88.6	92.1	83.3	3.5	79.4	79.1	195
Second	96.3	91.3	96.0	91.2	87.0	97.3	96.1	93.1	96.7	86.8	2.2	82.2	80.2	181
Middle	98.4	90.7	98.0	95.5	84.7	97.4	96.2	90.6	95.1	86.9	1.1	80.0	78.0	177
Fourth	99.1	91.2	98.5	90.6	85.0	99.1	98.0	93.7	98.4	85.5	0.0	78.8	76.9	159
Richest	99.3	94.3	95.8	89.3	79.5	96.6	92.5	90.0	94.5	80.1	0.7	70.2	68.2	156
Total	**97.6**	**91.0**	**96.7**	**91.8**	**84.4**	**97.1**	**95.2**	**91.1**	**95.3**	**84.6**	**1.6**	**78.3**	**76.8**	**868**

Neonatal Tetanus Protection

One of the MDGs is to reduce by three quarters the Maternal Mortality Ratio (MMR), with one strategy being to eliminate maternal tetanus. The other goal related to this indicator is to reduce the incidence of neonatal tetanus to less than 1 case of neonatal tetanus per 1,000 live births. A World Fit for Children goal is to eliminate maternal and neonatal tetanus by 2005.

Prevention of maternal and neonatal tetanus requires that 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 of women who have had a live birth within the last 2 years. In Nyanza Province, 64 per cent of women who had a live birth during two year preceding the survey had adequate protection against tetanus. The differentials in the neonatal tetanus protection coverage by background characteristics are also shown in Table CH.3. The women in Homa Bay were more likely to receive neonatal tetanus protection compared to their counterparts in Nyamira and Migori. The differentials by wealth index of the household show some variations, with a wider gap between women from the poorest and the richest wealth index households.

Table CH.3: Neonatal tetanus protection

Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, Nyanza Province, Kenya, 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		
County							
Siaya	48.0	13.0	0.0	0.0	0.0	61.0	318
Kisumu	55.6	9.0	0.0	0.0	0.0	64.5	318
Homa Bay	54.6	19.7	0.0	0.0	0.0	74.2	316
Migori	48.4	6.3	0.0	0.0	0.3	55.1	326
Kisii	45.6	21.4	0.0	0.0	0.0	67.0	370
Nyamira	48.7	10.6	0.0	0.0	0.3	59.7	164
Area							
Urban	60.5	8.2	0.0	0.0	0.0	68.7	240
Rural	48.5	14.6	0.0	0.0	0.1	63.2	1572
Education							
None	48.8	14.7	0.0	0.0	0.0	63.5	89
Primary	48.0	13.6	0.0	0.0	0.1	61.7	1287
Secondary+	56.6	14.1	0.0	0.0	0.0	70.7	436
Wealth index quintile							
Poorest	43.1	13.8	0.0	0.0	0.2	57.1	415
Second	48.4	16.3	0.0	0.0	0.2	64.9	355
Middle	50.9	13.9	0.0	0.0	0.0	64.8	354
Fourth	50.7	13.6	0.0	0.0	0.0	64.3	345
Richest	58.9	11.2	0.0	0.0	0.0	70.1	341
Total	**50.1**	**13.8**	**0.0**	**0.0**	**0.1**	**64.0**	**1812**

[1] MICS indicator 3.7

Oral Rehydration Treatment

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

The goals are to: 1) reduce by one half death due to diarrhoea among children under five by 2010 compared to 2000 (A World Fit for Children); and 2) reduce by two thirds the mortality rate among children under five by 2015 compared to 1990 (Millennium Development Goals). In addition, the World Fit for Children calls for a reduction in the incidence of diarrhoea by 25 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, 16 per cent of under five children had diarrhoea in the two weeks preceding the survey (Table CH.4). Diarrhoea prevalence was highest in Siaya and Kisumu Counties. The peak of diarrhoea prevalence occurs in the weaning period, among children age 12-23 months.

Table CH.4 also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Since mothers were able to name more than one type of liquid, the percentages do not necessarily add to 100. About one in four children (25 per cent) received fluids from ORS packets or pre-packaged ORS fluids and 35 per cent received ORS or recommended homemade fluids (Figure CH.3). Approximately 12 per cent of children with diarrhoea received one or more of the recommended home treatments (i.e., were treated with sugar and salt solution). The proportion taking ORS or any recommended homemade fluid was highest in Siaya County (50%).

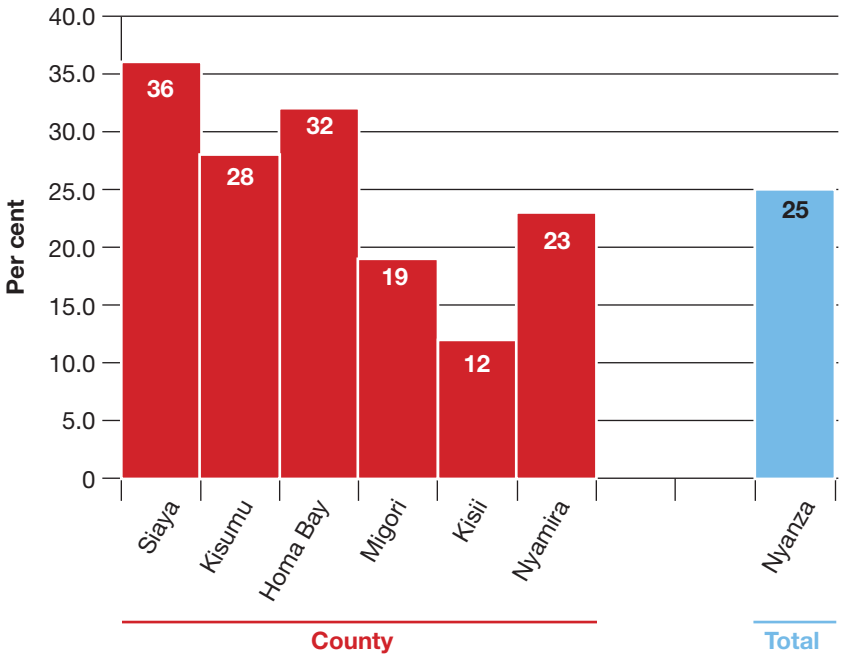
Table CH.4: Oral rehydration solutions and recommended homemade fluids

Percentage of children age 0-59 months with diarrhoea in the last two weeks, and treatment with oral rehydration solutions and recommended homemade fluids, Nyanza Province, Kenya, 2011

		Had diarrhoea in last two weeks	Number of children aged 0-59 months	ORS (Fluid from ORS package or pre-packaged ORS fluid)	Any Recommended Homemade Fluid	ORS or any recommended homemade fluid	Number of children aged 0-59 months with diarrhea
Sex	Male	17.8	2559	25.6	12.1	35.5	455
	Female	13.6	2486	24.5	12.6	33.8	339
County	Siaya	19.5	809	35.7	18.9	50.1	158
	Kisumu	18.2	861	27.7	12.0	39.7	156
	Homa Bay	15.6	868	31.5	11.4	36.7	136
	Migori	12.9	930	19.5	6.3	25.0	120
	Kisii	14.6	1135	12.1	10.8	21.6	165
	Nyamira	13.2	442	23.4	13.9	33.6	58
Area	Rural	15.3	4429	25.2	13.1	35.4	676
	Urban	19.2	616	24.8	7.3	31.3	118
Age	0-11	21.2	1002	24.3	17.2	37.8	213
	12-23	25.4	868	29.9	12.1	39.7	221
	24-35	16.5	1047	26.3	8.8	32.0	172
	36-47	9.2	1094	21.5	11.9	31.0	101
	48-59	8.4	1034	17.2	7.8	25.0	87
Mother's education	None	12.3	345	(28.6)	(8.0)	(36.6)	42
	Primary	17.0	3523	24.6	11.9	33.8	598
	Secondary+	13.0	1178	26.3	14.9	38.1	153
Wealth index quintiles	Poorest	15.8	1168	17.3	13.6	29.5	184
	Second	16.2	1054	25.9	9.6	34.3	171
	Middle	15.5	985	30.7	16.9	41.9	152
	Fourth	14.6	944	25.1	13.4	35.2	138
	Richest	16.5	894	28.3	7.9	34.2	148
Total		**15.7**	**5045**	**25.1**	**12.3**	**34.8**	**794**

( ) Based on 25-49 unweighted cases.

Figure CH.3 Percentage of children under age 5 with diarrhoea who received oral rehydration solution, Nyanza Province, 2011



One in four (25 per cent) of under five children with diarrhoea drank more than usual while, 38 per cent drank the same or somewhat less, and 36 per cent were given much less to drink (Table CH.5). About 17, 26 and 2 per cent ate somewhat less, same or were given more (continued feeding) respectively, while 42 and 14 per cent ate much less or ate almost none.

Table CH.5: Feeding practices during diarrhoea

Percentage 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, Nyanza Province, Kenya, 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 aged 0-59 months with diarrhoea
				Given much less to drink	Given about the same (or somewhat less)	Given more to drink	Missing/ DK	Total	Given none to eat	Given much less to eat	Given somewhat less to eat	Given about the same to eat	Given more to eat	Missing/ DK	Total	
Sex	Male	17.8	2559	36.0	37.7	25.5	0.8	100.0	13.8	41.9	17.0	24.2	2.4	0.7	100.0	455
	Female	13.6	2486	35.9	39.1	25.0	0.0	100.0	13.5	41.0	15.9	27.7	1.7	0.3	100.0	339
County	Siaya	19.5	809	48.8	26.5	24.7	0.0	100.0	19.0	46.0	11.9	18.1	4.3	0.7	100.0	158
	Kisumu	18.2	861	37.0	37.8	24.4	0.8	100.0	13.6	41.6	12.3	31.7	0.0	0.8	100.0	156
	Homa Bay	15.6	868	40.1	31.9	27.3	0.8	100.0	13.5	46.6	12.7	24.4	1.2	1.5	100.0	136
	Migori	12.9	930	24.5	33.4	42.0	0.0	100.0	8.0	45.6	19.8	25.6	1.1	0.0	100.0	120
	Kisii	14.6	1135	28.5	51.7	18.8	0.9	100.0	16.2	30.2	27.1	23.2	3.3	0.0	100.0	165
	Nyamira	13.2	442	33.3	58.6	8.1	0.0	100.0	3.8	41.1	12.6	40.1	2.3	0.0	100.0	58
Area	Rural	15.3	4429	36.4	39.9	23.1	0.6	100.0	13.8	40.8	16.4	26.3	2.1	0.6	100.0	676
	Urban	19.2	616	33.2	29.0	37.8	0.0	100.0	13.0	45.7	17.3	22.1	1.9	0.0	100.0	118
Area	0-11	21.2	1002	42.1	43.0	13.7	1.2	100.0	32.9	31.1	14.0	20.4	0.6	0.9	100.0	213
	12-23	25.4	868	34.7	35.1	29.6	0.6	100.0	10.2	43.6	17.4	25.5	2.2	1.0	100.0	221
	24-35	16.5	1047	33.6	38.0	28.4	0.0	100.0	6.8	45.5	14.8	29.5	3.4	0.0	100.0	172
	36-47	9.2	1094	35.6	34.8	29.6	0.0	100.0	2.4	49.7	23.0	23.2	1.8	0.0	100.0	101
	48-59	8.4	1034	29.0	39.9	31.1	0.0	100.0	2.1	44.5	16.3	34.0	3.1	0.0	100.0	87
Mother's education	None	12.3	345	33.1	36.7	30.2	0.0	100.0	(12.9)	(43.5)	(26.7)	(14.4)	(0.0)	(2.4)	100.0	42
	Primary	17.0	3523	35.8	40.0	23.8	0.4	100.0	12.7	42.3	15.2	26.9	2.4	0.5	100.0	598
	Secondary+	13.0	1178	37.4	32.2	29.4	1.0	100.0	17.6	38.1	19.1	23.8	1.4	0.0	100.0	153
Wealth index quintiles	Poorest	15.8	1168	38.1	40.1	21.0	0.8	100.0	16.0	38.9	18.0	24.4	2.1	0.5	100.0	184
	Second	16.2	1054	40.0	34.9	25.2	0.0	100.0	11.8	45.9	15.4	22.6	4.3	0.0	100.0	171
	Middle	15.5	985	36.1	41.2	22.8	0.0	100.0	15.5	42.1	16.0	25.7	0.6	0.0	100.0	152
	Fourth	14.6	944	27.7	46.0	25.4	0.9	100.0	9.7	29.3	20.3	38.2	1.5	0.9	100.0	138
	Richest	16.5	894	36.2	30.0	33.1	0.7	100.0	14.6	50.5	13.0	19.0	1.5	1.4	100.0	148
Total		**15.7**	**5045**	**36.0**	**38.3**	**25.3**	**0.5**	**100.0**	**13.7**	**41.5**	**16.5**	**25.7**	**2.1**	**0.5**	**100.0**	**794**

( ) Based on 25-49 unweighted cases.

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 percentage of children with diarrhoea who received other treatments. Overall, 35 per cent of children with diarrhoea received ORS or increased fluids, 70 per cent received ORT (ORS or recommended homemade fluids or increased fluids). Combining the information in Table CH.5 with those in Table CH.4 on oral rehydration therapy, it is observed that 43 per cent of children received ORT and, at the same time, feeding was continued, as is the recommendation. There are variations in the home management of diarrhoea by background characteristics. In urban areas, 47 per cent of children received ORT and continued feeding, while the figure is 43 per cent in rural areas.

Figure CH.4 Percentage of children under age 5 with diarrhoea who received ORS fluids, Nyanza Province, Kenya 2011

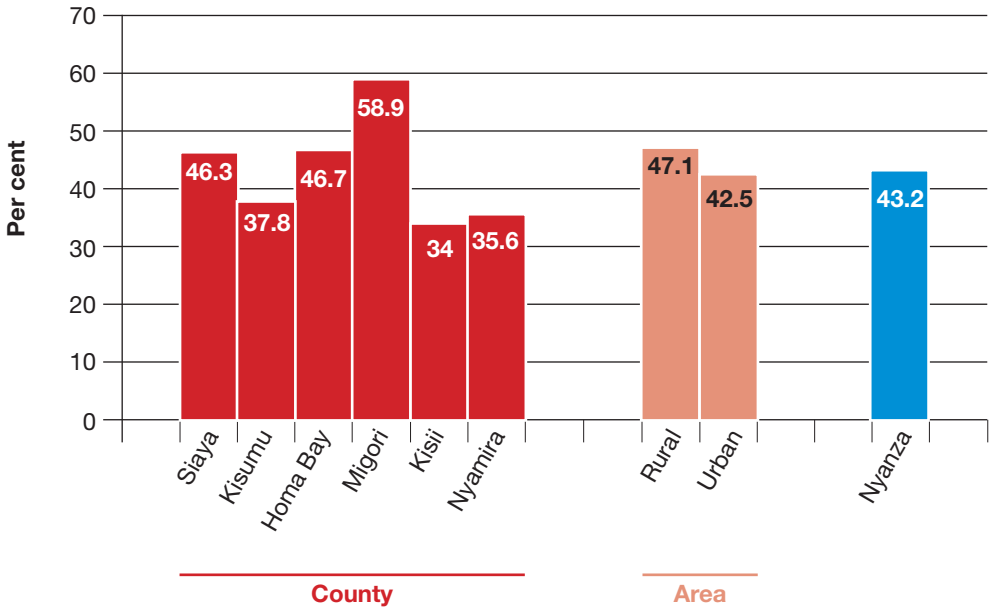


Table CH.6: Oral rehydration therapy with continued feeding and other treatments

Percentage of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and percentage of children with diarrhoea who received other treatments, Nyanza Province, Kenya, 2011

		Children with diarrhoea who received:			Other treatment:											Not given any treatment or drug	Number of children aged 0-59 months with diarrhoea
		ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding [1]	Pill or syrup: Antibiotic	Pill or syrup: Ant motility	Pill or syrup: Zinc	Pill or syrup: Other	Pill or syrup: Unknown	Injection: Antibiotic	Injection: Non-antibiotic	Injection: Unknown	Intravenous	Home remedy/ Herbal medicine	Other		
Sex	Male	35.6	69.7	41.0	20.3	2.1	2.2	0.9	5.3	3.6	0.0	1.1	0.0	13.5	6.3	30.3	455
	Female	33.1	70.0	46.3	24.6	1.8	2.9	0.0	3.6	2.4	0.3	1.1	1.0	13.0	6.1	30.0	339
County	Siaya	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
	Kisumu	38.3	64.8	37.8	21.8	1.6	1.5	0.8	2.8	0.8	0.0	0.7	0.0	9.8	2.2	35.2	156
	Homa Bay	34.8	78.8	46.7	22.8	3.8	1.9	1.3	3.1	2.8	0.0	2.1	0.0	12.7	16.2	21.2	136
	Migori	26.0	72.7	58.9	30.4	3.7	10.2	0.0	6.1	9.6	0.7	2.7	2.9	13.6	4.8	27.3	120
	Kisii	22.7	52.8	34.0	14.8	1.6	0.0	0.0	8.0	0.7	0.0	0.4	0.0	12.4	3.6	47.2	165
	Nyamira	35.9	53.4	35.6	6.7	1.1	1.1	0.6	2.9	0.0	0.0	0.0	0.0	16.7	4.0	46.6	58
Area	Rural	34.9	69.6	42.5	19.8	2.1	2.1	0.3	4.9	2.0	0.1	1.3	0.3	14.3	6.3	30.4	676
	Urban	32.4	71.2	47.1	35.5	1.2	4.9	1.7	2.6	9.5	0.0	0.0	1.0	7.2	6.2	28.8	118
Age	0-11	37.1	69.2	37.3	18.6	2.8	2.8	0.8	4.7	1.7	0.0	0.4	0.0	13.9	5.9	30.8	213
	12-23	39.4	70.3	44.5	25.9	0.7	3.2	0.2	4.1	2.6	0.4	0.9	0.5	13.9	4.5	29.7	221
	24-35	33.5	68.7	44.5	19.7	2.4	1.7	0.7	4.6	4.9	0.0	2.0	0.8	12.0	5.1	31.3	172
	36-47	30.1	76.7	48.9	26.5	2.4	3.4	0.9	7.5	2.3	0.0	0.0	0.9	11.7	9.2	23.3	101
	48-59	23.0	64.0	45.6	21.4	1.4	0.4	0.0	1.8	5.1	0.0	2.6	0.0	14.7	10.5	36.0	87
Mother's education	None	(32.0)	(82.3)	(60.2)	(33.1)	(0.0)	(3.0)	(5.4)	(13.3)	(8.1)	(0.0)	(0.0)	(0.0)	(15.3)	(3.9)	(17.7)	42
	Primary	33.9	68.7	42.4	20.1	2.0	2.6	0.3	4.1	2.8	0.1	1.3	0.6	13.7	6.2	31.3	598
	Secondary+	37.6	70.8	41.8	26.9	2.1	2.0	0.0	3.9	2.9	0.0	0.5	0.0	11.1	7.1	29.2	153
Wealth index quintiles	Poorest	29.5	68.2	38.1	21.5	2.4	1.5	0.3	4.7	1.3	0.5	2.0	0.8	20.9	7.1	31.8	184
	Second	35.5	63.0	39.0	15.2	0.4	2.4	0.2	3.6	1.6	0.0	0.7	0.5	10.6	6.1	37.0	171
	Middle	39.4	74.0	46.5	19.7	3.0	4.2	0.0	5.9	4.0	0.0	2.0	0.0	11.7	4.4	26.0	152
	Fourth	35.5	70.9	50.7	25.6	2.3	1.4	0.9	6.1	1.9	0.0	0.5	0.0	8.6	6.6	29.1	138
	Richest	33.8	74.3	44.1	30.3	1.7	3.1	1.3	2.8	7.3	0.0	0.0	0.8	12.9	7.1	25.7	148
Total		**34.5**	**69.8**	**43.2**	**22.1**	**1.9**	**2.5**	**0.5**	**4.6**	**3.1**	**0.1**	**1.1**	**0.4**	**13.3**	**6.3**	**30.2**	**794**

[1] MICS indicator 3.8 ( ) Based on 25-49 unweighted cases.

Care Seeking and Antibiotic Treatment of Pneumonia

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

Children with suspected pneumonia are those who had an illness with 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 presents the prevalence of suspected pneumonia and, if care was sought outside the home, the site of care. About 9 per cent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Of these children, 51 per cent were taken to an appropriate provider. Appropriate care was mostly sought from government dispensaries and health centres. Many government hospitals are found in urban areas; hence it is not surprising that about 30 per cent of those in urban areas sought appropriate care form the government hospitals compared to only 7 per cent in rural areas.

The differentials in the prevalence of suspected pneumonia by background characteristics such as levels of mother's education and household wealth index are presented in Table CH.7. For example, 8 per cent of the children with mothers with no education had suspected pneumonia compared with 10 and 6 per cent among those educated up to primary and secondary or higher levels, respectively.

Table CH.7 also presents the use of antibiotics for the treatment of suspected pneumonia in under-5s by sex, age, region, residence, age, and socioeconomic factors. In Nyanza, 51 per cent of under-5 children with suspected pneumonia had received an antibiotic during the two weeks prior to the survey. The percentage was higher in urban areas (61 per cent) compared to rural areas (49 per cent). At the regional level, 63 per cent of children in Kisumu with suspected pneumonia received antibiotics in the last two weeks compared to only 31 per cent for those resident in Nyamira County. The table also shows that antibiotic treatment of suspected pneumonia is lower among the three lower wealth index households. In Nyanza, the use of antibiotics does not seem to rise with the age of the child

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,

	Had suspected pneumonia in the last two weeks	Number of children age 0-59 months	Children with suspected pneumonia who were taken to:														Any appropriate provider [1]	Percentage of children with suspected pneumonia who received antibiotics in the last two weeks [2]	Number of children age 0-59 months with suspected pneumonia in the last two weeks
			Public sector: Government hospital	Public sector: Government health centre	Public sector: Government dispensary	Other public	Private: Mission hospital	Private hospital / clinic	Nursing/ maternity home	Private pharmacy	Other private medical	Mobile clinic	Community health worker	Shop	Traditional practitioner	Other			
Sex																			
Male	9.6	2559	10.5	12.4	17.6	0.4	2.4	5.8	0.0	8.2	0.9	0.0	0.5	0.0	0.0	0.0	49.9	50.2	246
Female	7.8	2486	7.5	9.8	24.5	0.0	3.6	4.9	0.0	9.5	1.2	0.8	0.5	0.0	0.0	0.0	51.9	51.2	193
County																			
Siaya	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	54.8	56.0	107
Kisumu	6.2	861	9.3	19.8	9.9	0.0	1.3	7.1	0.0	6.0	1.9	0.0	2.1	0.0	0.0	0.0	51.5	63.0	53
Homa Bay	8.7	868	7.1	11.9	14.7	1.1	6.0	10.6	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	50.0	60.8	76
Migori	7.6	930	8.2	11.3	21.5	0.0	0.4	5.0	0.0	6.9	1.5	0.0	1.3	0.0	0.0	0.0	49.2	47.3	70
Kisii	8.0	1135	7.0	2.3	31.4	0.0	1.5	2.4	0.0	1.4	2.7	0.0	0.0	0.0	0.0	0.0	47.4	40.3	91
Nyamira	9.7	442	9.8	9.3	25.2	0.0	0.0	7.8	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	50.8	31.4	43
Area																			
Rural	9.0	4429	7.0	11.5	22.5	0.2	3.0	5.8	0.0	8.3	1.1	0.4	0.5	0.0	0.0	0.0	51.5	49.6	397
Urban	6.8	616	(29.8)	(8.9)	(3.5)	(0.0)	(2.4)	(1.6)	(0.0)	(13.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(43.6)	(60.6)	42
Age																			
0-11	9.6	1002	10.5	10.5	25.0	0.0	7.8	4.5	0.0	7.1	1.3	1.5	0.0	0.0	0.0	0.0	59.1	55.9	96
12-23	8.4	868	12.8	10.7	21.0	0.0	0.0	5.7	0.0	10.8	0.0	0.0	0.0	0.0	0.0	0.0	50.2	44.6	73
24-35	8.8	1047	8.6	7.9	17.6	0.0	1.2	6.6	0.0	7.6	2.4	0.0	0.0	0.0	0.0	0.0	44.4	52.7	92
36-47	8.1	1094	9.7	12.0	17.6	0.0	3.6	8.1	0.0	4.7	1.2	0.0	1.0	0.0	0.0	0.0	53.1	50.2	88
48-59	8.7	1034	4.9	15.3	21.7	1.0	1.2	2.4	0.0	14.0	0.0	0.0	1.2	0.0	0.0	0.0	46.5	48.3	90
Mother's education																			
None	8.2	345	(7.3)	(10.1)	(15.9)	(0.0)	(7.4)	(8.8)	(0.0)	(11.5)	(3.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(53.0)	(54.5)	28
Primary	9.7	3523	8.5	10.6	20.7	0.3	2.8	5.9	0.0	9.7	0.7	0.4	0.3	0.0	0.0	0.0	49.6	49.4	341
Secondary+	6.0	1178	13.4	14.8	22.3	0.0	1.6	1.6	0.0	2.9	1.7	0.0	1.6	0.0	0.0	0.0	55.3	55.2	70
Wealth index quintiles																			
Poorest	9.8	1168	3.4	12.0	25.7	0.0	2.2	4.4	0.0	7.3	2.2	0.0	0.0	0.0	0.0	0.0	49.8	44.2	115
Second	9.6	1054	8.0	11.7	24.4	0.0	3.9	7.5	0.0	7.2	0.0	0.0	0.9	0.0	0.0	0.0	56.5	51.0	101
Middle	7.6	985	3.7	7.1	23.8	1.2	3.3	3.8	0.0	10.0	0.0	0.0	1.5	0.0	0.0	0.0	44.3	42.3	75
Fourth	8.3	944	10.9	15.6	14.4	0.0	3.6	6.5	0.0	15.0	0.0	1.9	0.0	0.0	0.0	0.0	50.2	56.7	78
Richest	7.8	894	24.3	9.1	10.5	0.0	1.6	4.6	0.0	5.2	3.0	0.0	0.0	0.0	0.0	0.0	51.4	62.9	70
Total	**8.7**	**5045**	**9.2**	**11.3**	**20.6**	**0.2**	**2.9**	**5.4**	**0.0**	**8.8**	**1.0**	**0.3**	**0.5**	**0.0**	**0.0**	**0.0**	**50.7**	**50.6**	**439**

[1] MICS indicator 3.9; [2] MICS indicator 3.10; ; ( ) Based on 25-49 unweighted cases

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 CO, polyaromatic hydrocarbons, SO_2, and other toxic elements. Use of solid fuels increases the risks of acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, and possibly tuberculosis, low birth weight, cataracts, and asthma. The primary indicator is the proportion of the population using solid fuels as the primary source of domestic energy for cooking.

Information regarding solid fuel use by background characteristics such as education level of the household head, wealth index and counties are shown in Table CH.9. Ninety seven per cent of the households in Nyanza use solid fuels for cooking. Seventy five per cent of the households use wood for cooking followed by charcoal (15 per cent). Differentials with respect to household wealth index show that 53 per cent of the richest households use charcoal, while wood is predominantly prevalent among the poor households. A similar pattern is observed among urban and rural households. For example, 65 per cent of households from the urban areas use charcoal compared to only 7 per cent among those from rural areas, while the use of wood is 84 per cent among rural areas versus 19 per cent in urban areas.

The findings show that use of solid fuels is very common among households in the predominantly rural counties (all except Kisumu), and among the richest households. In Siaya, many households rely on straw/shrubs and grass. The table also clearly shows that the overall percentage is high due to high level of use wood for cooking purposes.

Table CH.9: Solid fuel use

Percentage distribution of household members according to type of cooking fuel used by the household, and percentage of household members living in households using solid fuels for cooking, Nyanza Province, Kenya, 2011

	Percentage of household members in households using:														Solid fuels for cooking [1]	Number of household members
	Electricity	Liquid propane gas (LPG)	Natural gas	Biogas	Kerosene	Coal/ lignite	Charcoal	Wood	Straw/ shrubs/ grass	Animal dung	Agricultural crop residue	Other	Missing	Total		
County																
Siaya	0.0	0.3	0.0	0.0	0.6	0.0	13.9	46.7	38.2	0.0	0.0	0.0	0.3	100.0	98.8	4981
Kisumu	0.2	4.1	0.7	0.0	3.5	0.0	25.8	65.2	0.3	0.0	0.0	0.1	0.2	100.0	91.2	5260
Homa Bay	0.0	0.3	0.5	0.0	0.6	0.0	12.2	85.4	0.7	0.0	0.1	0.0	0.2	100.0	98.4	5010
Migori	0.0	0.0	0.8	0.2	0.6	0.0	18.0	79.5	0.0	0.0	0.6	0.0	0.2	100.0	98.2	5333
Kisii	0.6	0.6	0.2	0.0	0.4	0.0	9.1	87.3	0.4	0.1	0.7	0.4	0.1	100.0	97.7	6851
Nyamira	0.0	0.8	0.3	0.1	0.7	0.1	6.5	86.0	4.9	0.0	0.4	0.2	0.0	100.0	97.9	3004
Area																
Rural	0.0	0.3	0.2	0.0	0.3	0.0	6.8	83.7	7.9	0.0	0.4	0.1	0.2	100.0	98.8	26379
Urban	1.2	5.4	1.6	0.3	5.9	0.0	65.1	18.8	1.2	0.0	0.0	0.2	0.2	100.0	85.2	4060
Education of household head																
None	0.2	4.2	1.8	0.3	1.5	0.0	18.1	67.1	6.0	0.0	0.6	0.0	0.2	100.0	91.8	5241
Primary	0.2	0.0	0.1	0.0	0.7	0.0	10.4	79.8	8.0	0.0	0.4	0.1	0.2	100.0	98.7	17175
Secondary +	0.1	1.0	0.2	0.1	1.6	0.0	21.6	69.7	5.4	0.0	0.0	0.2	0.1	100.0	96.7	7900
Missing/DK	0.0	2.9	0.0	0.0	0.0	0.0	3.4	91.3	2.4	0.0	0.0	0.0	0.0	100.0	97.1	123
Wealth index quintiles																
Poorest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.6	2.7	0.1	0.6	0.0	0.0	100.0	100.0	6084
Second	0.0	0.0	0.0	0.0	0.0	0.1	0.1	92.8	6.7	0.0	0.2	0.1	0.1	100.0	99.8	6092
Middle	0.0	0.0	0.0	0.0	0.1	0.0	2.3	82.6	13.5	0.0	0.7	0.4	0.4	100.0	99.2	6087
Fourth	0.0	0.0	0.0	0.0	1.1	0.0	17.4	72.7	8.4	0.0	0.1	0.1	0.2	100.0	98.6	6089
Richest	0.8	5.0	2.0	0.3	4.2	0.0	53.1	30.6	3.6	0.0	0.0	0.1	0.2	100.0	87.3	6088
Total	**0.2**	**1.0**	**0.4**	**0.1**	**1.1**	**0.0**	**14.6**	**75.0**	**7.0**	**0.0**	**0.3**	**0.1**	**0.2**	**100.0**	**97.0**	**30439**

[1] MICS indicator 3.11

Solid fuel use alone is a poor proxy for indoor air pollution, since the concentration of the pollutants is different when the same fuel is burnt in different stoves or fires. Use of closed stoves with chimneys minimizes indoor pollution, while open stove or fire with no chimney or hood means that there is no protection from the harmful effects of solid fuels. Solid fuel use by place of cooking is depicted in Table CH.10. In Nyanza, about 23 per cent of households cook in the same room used for living/sleeping, 26 per cent cook in a separate room used as a kitchen, while 42 per cent use a separate building used a kitchen.

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

Percentage distribution of household members in households using solid fuels by place of cooking, Nyanza Province, Kenya, 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 kitchen	In a separate building used as kitchen	Outdoors	Others	Missing	Total	
County								
Siaya	23.0	19.1	41.5	16.0	0.0	0.4	100.0	4920
Kisumu	34.1	37.9	18.1	9.6	0.0	0.3	100.0	4798
Homa Bay	26.7	24.2	34.4	14.2	0.1	0.5	100.0	4930
Migori	22.1	23.8	44.4	8.8	0.0	0.9	100.0	5234
Kisii	14.5	25.4	56.4	3.7	0.0	0.0	100.0	6694
Nyamira	20.8	22.1	52.9	3.8	0.0	0.4	100.0	2941
Area								
Rural	20.6	23.8	45.7	9.6	0.0	0.3	100.0	26060
Urban	42.2	39.1	10.5	7.4	0.0	0.8	100.0	3458
Education of household head								
None	18.0	35.2	41.0	5.5	0.0	0.2	100.0	4812
Primary	24.3	22.8	41.7	10.7	0.0	0.5	100.0	16947
Secondary +	23.4	25.8	41.5	8.9	0.0	0.3	100.0	7639
Missing/DK	39.2	11.2	42.8	6.7	0.0	0.0	100.0	119
Wealth index quintiles								
Poorest	32.5	21.9	35.1	10.1	0.0	0.4	100.0	6082
Second	19.3	19.6	50.8	10.0	0.0	0.3	100.0	6079
Middle	18.8	19.8	49.2	11.9	0.0	0.3	100.0	6035
Fourth	18.3	25.7	45.8	9.8	0.0	0.3	100.0	6004
Richest	27.2	43.0	24.8	4.4	0.0	0.7	100.0	5317
Total	**23.1**	**25.6**	**41.5**	**9.4**	**0.0**	**0.4**	**100.0**	**29518**

Malaria

Malaria is a leading cause of death of children under age five in Kenya, and more so in the Nyanza province where transmission occurs throughout the year. It also contributes to anaemia in children and is a common cause of school absenteeism. Preventive measures, especially the use of mosquito nets treated with insecticide (ITNs), can dramatically reduce malaria mortality rates among children. In areas where malaria is common, international recommendations suggest treating any fever in children as if it were malaria and immediately giving the child a full course of recommended anti-malarial tablets. Children with severe malaria symptoms, such as fever or convulsions, should be taken to a health facility. Also, children recovering from malaria should be given extra liquids and food and, for younger children, should continue breastfeeding.

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

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, Nyanza Province, Kenya, 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
County					
Siaya	94.6	89.7	92.7	92.8	1209
Kisumu	92.0	84.1	88.9	92.5	1261
Homa Bay	94.0	90.4	92.3	94.4	1089
Migori	89.9	87.1	89.5	94.9	1128
Kisii	94.0	91.3	92.7	93.2	1483
Nyamira	92.6	91.7	92.1	93.0	657
Area					
Rural	93.7	90.2	92.2	94.4	5751
Urban	88.7	82.1	86.8	88.6	1077
Education of household head					
None	91.4	88.3	90.0	92.0	1430
Primary	92.3	88.4	90.7	93.1	3691
Secondary +	95.6	90.8	94.1	95.6	1681
Missing/DK	(95.4)	(74.6)	(79.0)	(91.4)	26
Wealth index quintiles					
Poorest	90.4	87.6	89.3	92.1	1347
Second	93.4	89.4	91.4	93.8	1311
Middle	94.0	90.3	92.5	94.8	1319
Fourth	93.3	89.8	92.3	94.0	1340
Richest	93.6	87.6	91.3	92.7	1510
	92.9	**88.9**	**91.4**	**93.5**	**6828**

[1] MICS indicator 3.12, [2] MICS indicator 3.13

( ) Based on 25-49 unweighted cases.

The Nyanza Province MICS survey incorporated questions on the availability and use of bed nets, both at household level and among children under five years of age, as well as anti-malarial treatment, intermittent preventive therapy for malaria and indoor residual spraying of households. Availability of Insecticide Treated Nets (ITN) by selected household characteristics is shown in Table CH.11.

In Nyanza province the survey results indicate that 91 per cent of households have at least one insecticide treated net (Table CH.11). ITN ownership is equally high in all households irrespective of the household wealth index. The differentials across other background characteristics are largely comparable. Results indicate that 81 per cent of children under the age of five slept under any mosquito net the night prior to the survey and 78 per cent slept under an insecticide treated net (Table CH.12). There were no significant gender disparities in ITN use among children under five. The proportion of children sleeping under an ITN drops with increasing age of the child, and increases with improving levels of 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, Nyanza Province, Kenya, 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: Slept under any mosquito net [1]	Percentage of children who: Slept under an insecticide treated net [2]	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
Sex							
Male	100.0	2559	80.6	77.4	2559	82.2	2409
Female	100.0	2486	80.4	78.5	2486	82.6	2362
County							
Siaya	100.0	809	83.1	79.6	809	82.6	780
Kisumu	100.0	861	83.6	77.8	861	84.1	796
Homa Bay	100.0	868	78.8	76.8	868	82.2	810
Migori	100.0	930	77.5	76.7	930	81.5	875
Kisii	100.0	1135	80.3	78.6	1135	81.9	1088
Nyamira	100.0	442	80.1	78.2	442	81.9	422
Area							
Rural	100.0	4429	80.5	77.9	4429	82.2	4198
Urban	100.0	616	80.7	77.9	616	83.7	573
Age							
0-11	100.0	1002	84.2	82.3	1002	86.1	959
12-23	100.0	868	86.3	84.4	868	88.2	830
24-35	100.0	1047	81.5	78.6	1047	83.3	988
36-47	100.0	1094	76.9	73.8	1094	78.9	1024
48-59	100.0	1034	74.9	71.8	1034	76.5	971
Mother's education							
None	100.0	345	78.9	75.1	345	80.4	322
Primary	100.0	3523	79.5	77.4	3523	81.9	3329
Secondary+	100.0	1178	84.2	80.5	1178	84.6	1120
Wealth index quintiles							
Poorest	100.0	1168	73.0	71.6	1168	77.1	1085
Second	100.0	1054	81.0	77.5	1054	82.6	988
Middle	100.0	985	82.5	79.8	985	83.3	944
Fourth	100.0	944	83.3	80.8	944	84.5	902
Richest	100.0	894	84.7	81.4	894	85.5	851
	100.0	**5045**	**80.5**	**77.9**	**5045**	**82.4**	**4771**

[1] MICS indicator 3.14

[2] MICS indicator 3.15; MDG indicator 6.7

Table CH.13 presents the proportion of pregnant women who slept under a mosquito net during the previous night by selected characteristics. About 81 per cent of pregnant women slept under any mosquito net the night prior to the survey and 77 per cent slept under an insecticide treated net. Surprisingly, the proportion of women sleeping under mosquito net does not increase with their level of education, but it increases with increasing levels of wealth index of the household.

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, Nyanza Province, Kenya, 2011

	Percentage of pregnant women who stayed in the household the previous night	Number of pregnant women	Percentage of pregnant women who: Slept under any mosquito net	Percentage of pregnant women who: Slept under an insecticide treated net [1]	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
County							
Siaya	100.0	62	83.1	81.5	62	84.5	60
Kisumu	100.0	68	90.3	82.6	68	86.5	65
Homa Bay	100.0	57	76.7	74.2	57	83.9	51
Migori	100.0	62	81.2	79.1	62	88.4	56
Kisii	100.0	95	75.6	71.1	95	74.3	91
Nyamira	100.0	37	82.6	77.0	37	87.8	33
Area							
Rural	100.0	332	82.1	78.0	332	83.7	309
Urban	(100.0)	50	(74.9)	(72.0)	50	(78.6)	45
Age							
15-19	100.0	68	61.0	57.2	68	61.8	63
20-24	100.0	126	88.3	83.6	126	88.8	119
25-29	100.0	102	83.8	78.3	102	85.8	93
30-34	100.0	49	82.2	82.2	49	(91.8)	44
35-39	(*)	24	(*)	(*)	24	(*)	23
40-44	(*)	13	(*)	(*)	13	(*)	13
Education							
None	(*)	22	(*)	(*)	22	(*)	20
Primary	100.0	255	78.9	75.9	255	82.4	235
Secondary +	100.0	104	84.0	78.5	104	82.5	99
Wealth index quintiles							
Poorest	100.0	92	75.3	73.3	92	78.3	86
Second	100.0	68	75.3	65.0	68	73.1	60
Middle	100.0	76	88.1	85.9	76	89.2	74
Fourth	100.0	75	80.6	77.4	75	84.8	69
Richest	100.0	70	87.5	84.4	70	89.8	66
Total	**100.0**	**381**	**81.2**	**77.2**	**381**	**83.1**	**354**

[1] MICS indicator 3.19

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

( ) Based on 25-49 unweighted cases.

Table CH.14 shows information on malaria treatment of children with anti-malarial drugs. Questions on the prevalence and treatment of fever were asked for all children under age five. About one in five (22 per cent) of under five children were ill with fever in the two weeks prior to the survey (Table CH.14). There are regional differences in fever prevalence ranging from 29 per cent in Siaya County to 14 and 13 per cent in Kisii and Nyamira counties, respectively. However, no variations in fever prevalence are observed across gender, while the prevalences were 18 per cent for urban areas and 22 per cent for rural areas.

Table CH.14: Anti-malarial treatment of children with anti-malarial drugs

Percentage of children age 0-59 months who had fever in the last two weeks who received anti-malarial drugs, Nyanza Province, Kenya, 2011

				Children with a fever in the last two weeks who were treated with:													
		Had a fever in last two weeks	Number of children age 0-59 months	Anti-malarials: SP / Fansidar	Anti-malarials: Chloro-quine	Anti-malari-als: Armodi-aquine	Anti-malarials: Quinine	Anti-malarials: Artemisinin based com-binations	Anti-malarials: Other Anti-malarial	Anti-malarials: Any anti-malarial drug [1]	Other medications: Paracetamol/ Panadol/ Acetamino-phan	Other med-ications: Aspirin	Other med-ications: Ibuprofen	Other medica-tions: Other	Don't know	Percentage who took an anti-malarial drug same or next day [2]	Number of chil-dren with fever in last two weeks
Sex	Male	21.9	2559	2.8	1.1	3.8	3.2	31.3	5.6	45.9	58.3	1.5	5.6	17.3	3.0	33.0	560
	Female	21.3	2486	4.3	1.8	3.2	4.1	35.9	3.1	48.3	58.3	3.6	5.8	17.1	3.9	32.8	530
County	Siaya	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
	Kisumu	25.6	861	4.8	0.5	1.4	2.5	38.5	5.6	51.7	53.5	2.2	3.0	11.6	4.5	36.7	220
	Homa Bay	27.9	868	5.0	1.6	6.3	2.7	31.8	6.4	49.8	57.2	2.4	5.2	20.4	3.2	31.6	242
	Migori	19.5	930	1.2	3.9	3.5	6.0	39.8	3.4	53.4	70.0	3.2	7.8	8.8	2.0	43.1	182
	Kisii	12.9	1135	3.8	0.0	2.6	4.5	11.4	6.2	27.1	53.7	2.6	8.6	23.8	2.6	14.3	146
	Nyamira	14.4	442	4.0	1.9	7.2	2.0	0.8	4.8	19.7	45.9	5.5	4.7	19.8	16.6	12.6	64
Area	Rural	22.1	4429	3.5	1.5	3.7	3.5	32.9	4.4	46.5	57.9	2.7	5.7	17.4	3.6	32.3	979
	Urban	18.0	616	3.9	0.8	1.7	4.6	38.7	4.3	51.8	62.4	0.9	5.8	15.4	1.8	38.7	111
Age	0-11	17.8	1002	3.6	1.9	1.6	4.2	21.3	5.3	33.8	63.4	0.7	4.1	20.2	5.3	22.6	179
	12-23	24.8	868	3.6	2.2	3.7	4.9	31.7	3.7	47.6	58.3	3.7	9.7	17.2	3.2	34.8	215
	24-35	21.9	1047	2.1	0.9	4.2	3.5	33.5	6.3	47.4	56.6	3.7	3.8	14.2	2.6	31.3	230
	36-47	23.2	1094	2.9	1.6	4.0	3.2	42.7	2.9	54.0	59.5	2.6	5.7	20.1	2.5	40.2	254
	48-59	20.6	1034	5.9	0.7	3.6	2.5	34.7	4.1	49.1	54.5	1.4	5.3	14.4	4.2	32.7	213
Mother's education	None	18.5	345	3.7	2.5	0.0	3.8	47.4	4.9	57.6	58.9	1.1	6.4	10.3	8.0	41.4	64
	Primary	23.2	3523	3.3	1.4	4.0	3.7	35.0	4.3	48.5	57.8	2.6	5.3	15.7	3.4	34.7	817
	Secondary+	17.8	1178	4.4	1.4	2.8	3.2	23.5	4.7	38.4	60.1	2.8	7.1	25.0	2.2	23.7	209
Wealth index quintiles	Poorest	20.1	1168	3.6	1.6	0.6	3.0	27.4	1.6	36.9	56.4	2.1	8.4	13.8	4.1	25.6	235
	Second	23.8	1054	3.7	2.0	4.4	2.4	31.7	5.2	46.3	57.1	3.2	6.9	15.7	3.9	30.2	251
	Middle	24.2	985	3.5	1.5	4.4	5.2	36.9	5.8	53.2	57.5	3.0	4.3	15.4	3.7	33.9	239
	Fourth	21.3	944	4.6	0.8	3.6	3.0	32.2	6.9	47.2	60.1	2.0	3.5	25.7	2.8	34.7	201
	Richest	18.4	894	2.0	1.1	4.8	4.7	41.7	2.0	53.7	61.9	2.0	4.9	16.4	2.3	43.9	165
Total		**21.6**	**5045**	**3.6**	**1.5**	**3.5**	**3.6**	**33.5**	**4.4**	**47.1**	**58.3**	**2.5**	**5.7**	**17.2**	**3.4**	**32.9**	**1090**

[1] MICS indicator 3.18; MDG indicator 6.8

[2] MICS indicator 3.17

Further, all mothers with a child below five years who had fever during the two weeks prior to the survey and sought treatment were asked to report all of the medicines given to a child to treat the fever, this included both medicines given at home and medicines given or prescribed at a health facility. Overall, 47 per cent of children with fever in the last two weeks prior to the survey were treated with any anti-malarial drug and 33 per cent received anti-malarial drugs on the same day or the next day after onset of symptoms.

“Appropriate” anti-malarial drugs include chloroquine, SP (sulfadoxine-pyrimethamine), artimisinin combination drugs, etc. (see table Ch.14). In Nyanza province, less than 2 per cent of children with fever were given chloroquine, and less than 4 per cent were given SP. Only 34 per cent received artemisinin combination therapy which is the currently recommended national therapy. A large proportion of children (over 60 per cent) were given other types of medicines that are not anti-malarials, including anti-pyretics such as paracetemol, aspirin, or ibuprofen.

Overall, children with fever in Nyamira and Kisii counties, where malaria is also known to be prevalent, are less likely to have received any anti-malarial drug while those in Siaya, Kisumu, Migori and Homa Bay counties were more likely to receive any anti-malarial drug. The proportion receiving any anti-malarial drugs was 46 per cent among boys and 48 per cent among girls, while the proportion ranges from 58 per cent among children whose mothers have no education to 38 per cent for those with secondary or higher education levels.

Pregnant women living in places where malaria is highly prevalent are four times more likely than other adults to get malaria and twice as likely to die of the disease. Once infected, pregnant women risk anaemia, premature delivery and stillbirth. Their babies are likely to be of low birth weight, which makes them unlikely to survive their first year of life. For this reason, steps are taken to protect pregnant women by distributing insecticide-treated mosquito nets and treatment during antenatal check-ups with drugs that prevent malaria infection (Intermittent preventive treatment or IPT). In Nyanza MICS, women were asked of the medicines they had received in their last pregnancy during the 2 years preceding the survey. Women are considered to have received intermittent preventive therapy if they received at least 2 doses of SP/Fansidar during the pregnancy. Details of Intermittent preventive treatment for malaria in pregnant women who gave birth in the two years preceding the survey is presented in Table CH.16.

Nearly 70 per cent of mothers who delivered a child during the two year period preceding the survey received medicine to prevent malaria during pregnancy. Forty two per cent received SP/Fansidar at least once while 27 per cent received the same two or more times. About 65 per cent of mothers from the poorest wealth index households used medicine to prevent malaria during any ANC visit while pregnant, while the corresponding figure for those from the richest wealth index households is 72 per cent.

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 (IPT) for malaria during pregnancy at any antenatal care visit, Nyanza Province, Kenya, 2011

	Percentage of women who received antenatal care (ANC)	Number of women who gave birth in the preceding two years	Percentage of pregnant women who took:			Number of women who had a live birth in the last two years and who received antenatal care
			Any medicine to prevent malaria at any ANC visit during pregnancy	SP/Fansidar at least once	SP/Fansidar two or more times [1]	
County						
Siaya	91.2	318	68.2	42.5	26.7	290
Kisumu	95.1	318	71.6	26.8	18.5	302
Homa Bay	92.6	316	64.7	44.1	24.9	293
Migori	87.1	326	70.7	45.0	32.7	284
Kisii	89.6	370	70.4	55.7	37.9	331
Nyamira	94.2	164	69.1	27.1	13.5	154
Area						
Rural	90.8	1572	68.4	41.5	26.9	1427
Urban	95.0	240	74.0	42.1	27.0	228
Education						
None	87.6	89	71.4	50.2	26.0	78
Primary	90.8	1287	68.0	40.5	25.7	1169
Secondary +	93.6	436	72.1	42.9	30.7	408
Wealth index quintiles						
Poorest	85.9	415	65.1	42.3	27.7	357
Second	92.5	355	73.3	44.8	30.3	329
Middle	92.8	354	67.1	39.0	22.6	329
Fourth	92.3	345	68.7	40.3	26.3	319
Richest	94.2	341	72.0	41.4	27.7	322
	91.3	**1812**	**69.2**	**41.6**	**26.9**	**1655**

[1] MICS indicator 3.20

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 (or snail fever). Drinking water can also be polluted by chemical, physical, and radiological contaminants with harmful effects on human health. In addition to its association with disease, access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility of carrying water, often over long distances.

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

The list of indicators used in 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

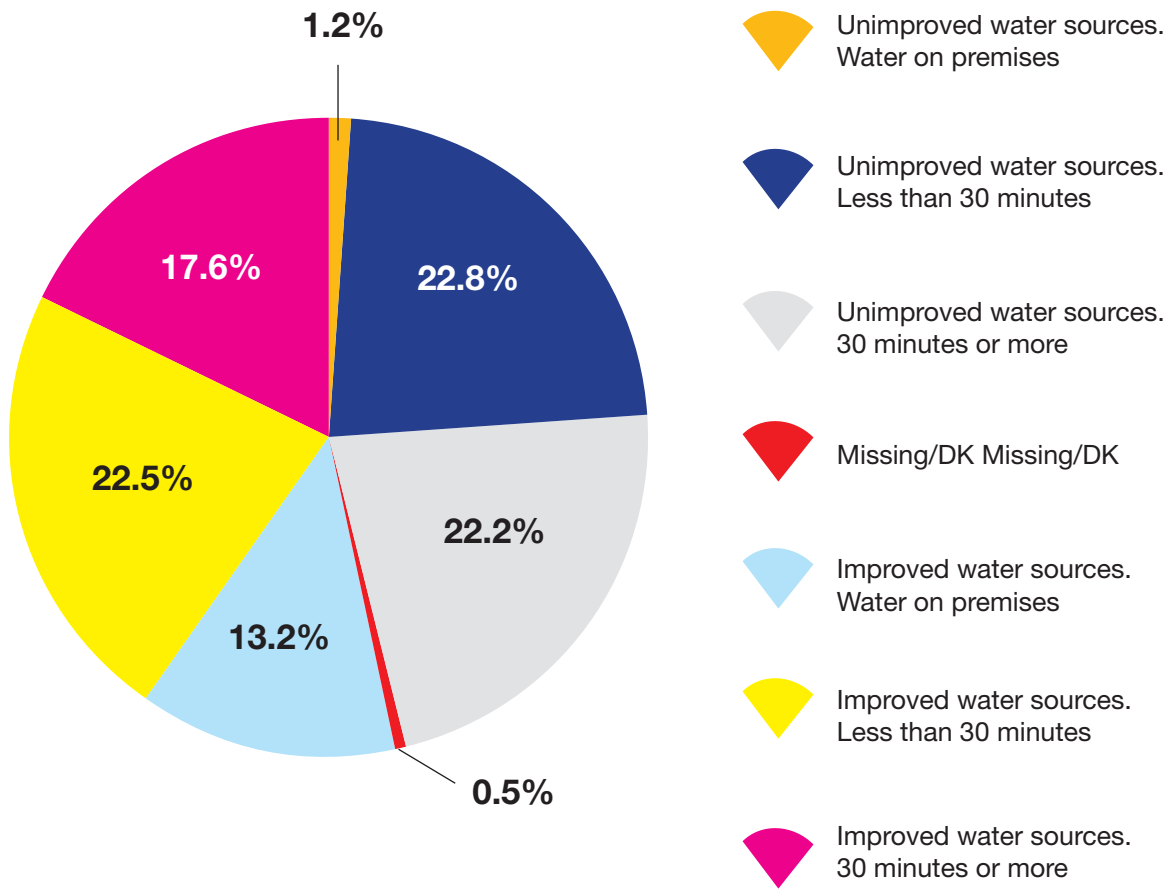
- Use of improved sanitation facilities
- Sanitary disposal of child's faeces

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, piped to neighbourhood, piped to kiosk, public tap/standpipe), tube well/borehole, protected well, protected spring, and rainwater collection. 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.

Figure WS.1 Time to source of drinking water, Nyanza Province, Kenya, 2011



Overall, 48 per cent of the population is using an improved source of drinking water – 62 per cent in urban areas and 46 per cent in rural areas. The source of drinking water for the population varies strongly by counties (Table WS.1). The situation in in Migori and Homa Bay counties is considerably worse than in other counties; less than 35 per cent of the population in these counties gets its drinking water from an improved source. In Kisumu, use of piped water is more common than in all other counties. In Kisii and Nyamira, the most important source of drinking water is protect springs while in Homa Bay and Migori counties, more households reportedly use surface water (an unimproved source) as their main source of drinking water.

The differentials by wealth index of the household are in the expected direction with respect to the proportion of population using an improved source of drinking water. Among the richest households, 64 per cent are using an improved source of drinking water, compared to 38 among the poorest households.

Table WS.1: Use of improved water sources

Percentage distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, Nyanza Province, 2011

	Main source of drinking water																			
	Improved sources										Unimproved sources							Total	Percentage using improved sources of drinking water [1]	Number of household members
	Piped water																			
	Piped into dwelling	Piped into compound, yard or plot	Piped to neighbor	Piped to water kiosk	Public tap/ standpipe	Tube-well/ bore-hole	Protected well	Protected spring	Rain-water collection	Bottled water*	Unprotected well	Unprotected spring	Tanker truck	Cart with tank/ drum	Surface water	Bottled water*	Other			
County																				
Siaya	0.6	2.9	4.8	7.5	5.0	10.0	6.8	15.3	3.9	0.0	7.8	6.0	0.2	0.0	29.2	0.0	0.0	100.0	51.7	4981
Kisumu	6.3	5.0	10.8	6.7	13.8	2.8	7.6	1.3	7.8	0.2	10.9	1.2	0.2	1.5	23.9	0.0	0.1	100.0	48.4	5260
Homa Bay	0.8	1.5	2.3	1.6	7.2	7.2	12.8	3.1	5.3	0.0	7.6	3.9	0.0	0.2	46.4	0.0	0.0	100.0	34.7	5010
Migori	0.4	1.2	0.9	1.6	0.5	9.0	6.7	4.1	7.7	0.0	13.7	11.2	0.0	0.0	42.5	0.1	0.0	100.0	31.7	5333
Kisii	0.5	0.6	0.3	0.0	1.7	0.0	2.6	53.5	4.0	0.0	2.2	25.8	0.0	0.0	8.8	0.0	0.0	100.0	61.5	6851
Nyamira	1.2	4.0	0.3	0.5	3.9	0.3	3.9	49.1	5.4	0.0	3.5	22.7	0.0	0.0	5.1	0.0	0.2	100.0	64.6	3004
Residence																				
Rural	0.4	1.2	2.3	1.7	4.0	4.9	7.1	22.9	5.7	0.0	8.0	12.9	0.0	0.1	28.7	0.0	0.0	100.0	46.2	26379
Urban	9.7	9.5	9.4	11.5	13.0	4.9	3.7	7.4	5.5	0.3	5.4	5.0	0.3	1.6	12.0	0.1	0.1	100.0	62.0	4060
Education of household head																				
None	5.4	3.4	3.6	2.1	4.5	5.4	6.2	21.3	7.4	0.2	7.4	7.7	0.2	0.7	24.4	0.0	0.1	100.0	54.9	5241
Primary	0.3	1.4	3.2	3.1	5.3	5.0	7.3	19.2	4.3	0.0	8.5	12.0	0.0	0.2	30.2	0.0	0.0	100.0	43.8	17175
Secondary+	1.8	3.5	3.4	3.5	5.5	4.4	5.6	24.1	7.2	0.0	6.1	13.9	0.0	0.3	20.1	0.1	0.1	100.0	53.7	7900
Missing/DK	2.9	10.3	0.0	0.0	4.5	10.7	13.9	13.7	0.0	8.0	4.7	25.9	0.0	0.0	37.5	0.0	0.0	100.0	56.0	123
Wealth index quintile																				
Poorest	0.0	0.0	0.8	0.1	1.4	3.6	6.2	27.5	0.3	0.0	6.8	15.8	0.0	.0	37.5	0.0	0.0	100.0	38.4	6084
Second	0.0	0.0	1.8	1.0	3.0	4.6	6.4	28.6	2.5	0.0	7.5	16.6	0.0	0.0	28.0	0.0	0.1	100.0	44.8	6092
Middle	0.0	0.6	3.2	2.5	6.3	4.6	7.8	21.9	5.2	0.0	9.5	11.2	0.0	0.0	27.3	0.0	0.0	100.0	45.8	6087
Fourth	0.4	1.9	5.1	4.2	6.7	6.3	7.7	16.7	6.6	0.0	9.0	8.4	0.1	0.5	26.3	0.0	0.0	100.0	49.0	6089
Richest	7.6	9.2	5.5	7.1	8.7	5.5	5.3	9.4	13.6	0.3	5.5	7.1	0.3	1.0	13.4	0.1	0.1	100.0	63.5	6088
Total	**1.6**	**2.3**	**3.3**	**3.0**	**5.2**	**4.9**	**6.7**	**20.8**	**5.6**	**0.1**	**7.7**	**11.8**	**0.1**	**0.3**	**26.5**	**0.0**	**0.0**	**100.0**	**48.3**	**30439**

[1] MICS indicator 4.1; MDG indicator 7.8

*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

Table 7.2 presents use of in-house water treatment by selected characteristics in Nyanza province. 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. Households were asked of ways they may be treating water at home to make it safer to drink were boiling, adding bleach or chlorine, using a water filter, and using solar disinfection are considered as proper treatment of drinking water.

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, Nyanza Province, Kenya, 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	Don't know	Number of household members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method [1]	Number of household members in households using unimproved drinking water sources
County												
Siaya	27.8	16.7	61.4	6.0	0.5	0.5	0.5	0.3	0.0	4981	76.2	2159
Kisumu	27.2	23.4	54.2	2.8	1.0	0.0	2.0	3.3	0.0	5260	71.1	1989
Homa Bay	27.4	16.3	58.4	3.8	0.7	0.3	1.5	0.4	0.0	5010	72.5	2914
Migori	41.1	25.7	42.8	5.9	1.4	0.2	5.3	0.4	0.0	5333	55.8	3618
Kisii	66.9	26.7	8.1	1.0	0.0	0.0	0.1	0.6	0.0	6851	31.9	2524
Nyamira	45.4	46.7	9.6	.8	0.9	0.0	3.3	0.4	0.2	3004	55.0	946
Area												
Rural	41.7	24.2	38.4	3.5	0.6	0.2	1.9	0.8	0.0	26379	59.9	13133
Urban	32.5	27.5	44.8	3.0	1.3	0.0	2.1	1.5	0.0	4060	64.3	1017
Education of household head												
None	37.0	30.5	36.5	5.0	1.0	0.1	2.0	0.8	0.0	5241	62.3	2127
Primary	43.3	20.2	40.1	3.3	0.6	0.3	1.9	0.9	0.0	17175	57.9	8751
Secondary +	36.7	30.6	39.3	2.6	0.6	0.1	2.1	1.1	0.0	7900	65.3	3228
Missing/DK	42.9	7.1	40.9	9.1	0.0	0.0	0.0	0.0	0.0	123	(*)	44
Wealth index quintiles												
Poorest	54.5	17.1	30.1	2.9	0.4	0.4	2.1	0.7	0.0	6084	51.8	3657
Second	46.2	23.3	33.6	3.6	0.6	0.0	1.5	0.8	0.0	6092	55.2	3181
Middle	42.6	21.0	40.2	3.8	0.5	0.1	2.4	0.8	0.1	6087	61.4	2918
Fourth	34.1	26.4	45.4	3.6	0.6	0.2	1.6	1.4	0.0	6089	66.4	2699
Richest	25.2	35.2	47.2	3.4	1.3	0.1	2.2	1.0	0.0	6088	75.6	1695
Total	**40.5**	**24.6**	**39.3**	**3.5**	**0.7**	**0.2**	**2.0**	**0.9**	**0.0**	**30439**	**60.2**	**14150**

[1] MICS indicator 4.2

Roughly, three out of five individuals are using unimproved drinking water in Nyanza Province drink appropriately treated water. The proportion of household members treating the water increases with household wealth. For example, 76 per cent of household population from the richest quintile use unimproved drinking water sources and apply an appropriate water treatment method, compared to only 52 per cent among those from the poorest wealth quintile. Adding bleach chlorine is the most common water treatment method reported at 39 per cent and another 25 per cent of the household population boil the water. The proportion of household population using bleach/chlorine as a means for water treatment increases with improving wealth and with the level of education of the head of the household.

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

Table WS.3 shows that for about 14 per cent of households, the drinking water source is on the premises and this consists mostly of improved drinking water sources. For a about 23 per cent of all households, it takes less than 30 minutes to get to an improved water source and bring water , with an almost equal proportion taking the same time to collect water from an unimproved water source. About 18 and 22 per cent of households spend 30 minutes or more for this purpose on collecting from an improved and unimproved water sources, respectively. In rural areas more households spend time in collecting water compared to those in urban areas. Poor households spend more time collecting water, and this is mostly from unimproved drinking water sources. A lower percentage of households population from Kisumu County (25 per cent) spend more than 30 minutes to go to the source of drinking water, than in all other counties (Homa Bay- 50 per cent; Nyamira- 49 per cent).

Table WS.3: Time to source of drinking water

Percentage 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, Nyanza Province, Kenya, 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		
County										
Siaya	12.1	25.5	18.9	0.2	0.1	20.1	22.9	0.2	100.0	4981
Kisumu	28.2	23.0	10.3	0.6	1.3	21.7	14.3	0.4	100.0	5260
Homa Bay	11.2	13.0	17.3	0.3	1.1	24.2	32.5	0.4	100.0	5010
Migori	13.1	13.8	5.3	0.0	2.8	34.3	30.1	0.6	100.0	5333
Kisii	4.6	32.9	25.5	0.1	0.9	19.0	16.8	0.1	100.0	6851
Nyamira	11.5	24.3	32.6	0.1	0.9	14.7	15.9	0.0	100.0	3004
Area										
Rural	9.5	21.3	19.2	0.2	0.9	24.2	24.5	0.2	100.0	26379
Urban	37.1	30.2	7.5	0.2	3.0	13.7	7.5	0.9	100.0	4060
Education of household head										
None	21.1	21.0	16.9	0.4	1.1	20.9	18.2	0.4	100.0	5241
Primary	9.2	21.7	18.0	0.2	1.2	24.0	25.7	0.1	100.0	17175
Secondary +	16.4	25.3	17.2	0.2	1.3	21.4	17.5	0.7	100.0	7900
Missing/DK	24.7	19.8	19.5	0.0	0.0	22.0	14.1	0.0	100.0	123
Wealth index quintiles										
Poorest	1.5	19.8	18.5	0.2	0.5	26.9	32.7	0.1	100.0	6084
Second	3.9	23.2	20.5	0.2	0.7	24.0	27.5	0.0	100.0	6092
Middle	8.1	21.8	21.8	0.4	0.7	24.2	22.7	0.3	100.0	6087
Fourth	14.5	23.7	17.2	0.2	1.4	22.8	19.8	0.3	100.0	6089
Richest	37.7	24.1	10.2	0.2	2.7	15.9	8.5	0.8	100.0	6088
Total	**13.2**	**22.5**	**17.6**	**0.2**	**1.2**	**22.8**	**22.2**	**0.3**	**100.0**	**30439**

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

Details on the person who usually collected the water are presented in Table WS.4. In most households, an adult female (79 per cent) is usually the person collecting the water, when the source of drinking water is not on the premises. Adult men collect water in only 12 per cent of cases, while for the rest of the households, female or male children under age 15 collect water (9 per cent). The proportion of households where an adult women collects water drops with increasing levels of households wealth index, and this proportion is lower in urban than in rural areas. At the County levels, an adult woman is likely to be responsible for collecting water if she resides in Homa Bay or Migori counties, when compared to other counties.

Table WS.4: Person collecting water

Percentage of households without drinking water on premises, and percentage distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, Nyanza Province, Kenya, 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 15)	Male child (under 15)	DK	Missing	Total	
County										
Siaya	91.5	1209	74.2	18.1	4.6	2.9	0.0	0.2	100.0	1162
Kisumu	81.5	1261	74.0	20.3	4.1	1.6	0.1	0.0	100.0	1123
Homa Bay	88.6	1089	84.5	7.7	5.5	2.0	0.1	0.2	100.0	1059
Migori	83.4	1128	87.8	6.9	3.7	1.1	0.0	0.6	100.0	1113
Kisii	93.8	1483	78.2	10.0	9.1	2.5	0.1	0.1	100.0	1465
Nyamira	86.3	657	74.3	9.5	11.5	4.4	0.1	0.2	100.0	619
Area										
Rural	91.2	5751	80.2	10.5	6.6	2.5	0.1	0.1	100.0	5648
Urban	69.8	1077	69.7	25.3	3.3	1.2	0.0	0.6	100.0	893
Education of household head										
None	82.3	1430	69.9	16.4	9.5	4.0	0.1	0.0	100.0	1315
Primary	91.8	3691	81.5	10.7	5.6	2.0	0.1	0.1	100.0	3618
Secondary +	84.1	1681	80.2	13.0	4.8	1.5	0.0	0.5	100.0	1585
Missing/DK	(*)	24	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
Wealth index quintiles										
Poorest	98.9	1347	82.3	6.1	8.6	2.9	0.0	0.1	100.0	1347
Second	96.3	1311	82.6	6.9	7.7	2.6	0.1	0.1	100.0	1311
Middle	92.8	1319	79.0	12.4	5.6	2.5	0.1	0.3	100.0	1313
Fourth	89.3	1340	78.8	14.7	4.6	2.0	0.0	0.0	100.0	1310
Richest	65.0	1510	69.6	24.9	3.7	1.1	0.1	0.4	100.0	1262
Total	**87.8**	**6828**	**78.9**	**12.4**	**6.2**	**2.3**	**0.1**	**0.2**	**100.0**	**6541**

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

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.

Information regarding sanitation by education of the household head, wealth index and counties is shown in Table WS.5. About 32 per cent of households in Nyanza Province use improved sanitation facilities. Use of improved sanitation facilities is strongly correlated with urban rural residence and household wealth index. For example, 64 per cent of households living in urban areas use improved sanitation compared with 28 per cent for rural households. Similarly, 74 per cent of households from the richest household wealth quintile use improved sanitation facilities, compared to less than 4 per cent among those from the poorest wealth quintile. Pit latrines with slab are the most commonly used facility among the improved facilities with 22 per cent of the population in Nyanza Province using them. However, majority of household members use pit latrines without slab or an open pit (53 per cent). In rural areas, 20 per cent of the population use a pit latrine with a slab which is an improved sanitation facility, while 56 per cent of the population use pit latrines without slabs/open pit which is an unimproved form of sanitation facility. In rural areas 16 per cent of the population have no sanitation facilities or use the bush/field. In urban areas, about one third (34 per cent) of the population use pit latrine with slab, with a comparable proportion (32 per cent) using pit latrine without slab/open pit. Across counties, the proportion of population without facilities is highest in Homabay (34 per cent) and Migori (26 per cent) counties.

Table WS.5: Types of sanitation facilities

Percentage distribution of household population according to type of toilet facility used by the household, Nyanza Province, Kenya, 2011

	Improved sanitation facility								Unimproved sanitation facility					No facilities or bush or field or ocean	Total	Number of household members
	Flush to piped sewer system	Flush to septic tank	Flush to pit (latrine)	Flush to some-where else	Flush to unknown place/not sure/DK where	Ventilated Improved Pit latrine (VIP)	Pit latrine with slab	Com-posting toilet	Pit latrine without slab/ open pit	Bucket	Hanging toilet/ hanging latrine	Other	Missing			
County																
Siaya	0.0	0.3	0.0	0.0	0.0	7.7	25.7	0.0	50.4	0.0	0.0	0.0	0.0	15.8	100.0	4981
Kisumu	4.2	3.7	1.3	1.2	0.0	6.6	33.3	4.5	35.4	0.1	0.0	0.1	0.1	9.3	100.0	5260
Homa Bay	0.9	0.4	0.9	0.0	0.2	5.7	29.3	0.1	27.6	0.0	0.3	0.4	0.2	33.9	100.0	5010
Migori	0.2	0.3	0.0	0.0	0.0	4.9	15.3	1.2	51.6	0.0	0.0	0.1	0.3	26.1	100.0	5333
Kisii	0.6	0.4	0.2	0.2	0.0	8.0	9.5	0.0	80.4	0.0	0.0	0.3	0.0	0.4	100.0	6851
Nyamira	0.4	1.0	0.3	0.1	0.0	10.9	20.2	0.2	65.8	0.0	0.1	0.1	0.0	0.8	100.0	3004
Area																
Rural	0.0	0.3	0.3	0.0	0.0	6.1	19.6	1.1	55.7	0.0	0.1	0.2	0.1	16.4	100.0	26379
Urban	7.9	5.3	1.6	2.0	0.3	13.5	34.4	0.6	32.2	0.0	0.0	0.1	0.0	2.0	100.0	4060
Education of household head																
None	4.2	3.5	0.3	0.7	0.0	11.8	20.4	1.3	45.1	0.0	0.0	0.2	0.0	12.3	100.0	5241
Primary	0.1	0.1	0.4	0.0	0.1	4.3	20.6	1.2	54.4	0.0	0.1	0.2	0.2	18.3	100.0	17175
Secondary +	1.2	1.2	0.7	0.4	0.0	10.1	24.7	0.5	53.1	0.0	0.0	0.1	0.0	7.8	100.0	7900
Missing/DK	0.0	2.9	0.0	0.0	2.4	1.8	14.6	0.0	68.2	0.0	0.0	0.0	0.0	10.1	100.0	123
Wealth index quintiles																
Poorest	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.6	67.1	0.0	0.0	0.2	0.1	29.4	100.0	6084
Second	0.0	0.0	0.1	0.0	0.0	0.3	8.9	1.0	70.9	0.0	0.2	0.2	0.2	18.4	100.0	6092
Middle	0.0	0.0	0.1	0.0	0.0	2.8	26.9	1.3	54.5	0.1	0.0	0.1	0.1	14.0	100.0	6087
Fourth	0.0	0.0	0.9	0.0	0.0	7.7	32.9	1.2	48.0	0.0	0.1	0.3	0.0	8.8	100.0	6089
Richest	5.4	4.9	1.2	1.3	0.1	24.6	37.8	0.0	22.3	0.0	0.1	0.0	0.1	2.0	100.0	6088
Total	**1.1**	**1.0**	**0.5**	**0.3**	**0.0**	**7.1**	**21.6**	**1.0**	**52.6**	**0.0**	**0.1**	**0.2**	**0.1**	**14.5**	**100.0**	**30439**

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

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, 32 per cent of the household population is using an improved sanitation facility. Use of a shared facility is more common among households using an unimproved facility. Only 15 per cent of households use an improved toilet facility that is not shared with other households. One in five household populations in urban areas use an improved not shared sanitation facility (22 per cent), while the corresponding figure is 14 per cent for rural areas. At the County level, use of improved sanitation facilities that is not shared is highest in Kisumu County (25 per cent) and Nyamira County (22 per cent). The population using an improved sanitation facility that is not shared increases with improving levels of the household wealth index. For example, 35 per cent among those from the richest household wealth index category use improved sanitation facility that is not shared while the proportion is less than 2 per cent among those from the poorest households.

Table WS.6: Use and sharing of sanitation facilities

Percentage 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, Nyanza Province, Kenya, 2011

	Users of improved sanitation facilities					Users of unimproved sanitation facilities							
	Not shared [1]	Public facility	Shared by: 5 households or less	Shared by: More than 5 households	Missing/ DK	Not shared	Public facility	Shared by: 5 households or less	Shared by: More than 5 households	Missing/ DK	Open defecation (no facility, bush field)	Total	Number of household members
County													
Siaya	9.6	3.7	17.2	3.1	0.2	17.0	3.5	26.3	3.5	0.2	15.8	100.0	4981
Kisumu	25.0	4.0	17.3	8.7	0.0	14.2	1.9	15.9	3.6	0.1	9.3	100.0	5260
Homa Bay	14.6	1.2	16.7	4.7	0.4	13.2	1.3	12.6	1.2	0.2	33.9	100.0	5010
Migori	10.0	0.9	7.5	3.5	0.0	20.9	1.7	22.6	6.7	0.1	26.1	100.0	5333
Kisii	12.7	1.1	3.2	1.7	0.2	60.1	2.1	16.0	2.3	0.1	0.4	100.0	6851
Nyamira	21.9	0.2	8.1	2.6	0.4	51.0	0.6	12.8	1.3	0.3	0.8	100.0	3004
Area													
Rural	14.0	1.4	10.3	1.6	0.2	33.2	1.6	19.0	2.1	0.2	16.4	100.0	26379
Urban	21.8	5.4	18.4	19.8	0.2	6.6	4.0	11.5	10.3	0.0	2.0	100.0	4060
Education of household head													
None	24.2	2.1	12.5	3.4	0.2	24.7	1.7	16.9	2.0	0.1	12.3	100.0	5241
Primary	10.3	1.7	10.7	3.9	0.1	30.0	1.9	19.7	3.1	0.2	18.3	100.0	17175
Secondary +	19.4	2.2	12.2	4.7	0.3	31.8	2.1	15.0	4.2	0.1	7.8	100.0	7900
Missing/DK	8.4	1.8	9.1	2.4	0.0	40.7	3.4	13.6	10.6	0.0	10.1	100.0	123
Wealth index quintiles													
Poorest	1.8	0.1	1.3	0.0	0.0	40.8	1.6	22.9	2.0	0.1	29.4	100.0	6084
Second	5.0	0.2	4.4	0.6	0.0	45.5	1.6	21.2	2.8	0.3	18.4	100.0	6092
Middle	14.2	2.4	12.9	1.5	0.1	29.7	1.8	19.9	3.3	0.1	14.0	100.0	6087
Fourth	19.3	3.3	15.7	4.0	0.3	24.9	2.2	17.5	3.7	0.3	8.8	100.0	6089
Richest	34.9	3.7	22.5	13.9	0.4	7.2	2.6	8.4	4.2	0.0	2.0	100.0	6088
Total	**15.1**	**1.9**	**11.4**	**4.0**	**0.2**	**29.6**	**1.9**	**18.0**	**3.2**	**0.2**	**14.5**	**100.0**	**30439**

[1] MICS indicator 4.3; MDG indicator 7.9

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

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

In 73 per cent of the cases, the stool of children age 0-2 years are disposed safely and with the majority of caretakers reportedly putting the stool in the toilet/latrine as the mode of disposal. As expected, the proportion of households practicing safe disposal of children waste disposal increases with improving levels of household wealth index. Similarly safe disposal is 87 per cent among urban households, and 70 per cent in rural households.

Table WS.7: Disposal of child's faeces

Percentage 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, Nyanza Province, Kenya, 2011

	Place of disposal of child's faeces									Total	Percentage of children whose stools were disposed of safely [1]	Number of children age 0-2 years
	Child used toilet/ latrine	Put/ rinsed into toilet or latrine	Put/ rinsed into drain or ditch	Thrown into garbage (solid waste)	Buried	Left in the open	Other	DK	Missing			
Type of sanitaton facility in dwelling												
Improved	2.3	83.2	3.5	2.5	2.4	2.8	1.2	0.2	1.9	100.0	85.5	902
Unimproved	3.6	81.9	5.6	2.7	2.0	1.3	1.5	0.2	1.3	100.0	85.5	1514
Open defecation	0.0	8.1	11.7	17.6	33.8	21.3	4.9	0.3	2.2	100.0	8.1	485
County												
Siaya	0.4	70.9	6.8	3.5	8.0	6.7	0.9	0.2	2.5	100.0	71.3	490
Kisumu	0.9	77.4	6.8	4.8	5.4	2.1	2.2	0.2	0.2	100.0	78.3	499
Homa Bay	2.1	50.8	4.3	7.3	15.2	15.3	1.5	0.6	2.9	100.0	52.9	507
Migori	2.6	56.6	6.4	11.5	12.7	4.1	2.9	0.1	3.0	100.0	59.2	521
Kisii	4.5	84.0	6.7	1.1	0.6	0.4	2.6	0.0	0.1	100.0	88.5	633
Nyamira	6.3	84.7	2.9	1.6	0.9	1.0	0.9	0.3	1.4	100.0	90.9	251
Area												
Rural	2.7	67.7	6.2	5.3	8.4	5.7	2.1	0.3	1.6	100.0	70.4	2534
Urban	1.4	85.8	4.2	4.1	0.6	1.1	0.8	0.0	1.9	100.0	87.3	367
Mother's education												
None	2.2	81.9	1.8	5.0	2.5	1.8	4.0	0.0	0.8	100.0	84.1	171
Primary	2.0	64.7	6.9	6.2	9.4	6.4	2.0	0.2	2.1	100.0	66.7	2021
Secondary+	4.3	82.1	4.3	2.0	2.9	2.1	1.3	0.3	0.7	100.0	86.4	709
Wealth index quintiles												
Poorest	2.1	58.6	7.4	7.5	11.3	8.7	3.1	0.1	1.2	100.0	60.7	676
Second	3.0	64.4	6.7	6.0	9.1	6.0	2.6	0.3	1.8	100.0	67.5	583
Middle	2.4	67.3	6.7	5.9	9.2	4.9	1.7	0.4	1.6	100.0	69.7	549
Fourth	3.1	75.4	5.4	3.2	5.8	3.8	1.6	0.2	1.4	100.0	78.6	558
Richest	2.3	87.4	3.0	2.5	0.7	1.1	0.5	0.2	2.3	100.0	89.7	534
Total	**2.6**	**70.0**	**5.9**	**5.1**	**7.4**	**5.1**	**2.0**	**0.2**	**1.7**	**100.0**	**72.5**	**2901**

[1] MICS indicator 4.

In its 2008 report[9], 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.

As shown in Table WS.8, the percentage share of households using improved sources of drinking water and sanitary means of excreta disposal is 9 per cent. This proportion is positively associated with the household wealth index. For example, less than one per cent of household population living in the poorest households are using improved sources of drinking water and improved sanitation as opposed to 25 per cent in case of those who live in the richest households. The combined use of improved drinking water and improved sanitation in households is 8 per cent in rural areas and 18 per cent in urban areas of Nyanza Province.

9 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 by drinking water and sanitation ladders, Nyanza Province, Kenya, 2011

	Percentage of household population using:										
	Improved drinking water [1]					Unimproved sanitation					
	Piped into dwelling, plot or yard	Other improved	Unimproved drinking water	Total	Improved sanitation [2]	Shared improved facilities	Unimproved facilities	Open defecation	Total	Improved drinking water sources and improved sanitation	Number of household members
County											
Siaya	3.5	48.2	48.3	100.0	9.6	24.2	50.5	15.8	100.0	4.6	4981
Kisumu	11.3	37.1	51.6	100.0	25.0	30.0	35.7	9.3	100.0	16.3	5260
Homa Bay	2.4	32.3	65.3	100.0	14.6	23.0	28.5	33.9	100.0	5.3	5010
Migori	1.6	30.1	68.3	100.0	10.0	11.8	52.1	26.1	100.0	5.4	5333
Kisii	1.1	60.4	38.5	100.0	12.7	6.2	80.7	0.4	100.0	8.5	6851
Nyamira	5.1	59.5	35.4	100.0	21.9	11.3	66.0	0.8	100.0	15.7	3004
Area											
Rural	1.6	44.6	53.8	100.0	14.0	13.4	56.1	16.4	100.0	7.5	26379
Urban	19.3	42.6	38.0	100.0	21.8	43.8	32.4	2.0	100.0	17.8	4060
Education of household head											
None	8.9	46.0	45.1	100.0	24.2	18.1	45.3	12.3	100.0	15.3	5241
Primary	1.7	42.0	56.2	100.0	10.3	16.4	54.9	18.3	100.0	5.3	17175
Secondary +	5.4	48.3	46.3	100.0	19.4	19.4	53.3	7.8	100.0	12.3	7900
Missing/DK	13.2	42.7	44.0	100.0	8.4	13.2	68.2	10.1	100.0	5.3	123
Wealth index quintiles											
Poorest	0.0	38.4	61.6	100.0	1.8	1.4	67.4	29.4	100.0	0.1	6084
Second	0.0	44.8	55.2	100.0	5.0	5.2	71.4	18.4	100.0	2.2	6092
Middle	0.6	45.2	54.2	100.0	14.2	17.0	54.8	14.0	100.0	6.6	6087
Fourth	2.3	46.6	51.0	100.0	19.3	23.4	48.5	8.8	100.0	10.1	6089
Richest	16.9	46.6	36.5	100.0	34.9	40.6	22.5	2.0	100.0	25.2	6088
Total	**4.0**	**44.3**	**51.7**	**100.0**	**15.1**	**17.5**	**52.9**	**14.5**	**100.0**	**8.9**	**30439**

[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

Hand washing practices

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 hand washing behaviour at these critical times is challenging. A reliable alternative to observations or self-reported behaviour is assessing the likelihood that correct hand washing behaviour takes place by observing if a household has a specific place where people most often wash their hands and observing if water and soap (or other local cleansing materials) are present at a specific place for hand washing.

In Nyanza province, in only 4 per cent of the households was a specific place for hand washing was observed while 96 per cent households could not indicate a specific place where household members usually wash their hands. (Table WS.9). Of those households where place for handwashing was observed, more than three out of five (64 per cent) had both water and soap present at the designated place. In 19 per cent of the households only water was available at the designated place, while in 11 per cent of the households the place only had soap but no water. The remaining 6 per cent of households had neither water nor soap available at the designated place for hand washing. About 15 per cent of the households were not able to show any soap present in the household and in the remaining 85 per cent either the soap was observed or shown to the interviewer (Table WS.10).

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

Percentage of households where place for handwashing was observed and percentage distribution of households by availability of water and soap at place for handwashing, Nyanza Province, Kenya, 2011

	Percentage of households where place for handwashing was observed	Percentage of households where place for handwashing was not observed			Total	Number of households	Percentage 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	No permission to see	Missing			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		
County												
Siaya	2.6	97.4	0.0	0.0	100.0	1209	44.8	43.3	8.4	3.4	100.0	32
Kisumu	10.9	88.0	1.1	0.0	100.0	1261	68.5	16.2	9.4	5.8	100.0	137
Homa Bay	2.8	97.0	0.1	0.1	100.0	1089	67.2	6.3	17.9	8.6	100.0	31
Migori	3.6	96.3	0.1	0.1	100.0	1128	64.5	20.4	11.4	3.7	100.0	41
Kisii	0.8	99.1	0.1	0.0	100.0	1483	(*)	(*)	(*)	(*)	100.0	12
Nyamira	3.3	96.6	0.0	0.0	100.0	657	(51.7)	(21.6)	(9.3)	(17.4)	(100.0)	22
Area												
Rural	2.9	97.0	0.1	0.0	100.0	5751	54.3	27.1	10.0	8.6	100.0	164
Urban	10.2	88.6	1.2	0.0	100.0	1077	77.3	7.1	12.9	2.7	100.0	110
Education of household head												
None	8.6	90.6	0.7	0.1	100.0	1430	61.3	17.3	14.4	7.1	100.0	123
Primary	2.3	97.7	0.1	0.0	100.0	3691	59.2	24.4	7.8	8.6	100.0	84
Secondary +	4.0	95.7	0.3	0.0	100.0	1681	72.6	16.1	9.6	1.7	100.0	67
Missing/DK	(4.6)	(95.4)	(0.0)	(0.0)	100.0	26	(*)	(*)	(*)	(*)	100.0	1
ealth index quintiles												
Poorest	0.9	99.1	0.0	0.1	100.0	1347	(*)	(*)	(*)	(*)	100.0	12
Second	1.4	98.6	0.0	0.0	100.0	1311	(*)	(*)	(*)	(*)	100.0	18
Middle	2.7	97.2	0.1	0.0	100.0	1319	(67.1)	(21.5)	(4.4)	(7.0)	100.0	36
Fourth	2.3	97.6	0.0	0.1	100.0	1340	(47.1)	(29.9)	(15.9)	(7.2)	100.0	31
Richest	11.8	87.2	1.0	0.0	100.0	1510	70.8	13.8	11.3	4.0	100.0	178
Total	**4.0**	**95.7**	**0.2**	**0.0**	**100.0**	**6828**	**63.6**	**19.1**	**11.2**	**6.2**	**100.0**	**274**

1] MICS indicator 4.5

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

Table WS.10: Availability of soap

Percentage distribution of households by availability of soap in the dwelling, Nyanza Province, Kenya, 2011

	Place for handwashing observed					Place for handwashing not observed				Percentage of households with soap anywhere in the dwelling [1]	Number of households
	Soap observed	Soap shown	No soap in household	Not able/Does not want to show soap	Total	Soap shown	No soap in household	Not able/Does not want to show soap	Total		
County											
Siaya	1.4	1.0	0.2	0.0	2.6	90.8	6.0	0.6	97.4	93.2	1209
Kisumu	8.5	2.3	0.1	0.0	10.9	82.7	6.4	0.1	89.1	93.4	1261
Homa Bay	2.4	0.4	0.1	0.0	2.8	81.8	15.3	0.1	97.2	84.6	1089
Migori	2.7	0.6	0.3	0.0	3.6	75.8	20.4	0.2	96.4	79.1	1128
Kisii	0.7	0.1	0.0	0.0	0.8	79.6	19.5	0.1	99.2	80.4	1483
Nyamira	2.0	0.9	0.2	0.2	3.3	73.8	19.0	3.8	96.7	76.7	657
Area											
Rural	1.8	0.8	0.2	0.0	2.9	81.6	14.9	0.6	97.1	84.3	5751
Urban	9.2	1.0	0.0	0.0	10.2	79.7	9.9	0.1	89.8	90.0	1077
Education of household head											
None	6.5	1.7	0.3	0.1	8.6	76.5	14.6	0.3	91.4	84.7	1430
Primary	1.5	0.6	0.1	0.0	2.3	82.1	15.0	0.6	97.7	84.3	3691
Secondary +	3.3	0.7	0.0	0.0	4.0	83.5	11.9	0.6	96.0	87.5	1681
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	26
Wealth index quintiles											
Poorest	0.2	0.5	0.1	0.0	0.9	76.4	21.9	0.8	99.1	77.2	1347
Second	0.8	0.5	0.1	0.0	1.4	81.7	16.2	0.6	98.6	83.1	1311
Middle	1.9	0.7	0.1	0.0	2.7	81.8	14.8	0.7	97.3	84.4	1319
Fourth	1.4	0.6	0.2	0.0	2.3	85.9	11.4	0.3	97.7	88.0	1340
Richest	9.7	1.8	0.2	0.1	11.8	80.8	7.1	0.3	88.2	92.3	1510
Total	**3.0**	**0.9**	**0.1**	**0.0**	**4.0**	**81.3**	**14.1**	**0.6**	**96.0**	**85.2**	**6828**

[1] MICS indicator 4.6 (*) Not shown, based on less than 25 unweighted cases.

VIII. Reproductive Health

Fertility

In MICS4, adolescent birth rates and total fertility rates are calculated by using information on the date of last birth of each woman and are based on the one-year period (1-12 months) 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 one year period preceding the survey.

Table RH.1 shows adolescent birth rates and total fertility rate. The adolescent birth rate (age-specific fertility rate for women age 15-19) is defined as the number of births to women age 15-19 years during the three year period preceding the survey, divided by the average number of women age 15-19 (number of women-years lived between ages 15 through 19, inclusive) during the same period, expressed per 1000 women. The total fertility rate (TFR) is calculated by summing the age-specific fertility rates calculated for each of the 5-year age groups of women, from age 15 through 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. The total fertility rate for Nyanza province is 4.9 children per woman for the three year period preceding the survey. This is more than twice the replacement level of fertility. The contribution of the youngest age group 15-19 years to the total TFR is almost 20 per cent. Adolescent birth rates are higher in rural areas versus urban areas, and as expected these are lower among women with higher levels of education. Due to lower exposures, the rates for women with no education could not be computed. At the County levels, birth rates are higher in Migori and Homa Bay counties, and lowest in Nyamira County. The TFR for women living in the urban areas of Nyanza is surprisingly higher than that of women from rural areas at 5.1 and 4.0 respectively.

Table RH.1: Adolescent birth rate and total fertility rate

Adolescent birth rates and total fertility rates, Nyanza Province, Kenya, 2011		
	Adolescent birth rate [1] (Age-specific fertility rate for women age 15-19)	Total fertility rate
County		
Siaya	0.161	5.5
Kisumu	0.199	4.8
Homa Bay	0.203	5.2
Migori	0.230	5.6
Kisii	0.172	4.4
Nyamira	0.122	4.2
Residence		
Rural	0.195	4.0
Urbans	0.182	5.1
Women's education		
None	(*)	(*)
Primary	0.238	5.6
Secondary+	0.109	3.3
Total	**0.184**	**4.9**

[1] MICS indicator 5.1; MDG indicator 5.4

(*) Not shown, fewer than 125 person years of exposure

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, 31 per cent of women age 15-19 have already had a birth, 3 per cent are pregnant with their first child, 34 per cent have begun childbearing and 6 per cent have had a live birth before age 15. Among the 20-24 years, the proportion of women who have had a live birth before age 18 ranges from 42 per cent in rural areas to 33 per cent in urban areas. Education attainment is associated with early childbearing. While 40 per cent of women aged 15-19 with primary level education have initiated childbearing, the figure is 25 per cent among those with secondary or higher levels of education. At the County levels, the proportion of those who have initiated childbearing is highest in Homa Bay and Migori Counties.

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, Nyanza Province, 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			
County							
Siaya	26.0	4.6	30.6	4.5	219	41.8	159
Kisumu	32.7	1.0	33.7	4.5	199	39.9	226
Homa Bay	37.3	2.7	40.0	8.4	210	47.3	169
Migori	39.1	2.4	41.5	8.1	202	49.5	184
Kisii	25.0	4.8	29.8	3.4	264	32.1	328
Nyamira	27.4	2.3	29.7	9.4	123	34.0	126
Residence							
Rural	30.8	3.0	33.8	6.4	1046	41.8	952
Urban	33.3	3.7	37.0	3.4	170	32.5	240
Education							
None	(*)	(*)	(*)	(*)	12	15.4	83
Primary	36.5	3.5	40.0	7.4	768	54.8	685
Secondary+	22.0	2.5	24.5	3.5	435	20.7	424
Wealth index quintile							
Poorest	36.3	2.4	38.8	9.8	238	51.1	216
Second	27.4	4.7	32.0	2.4	206	43.3	234
Middle	33.4	3.9	37.3	8.8	253	46.5	205
Fourth	30.2	1.6	31.8	5.1	273	37.0	224
Richest	28.0	3.3	31.3	3.6	246	27.4	312
Total	**31.1**	**3.1**	**34.3**	**6.0**	**1216**	**39.9**	**1192**

[1] MICS indicator 5.2

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

Overall, the percentage of women with a live birth before age 15 is 9 per cent, while for before age 18 year is 41 per cent. (Table RH.3). The proportion of women having a live birth before age 15 increases with current age of women, a pattern that shows reduction overtime.

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, Nyanza Province, Kenya, 2011

	Rural				Urban				All			
	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women
Age												
15-19	6.4	1046	na	na	3.4	170	na	na	6.0	1216	na	na
20-24	8.6	952	41.8	952	5.3	240	32.5	240	8.0	1192	39.9	1192
25-29	9.2	972	44.1	972	7.0	188	30.5	188	8.9	1159	41.9	1159
30-34	8.5	609	40.4	609	3.3	138	27.4	138	7.6	747	38.0	747
35-39	13.1	578	44.3	578	9.2	97	30.3	97	12.5	675	42.3	675
40-44	11.8	435	45.8	435	(7.4)	44	30.9	44	11.4	478	44.4	478
45-49	11.1	394	44.1	394	(29.5)	46	57.1	46	13.1	440	45.5	440
Total	**9.3**	**4985**	**43.2**	**3939**	**6.7**	**923**	**32.2**	**754**	**8.9**	**5908**	**41.4**	**4692**

( ) Based on 25-49 unweighted cases.

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.

Current use of contraception was reported by 48 per cent of women currently married or in union (Table RH.4). The most popular method is the injectable contraceptives which are used by nearly one third (30 per cent) of women married or in union in Nyanza province. The next most popular method is Pill, which accounts for 4 per cent of the methods used by women married or in union. Only a few women married or in union report using either IUDs, implants, female sterilization or condoms. Less than 3 per cent use periodic abstinence, withdrawal, or the lactational amenorrhea method (LAM). At the County level, use of any methods is highest in Nyamira and Kisii counties and lowest in Homa Bay County. As expected, the use of any modern methods is higher in urban than rural areas. Older women (45-49) and adolescents are far less likely to use contraception than middle-aged women. Only about 32 and 28 per cent of married or in union women aged 15-19 and 45-49 years currently use a method of contraception compared to 49 per cent of 20-24 year olds and 56 per cent among those aged 30-34.

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, Nyanza Province, Kenya, 2011

	Not using any method	Per cent of women (currently married or in union) who are using:																Number of women currently married or in union
		Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	Female condom	Diaphragm/ Foam/ Jelly	LAM	Periodic abstinence	Withdrawal	Other	Any modern method	Any traditional method	Any method [1]	
County																		
Siaya	57.3	2.6	0.0	5.5	0.5	24.2	2.8	4.1	0.1	0.2	1.4	0.9	0.0	0.3	40.1	2.6	42.7	598
Kisumu	55.6	3.2	0.0	3.5	1.1	24.9	5.7	4.2	0.0	0.5	0.3	0.7	0.3	0.0	43.0	1.4	44.4	694
Homa Bay	58.3	2.6	0.0	4.5	1.0	26.7	2.0	3.0	0.1	0.0	0.9	0.4	0.2	0.3	40.0	1.7	41.7	618
Migori	57.0	2.7	0.0	2.1	2.3	20.8	2.5	5.6	0.0	0.1	5.6	1.3	0.0	0.0	36.1	6.9	43.0	682
Kisii	45.8	3.8	0.0	5.7	1.8	38.0	1.5	1.4	0.2	0.0	0.6	0.6	0.0	0.5	52.5	1.8	54.2	909
Nyamira	39.0	4.5	0.0	5.1	1.7	45.7	1.3	0.9	0.0	0.0	1.6	0.0	0.1	0.1	59.2	1.8	61.0	410
Residence																		
Rural	53.6	3.4	0.0	4.5	1.1	29.6	2.2	2.8	0.1	0.1	1.6	0.6	0.0	0.2	43.9	2.5	46.4	3333
Urban	46.1	1.9	0.0	3.8	3.3	29.5	5.3	5.8	0.0	0.2	2.1	0.9	0.4	0.6	49.9	4.0	53.9	579
Age																		
15-19	68.1	0.0	0.0	0.6	0.0	20.7	0.4	5.2	0.5	0.3	3.7	0.3	0.3	0.0	27.5	4.3	31.9	269
20-24	51.2	0.0	0.0	4.5	1.6	33.8	2.8	2.4	0.0	0.2	2.4	0.7	0.2	0.1	45.4	3.4	48.8	834
25-29	48.6	1.2	0.0	4.9	0.8	34.9	3.0	3.5	0.0	0.2	2.5	0.4	0.0	0.0	48.5	2.9	51.4	974
30-34	44.1	1.6	0.0	5.1	2.0	37.7	4.6	2.7	0.2	0.0	1.4	0.3	0.2	0.2	53.9	2.0	55.9	602
35-39	46.1	6.9	0.0	6.2	2.3	28.2	2.8	4.8	0.0	0.2	0.3	1.5	0.0	0.7	51.3	2.6	53.9	540
40-44	60.2	8.3	0.0	3.7	2.1	18.4	2.2	3.5	0.0	0.0	0.2	0.8	0.0	0.5	38.2	1.6	39.8	363
45-49	71.9	11.2	0.0	2.3	0.8	10.1	0.4	1.3	0.0	0.0	0.4	1.1	0.0	0.3	26.3	1.8	28.1	331
Number of living children																		
0	87.3	0.4	0.0	0.8	3.4	3.0	1.4	3.3	0.0	0.0	0.0	0.6	0.0	0.0	12.1	0.6	12.7	183
1	62.6	0.0	0.0	3.4	1.4	23.9	0.9	4.6	0.2	0.0	1.7	0.7	0.2	0.3	34.5	3.0	37.4	577
2	47.7	0.5	0.0	4.5	0.4	36.6	3.4	4.0	0.2	0.4	1.9	0.3	0.2	0.0	49.9	2.4	52.3	733
3	46.8	1.8	0.0	5.8	0.4	35.0	3.8	2.7	0.0	0.1	2.6	0.9	0.0	0.1	49.6	3.6	53.2	742
4+	49.9	6.5	0.0	4.5	2.1	29.0	2.6	2.7	0.0	0.1	1.4	0.7	0.1	0.4	47.5	2.6	50.1	1676
Education																		
None	55.5	3.7	0.0	5.4	4.9	20.6	4.4	1.6	0.0	0.0	0.6	2.1	0.9	0.2	40.6	3.9	44.5	282
Primary	54.7	3.1	0.0	3.7	1.0	28.9	2.6	3.0	0.1	0.2	2.0	0.6	0.0	0.2	42.6	2.7	45.3	2639
Secondary+	45.8	3.4	0.0	6.1	1.6	33.9	2.3	4.3	0.1	0.1	1.2	0.7	0.1	0.5	51.8	2.4	54.2	990
Wealth index quintile																		
Poorest	59.4	2.8	0.0	3.7	1.1	26.1	0.8	3.1	0.2	0.0	2.1	0.6	0.0	0.1	37.7	2.9	40.6	722
Second	50.3	3.9	0.0	3.1	1.0	36.0	1.7	2.4	0.0	0.0	1.1	0.3	0.0	0.2	48.1	1.6	49.7	779
Middle	56.9	3.2	0.0	3.3	0.8	27.4	2.5	3.0	0.0	0.1	1.9	0.9	0.0	0.0	40.3	2.8	43.1	791
Fourth	51.2	3.5	0.0	6.0	0.9	29.3	2.2	3.5	0.2	0.1	1.7	1.0	0.0	0.3	45.8	3.0	48.8	769
Richest	45.9	2.7	0.0	5.8	3.0	29.0	5.8	4.2	0.0	0.4	1.7	0.6	0.4	0.5	50.9	3.2	54.1	852
Total	**52.5**	**3.2**	**0.0**	**4.4**	**1.4**	**29.6**	**2.7**	**3.3**	**0.1**	**0.1**	**1.7**	**0.7**	**0.1**	**0.2**	**44.8**	**2.7**	**47.5**	**3912**

[1] MICS indicator 5.3; MDG indicator 5.3

Women's education level is strongly associated with contraceptive prevalence. The proportion of women married or in union using any method of contraception ranges from from 45 per cent among those with no education, 45 per cent among women with primary education, to 54 per cent among women with secondary or higher education. The same pattern is observed with wealth quintiles with the exception of the second quintile where use is slightly higher.

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

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

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

The type of personnel providing antenatal care to women aged 15-49 years who gave birth in the two years preceding is presented in Table RH.6. Coverage of antenatal care (by a doctor, nurse, clinical officer or midwife) is relatively high in Nyanza province with 91 per cent of women receiving antenatal care at least once during the pregnancy. Antenatal care use is high in all counties as well as being comparable in both urban and rural areas. For example, antenatal care coverage is about 91 per cent in rural areas and 95 per cent in urban areas. As expected, antenatal care coverage increases with improving levels of education among women. For example among those with secondary or higher education levels, ANC coverage is 94 per cent, compare to 88 per cent among those with no education.

Table RH.6: Antenatal care coverage

Percentage distribution of women age 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, Nyanza Province, Kenya, 2011

	Person providing antenatal care							No antenatal care received	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	Community health worker	Other				
County											
Siaya	8.1	72.8	1.1	9.1	0.3	0.0	1.1	7.5	100.0	91.2	318
Kisumu	23.2	60.8	6.2	4.9	0.4	0.9	1.0	2.5	100.0	95.1	318
Homa Bay	9.8	62.1	7.5	13.2	2.1	0.2	1.3	3.8	100.0	92.6	316
Migori	11.5	52.2	10.8	12.5	5.4	0.2	2.1	5.1	100.0	87.1	326
Kisii	14.5	53.6	8.0	13.5	0.0	0.0	2.8	7.6	100.0	89.6	370
Nyamira	33.1	46.6	3.7	10.8	0.2	0.7	2.1	2.9	100.0	94.2	164
Residence											
Rural	15.0	58.7	6.3	10.7	1.6	0.3	1.7	5.6	100.0	90.8	1572
Urban	16.7	59.5	8.0	10.8	0.4	0.0	2.3	2.3	100.0	95.0	240
Mother's age at birth											
< 20	19.5	54.2	6.8	10.9	1.3	0.8	0.9	5.6	100.0	91.4	400
20-34	14.1	60.5	6.3	10.9	1.6	0.1	1.9	4.6	100.0	91.7	1243
35-49	13.8	57.9	7.6	8.9	0.6	0.4	2.4	8.4	100.0	88.2	169
Education											
None	18.7	55.0	10.6	3.2	0.0	0.0	4.2	8.2	100.0	87.6	89
Primary	14.1	59.3	6.3	11.2	1.8	0.3	1.5	5.7	100.0	90.8	1287
Secondary+	18.0	58.2	6.4	11.0	0.8	0.4	2.1	3.1	100.0	93.6	436
Wealth index quintiles											
Poorest	13.7	57.8	4.7	9.6	3.1	0.2	1.8	9.0	100.0	85.9	415
Second	13.7	59.5	8.3	11.0	0.3	0.2	1.7	5.3	100.0	92.5	355
Middle	17.0	58.1	5.9	11.8	2.2	0.5	0.8	3.7	100.0	92.8	354
Fourth	14.3	59.7	7.0	11.4	1.0	0.4	1.5	4.8	100.0	92.3	345
Richest	17.9	59.3	7.0	10.0	0.4	0.1	3.0	2.2	100.0	94.2	341
Total	**15.2**	**58.8**	**6.5**	**10.7**	**1.5**	**0.3**	**1.7**	**5.2**	**100.0**	**91.3**	**1812**

[1] MICS indicator 5.5a; MDG indicator 5.5;

UNICEF and WHO recommend a minimum of at least four antenatal care visits during pregnancy. Table RH.7 shows number of antenatal care visits during the last pregnancy during the two years preceding the survey, regardless of provider by selected characteristics. In Nyanza province, about 6 per cent of mothers receive antenatal once, and nearly half of all mothers received antenatal care at least four times (46 per cent). Mothers from the poorest households and those from rural areas are less likely than more advantaged mothers or those in urban areas to receive ANC four or more times. For example, 35 per cent of the women living in poorest households reported four or more antenatal care visits compared to 60 per cent among those living in richest households. At the county levels, the figures were largely comparable. For example, The percentages vary from 36 per cent in Kisii to 53 per cent in Homabay.

Table RH.7: Number of antenatal care visits

Percentage distribution of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, Nyanza Province, Kenya, 2011

	Per cent distribution of women who had:							
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits [1]	Missing/ DK	Total	Number of women who had a live birth in the preceding two years
County								
Siaya	7.5	5.1	15.4	25.2	44.8	2.0	100.0	318
Kisumu	2.9	4.6	10.1	29.5	52.3	0.7	100.0	318
Homa Bay	3.8	8.0	10.8	23.5	52.6	1.3	100.0	316
Migori	5.1	5.8	14.3	22.6	49.8	2.3	100.0	326
Kisii	7.6	7.4	14.8	30.5	35.6	4.1	100.0	370
Nyamira	2.9	7.3	14.4	30.7	39.7	5.0	100.0	164
Residence								
Rural	5.7	6.7	14.0	26.9	44.3	2.4	100.0	1572
Urban	2.3	4.0	8.3	25.6	57.3	2.5	100.0	240
Mother's age at birth								
Less than 20	5.6	10.3	13.1	25.0	43.9	2.1	100.0	400
20-34	4.6	5.2	13.5	26.9	47.4	2.4	100.0	1243
35-49	9.0	5.4	11.8	29.7	41.0	3.0	100.0	169
Education								
None	8.2	4.7	9.3	10.7	59.5	7.5	100.0	89
Primary	5.7	6.9	13.3	28.6	43.4	2.1	100.0	1287
Secondary+	3.1	4.9	14.0	24.5	51.1	2.3	100.0	436
Wealth index quintile								
Poorest	9.0	9.8	15.3	29.4	34.7	1.9	100.0	415
Second	5.3	7.1	14.1	28.0	42.3	3.2	100.0	355
Middle	4.0	4.8	15.8	29.1	44.9	1.5	100.0	354
Fourth	4.8	7.0	12.0	23.9	50.8	1.4	100.0	345
Richest	2.2	2.1	8.6	22.7	60.1	4.2	100.0	341
Total	**5.2**	**6.3**	**13.3**	**26.8**	**46.0**	**2.4**	**100.0**	**1812**

[1] MICS indicator 5.5b; MDG indicator 5.5;

The types of services pregnant women received are shown in table RH.8. Among those women who have given birth to a child during the two years preceding the survey, 66 per cent reported that a blood sample was taken during antenatal care visits, 91 per cent reported that their blood pressure was checked and 84 per cent that urine specimen was taken. The proportion of women who had blood pressure measured, urine and blood sample taken varies by areas of residence, counties and by wealth quintiles. Among urban women, nearly 80 per cent had the three during ANC, compared to only 60 per cent among those from rural areas. Similarly, while 79 per cent of women from the richest wealth quintile had all the three measurements, only 53 per cent of women from the poorest wealth quintile received the three services (Table RH.8).

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, Nyanza Province, Kenya, 2011

	Percentage of pregnant women who had:				Number of women who had a live birth in the preceding two years
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken [1]	
County					
Siaya	90.9	82.0	58.8	56.0	318
Kisumu	95.2	91.1	77.4	75.1	318
Homa Bay	91.0	81.3	58.6	55.5	316
Migori	89.0	87.4	71.1	69.7	326
Kisii	87.5	79.8	67.4	61.0	370
Nyamira	92.8	86.2	63.5	58.0	164
Residence					
Rural	90.4	83.1	64.3	60.3	1572
Urban	93.2	92.9	80.2	80.2	240
Mother's age at birth					
Less than 20	89.6	82.4	67.7	60.9	400
20-34	91.9	85.5	67.7	65.2	1243
35-49	85.7	80.6	53.9	51.4	169
Education					
None	87.6	86.2	70.7	70.7	89
Primary	90.2	83.2	63.5	60.0	1287
Secondary+	93.3	87.4	74.2	70.0	436
Wealth index quintile					
Poorest	84.5	79.1	56.7	53.3	415
Second	91.6	82.8	61.2	57.3	355
Middle	94.0	84.1	66.5	61.5	354
Fourth	91.0	85.1	70.1	66.4	345
Richest	94.0	91.9	79.9	78.5	341
Total	**90.8**	**84.4**	**66.4**	**62.9**	**1812**

[1] MICS indicator 5.6:

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 or auxiliary midwife.

About 56 per cent of births occurring in the two years preceding the Nyanza province MICS survey were delivered by skilled personnel (Table RH.9). This proportion of women who received skilled delivery assistance ranges from 48 per cent in Migori to 62 per cent in Nyamira County. In urban areas more than three in four women deliver with the assistance of skilled personnel (76 per cent), while in rural areas the proportion is 53 per cent.

More than one in three of the births (36 per cent) in the two years preceding the MICS survey were delivered with assistance by a nurse or midwife. Doctors assisted with the delivery of 12 per cent of births and community nurses assisted with 3 per cent. Overall, about 22 per cent of births were delivered by traditional birth attendants. Relatives and friends provided delivery assistance to about one in ten women in Nyanza province. In Kisii County, about 20 per cent of births are delivered with the assistance of a friend or relative, compared to 4 per cent in Kisumu County

Table RH.9: Assistance during delivery

Percentage 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, Nyanza Province, Kenya, 2011

	Person assisting at delivery									Total	Delivery assisted by any skilled attendant [1]	Percentage delivered by C-section [2]	Number of women who had a live birth in preceding two years
	Medical doctor	Community nurse	Nurse/ Midwife	Community health worker	Clinical officer	Relative/ Friend	Traditional birth attendant	Other/ Missing	No attendant				
County													
Siaya	9.9	0.3	41.8	0.6	3.8	13.2	16.0	1.7	12.6	100.0	55.9	5.6	318
Kisumu	17.1	2.5	38.1	1.3	1.8	3.9	29.2	1.5	4.6	100.0	59.5	6.6	318
Homa Bay	6.8	1.1	34.5	2.0	7.2	9.1	32.6	1.6	5.2	100.0	49.5	7.3	316
Migori	3.8	4.6	34.1	0.6	5.5	9.9	32.7	3.3	5.5	100.0	47.9	2.7	326
Kisii	15.5	3.3	35.6	0.8	6.8	20.3	6.6	5.5	5.7	100.0	61.1	7.5	370
Nyamira	21.9	3.7	30.9	0.3	6.0	13.0	13.4	2.3	8.5	100.0	62.4	7.3	164
Residence													
Rural	10.4	2.5	34.6	1.1	5.0	12.8	23.2	2.8	7.6	100.0	52.5	5.2	1572
Urban	20.5	2.6	47.1	0.3	6.3	4.5	14.4	2.3	2.1	100.0	76.4	11.7	240
Mother's age at birth													
Less than 20	13.0	2.5	35.7	0.9	6.8	9.1	26.6	3.0	2.3	100.0	58.1	7.5	400
20-34	11.7	2.5	37.4	1.1	5.1	12.0	21.1	2.6	6.5	100.0	56.7	6.2	1243
35-49	9.2	2.8	29.0	0.0	1.3	15.3	18.1	3.5	20.8	100.0	42.3	2.2	169
Place of delivery													
Public sector health facility	20.8	5.1	64.3	0.2	9.0	0.3	0.0	0.3	0.1	100.0	99.1	12.2	711
Private sector health facility	25.7	1.7	60.5	0.5	11.0	0.0	0.0	0.6	0.0	100.0	98.9	9.7	244
Home	0.3	0.7	6.2	2.0	0.3	24.3	49.8	2.4	14.0	100.0	7.5	0.0	779
Other	(0.0)	(0.0)	(6.0)	(0.0)	(0.0)	(44.1)	(25.9)	(14.3)	(9.8)	100.0	(6.0)	(0.0)	47
Missing/DK	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(69.1)	(30.9)	100.0	(0.0)	(0.0)	31
Education													
None	23.7	5.8	37.3	0.0	5.6	7.4	7.4	5.4	7.4	100.0	72.4	10.8	89
Primary	9.8	1.9	33.1	1.1	4.9	13.1	25.7	2.4	8.0	100.0	49.6	5.3	1287
Secondary+	15.1	3.6	45.3	1.0	5.8	8.3	14.3	3.3	3.3	100.0	69.9	7.6	436
Wealth index quintiles													
Poorest	6.2	1.6	24.9	1.0	5.0	17.7	28.2	4.0	11.3	100.0	37.8	4.2	415
Second	9.8	3.4	36.9	0.8	3.4	13.2	22.6	2.3	7.6	100.0	53.5	4.0	355
Middle	13.2	1.7	33.5	0.6	5.9	12.1	23.8	2.0	7.3	100.0	54.3	4.8	354
Fourth	9.2	2.6	44.6	1.0	5.7	7.8	22.1	2.2	4.9	100.0	62.0	7.2	345
Richest	21.5	3.5	43.7	1.6	5.8	6.4	12.1	3.2	2.3	100.0	74.5	10.8	341
Total	**11.7**	**2.5**	**36.2**	**1.0**	**5.2**	**11.7**	**22.1**	**2.8**	**6.9**	**100.0**	**55.6**	**6.1**	**1812**

[1] MICS indicator 5.7; MDG indicator 5.2
[2] MICS indicator 5.9
( ) Based on 25-49 unweighted cases.

Place of Delivery

Increasing the proportion of births that are delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. Table RH.10 presents the 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.

Table RH.10: Place of delivery

Percentage distribution of women age 15-49 who had a live birth in two years preceding the survey by place of delivery, Nyanza Province, Kenya, 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			
County								
Siaya	42.3	11.2	41.9	3.1	1.5	100.0	53.5	318
Kisumu	37.3	18.2	41.0	2.5	1.1	100.0	55.5	318
Homa Bay	37.8	9.6	49.6	2.1	0.9	100.0	47.4	316
Migori	35.0	9.6	51.1	2.6	1.7	100.0	44.6	326
Kisii	43.5	14.3	36.2	3.1	3.0	100.0	57.8	370
Nyamira	39.0	22.1	35.2	1.7	2.1	100.0	61.1	164
Residence								
Rural	36.7	12.6	46.2	2.8	1.7	100.0	49.3	1572
Urban	56.3	18.8	21.7	1.4	1.8	100.0	75.1	240
Mother's age at birth								
Less than 20	44.9	12.0	40.8	1.9	0.5	100.0	56.9	400
20-34	38.8	14.5	42.1	2.8	1.8	100.0	53.3	1243
35-49	29.1	9.6	54.2	2.9	4.2	100.0	38.7	169
Number of antenatal care visits								
None	15.5	5.7	64.8	3.9	10.1	100.0	21.2	95
1-3 visits	35.3	12.3	50.4	2.0	0.0	100.0	47.6	840
4+ visits	46.8	16.0	34.2	3.0	0.0	100.0	62.8	834
Education								
None	47.7	24.7	23.3	0.0	4.2	100.0	72.4	89
Primary	34.9	11.2	49.7	2.8	1.5	100.0	46.1	1287
Secondary+	50.6	17.8	27.1	2.6	1.9	100.0	68.4	436
Wealth index quintiles								
Poorest	25.3	9.2	60.6	2.6	2.3	100.0	34.5	415
Second	35.6	12.4	47.2	3.2	1.6	100.0	48.0	355
Middle	39.8	11.3	46.2	2.7	0.0	100.0	51.1	354
Fourth	44.1	16.1	35.5	2.7	1.6	100.0	60.2	345
Richest	54.6	19.3	21.3	1.8	2.9	100.0	73.9	341
Total	**39.3**	**13.5**	**43.0**	**2.6**	**1.7**	**100.0**	**52.7**	**1812**

[1] MICS indicator 5.8

About 53 per cent of births in Nyanza province are delivered in a health facility; 39 per cent of deliveries occur in public sector facilities and 14 per cent occur in private sector facilities. Nearly 43 per cent of births occur at home. By age, young women ages less than 20 and 20-34 are most likely to deliver in a health facility compared to 35-49 year olds (39 per cent). Women in urban areas are far more likely to deliver in a health facility than their rural counterparts (49 per cent compared with 75 per cent). The proportion of institutional deliveries ranges from 61 per cent in Nyamira County, followed by Kisii County (58 per cent), to 45 per cent for Migori County.

Women who had more ANC visits are more likely to deliver in a health facility than women with no visit of fewer visits. About two thirds of women received no antenatal care services delivered at home (65 per cent). The proportion of births occurring in a health facility increases steadily with increasing wealth quintile, from 35 per cent of births in the lowest wealth quintile to 74 per cent among those in the richest quintile.

Postnatal Care

In addition to increasing the proportion of mothers and births that are delivered in health facilities, it is important to monitor the health risks to both the mother and the baby after birth. Proper medical attention and monitoring the conditions of the mother and baby after delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. Table RH.11a presents the per cent distribution of women age 15-49 who had a live birth in the two years preceding the survey who were checked on after birth and the percentage of new-borns who were checked on immediately after birth, and the percentage of mothers who were checked on by skilled personnel, according to background characteristics.

In Nyanza province, 15 per cent of new-borns were checked on after birth. Mothers who received postnatal care checks were about 61 per cent. The proportion of mothers receiving postnatal checks ranges from 73 per cent in Kisumu County to 48 per cent in Homa Bay County. As expected postnatal checks for mothers are higher in urban than in rural areas.

The proportion of mothers receiving postnatal checks increases with improving levels of wealth quintiles. For example, 52 per cent of mothers from the poorest households were checked on compared to 72 per cent among mothers from the richest households. About one in two mothers who received postnatal care where checked on by a skilled personnel. The proportion of skilled personnel offering postnatal care is higher in urban areas, and increases with improving levels of household wealth index.

Table RH.11a: Postnatal care provider

Percentage distribution of women aged 15-49 who gave birth in the two years preceding the survey receiving postnatal care, Nyanza Province, Kenya, 2011				
	Percentage of new-borns whose health was checked on by health care provider or a traditional birth attendant	Percentage of mothers whose health was checked on by health care provider or a traditional birth attendant	Checked by skilled personnel	Number of women who gave birth in the preceding two years
County				
Siaya	12.8	60.7	50.0	318
Kisumu	10.8	72.6	58.6	318
Homa Bay	18.2	47.6	38.8	316
Migori	10.1	66.5	54.3	326
Kisii	15.7	60.2	52.9	370
Nyamira	26.1	55.4	46.3	164
Area				
Rural	15.2	58.4	47.1	1572
Urban	11.3	77.4	73.6	240
Mother's age at birth				
Less than 20	11.8	64.7	53.0	400
20-34	15.9	61.5	50.9	1243
35-49	12.9	48.1	42.4	169
Education				
None	7.5	66.5	62.0	89
Primary	14.8	59.0	47.2	1287
Secondary +	15.8	65.7	58.3	436
Wealth index quintiles				
Poorest	14.5	51.9	39.1	415
Second	17.0	55.2	44.8	355
Middle	16.6	63.1	48.8	354
Fourth	13.2	65.2	56.3	345
Richest	12.2	71.5	66.7	341
Total	**14.7**	**61.0**	**50.6**	**1812**

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.

About 44 per cent of children aged 36-59 months are attending pre-school (Table CD.1). Urban-rural and regional differentials are significant – children attending ECDI was 61 per cent in urban areas and 42 per cent in rural areas. Among children aged 36-59 months, attendance to pre-school ranges from 53 per cent in Kisumu County a more urbanized County to 30 per cent in Siaya County. No significant gender differentials are observed, but differentials by socioeconomic status are significant. About 65 per cent of children living in rich households attend pre-school, while the figure drops to 33 per cent among those from the poorest households. It is not surprising to note that the proportions of children attending pre-school at ages 36-47 months (28 per cent) is much lower than for the 48-59 months (62 per cent).

Table CD.1: Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Nyanza Province, Kenya, 2011		
	Percentage of children age 36-59 months currently attending early childhood education [1]	Number of children age 36-59 months
Sex		
Male	43.8	1095
Female	44.7	1033
County		
Siaya	30.1	317
Kisumu	53.0	358
Homa Bay	50.9	356
Migori	40.3	408
Kisii	44.6	499
Nyamira	46.5	189
Residence		
Rural	42.1	1881
Urban	60.5	247
Age of child		
36-47 months	27.9	1094
48-59 months	61.6	1034
Mother's education		
None	55.1	173
Primary	39.5	1490
Secondary+	55.7	462
Missing / Don't know	(*)	3
Wealth index quintile		
Poorest	33.3	491
Second	37.3	469
Middle	41.4	428
Fourth	50.7	383
Richest	65.0	357
Total	**44.2**	**2128**

[1] MICS indicator 6.7 (*) Not shown, based on less than 25 unweighted cases.

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 the major determinant of the child's development during this period. In this context, adult activities with children, presence of books in the home, for the child, and the conditions of care are important indicators of quality of home care. 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 was collected in the 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.

In Nyanza Province, almost one-third (32 per cent) of children aged 36-59 months, 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). This proportion was relatively higher in urban than in rural areas. Similarly, in Kisii County, a slightly higher proportion (46 per cent) of adult household members engaged in more than four activities that promote leaning and school readiness versus only 20 per cent in Nyamira County. There are no gender differentials in terms of adult activities with children. Adult members from the richest households were more likely to engage in more than four activities that promote learning and school readiness compared to those from the poorest households. The average number of activities that adults engaged with children was 2.3. The table also indicates that the father's involvement in such activities was somewhat limited. Father's involvement with one or more activities was only 31 per cent. More than one third (36 per cent) of children were living in a household without their fathers, but this proportion does not vary much by household wealth quintiles.

A slightly larger proportions of fathers engaged in learning and school readiness activities with children in urban areas (43 per cent) than in rural areas (29 per cent). There are some differentials by region and socio-economic status: father's engagement in activities with children was greatest in the Migori County (54 per cent) and lowest in the Homa Bay County (13 per cent), while the proportion was 37 per cent for children living in the richest households, as opposed to those living in the poorest households (26 per cent).

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, Nyanza Province, Kenya, 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	32.6	31.4	2.4	0.7	35.8	1095
	Female	31.2	29.6	2.3	0.7	36.9	1033
County	Siaya	27.1	29.9	2.6	0.6	42.6	317
	Kisumu	30.9	28.4	2.2	0.7	35.8	358
	Homa Bay	23.1	13.3	1.9	0.2	37.9	356
	Migori	32.9	54.0	2.4	1.3	23.2	408
	Kisii	45.8	25.8	2.6	0.7	41.9	499
	Nyamira	19.9	29.6	2.0	0.6	37.4	189
Residence	Rural	30.5	28.9	2.3	0.7	36.9	1881
	Urban	42.6	42.8	2.6	1.0	31.5	247
Age	36-47 months	29.3	30.4	2.3	0.7	35.9	1094
	48-59 months	34.7	30.6	2.4	0.7	36.8	1034
Mother's education	None	41.3	26.1	2.4	0.7	59.7	173
	Primary	28.8	31.2	2.3	0.7	32.2	1490
	Secondary+	38.7	30.1	2.6	0.7	40.5	462
	Missing /DK	(*)	(*)	(*)	(*)	(*)	3
Father's education	None	43.2	50.0	2.7	1.3	0.0	108
	Primary	29.7	43.7	2.3	1.0	0.0	862
	Secondary+	37.2	48.4	2.5	1.1	0.0	379
	Father not in household	30.5	4.2	2.2	0.1	100.0	773
	Missing/DK	(*)	(*)	(*)	(*)	(*)	6
Wealth index quintiles	Poorest	30.2	26.1	2.2	0.6	38.9	491
	Second	30.1	27.1	2.2	0.6	35.8	469
	Middle	27.9	31.5	2.3	0.7	35.4	428
	Fourth	28.0	33.0	2.4	0.7	36.7	383
	Richest	45.8	37.2	2.7	0.9	34.1	357
Total		**31.9**	**30.5**	**2.3**	**0.7**	**36.3**	**2128**

[1] MICS indicator 6.1

[2] MICS Indicator 6.2

*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 Nyanza province, only 4 per cent of children age 0-59 months are living in households where at least 3 children's books are present (Table CD.3). The proportion of children with 10 or more books is less than 1 per cent. While no stronger gender differentials were observed, children living in urban areas appear to have more access to children's books than those living in rural households. The proportion of under-5 children who have 3 or more children's books is 12 per cent in urban areas, compared to 3 per cent in rural areas. As expected, the presence of children's books is associated with the child's age. For example, 7 per cent of children aged 24-59 months have 3 or more children's books, while the figure is less than 1 per cent for children aged 0-23 months. A similar pattern is observed with respect to household wealth quintiles.

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, Nyanza Province, Kenya, 2011

		Household has for the child:		Child plays with:				
		3 or more children's books [1]	10 or more children's books	Home-made toys	Toys from a shop/ manufac-tured toys	House-hold objects/ objects found outside	Two or more types of playthings [2]	Number of children under age 5
Sex	Male	4.3	0.2	61.4	31.6	76.7	62.9	2559
	Female	4.6	0.3	56.1	33.4	75.7	60.2	2486
County	Siaya	1.8	0.2	56.9	27.7	81.8	61.3	809
	Kisumu	6.4	0.2	48.8	37.1	74.2	61.9	861
	Homa Bay	2.6	0.1	65.3	30.7	76.0	64.9	868
	Migori	4.9	0.4	68.8	42.9	72.5	67.8	930
	Kisii	5.0	0.2	51.9	28.0	73.9	52.0	1135
	Nyamira	6.8	0.4	66.0	25.1	84.2	66.6	442
Residence	Rural	3.4	0.2	58.9	28.8	76.4	60.4	4429
	Urban	12.2	0.9	58.2	58.7	74.5	70.5	616
Age	0-23 months	0.8	0.1	40.6	25.5	59.0	44.3	1870
	24-59 months	6.6	0.3	69.6	36.6	86.3	71.8	3175
Mother's education	None	15.9	1.2	64.8	50.3	81.7	72.0	345
	Primary	2.5	0.1	58.8	27.6	76.0	60.0	3523
	Secondary+	6.9	0.5	57.2	42.0	75.0	63.6	1175
	Missing /DK	(*)	(*)	(*)	(*)	(*)	(*)	3
Wealth index quintiles	Poorest	1.1	0.1	56.4	15.4	73.1	53.6	1168
	Second	1.9	0.0	58.7	26.6	76.6	59.6	1054
	Middle	4.0	0.0	59.3	31.5	77.1	62.2	985
	Fourth	3.9	0.1	61.2	36.7	78.9	64.9	944
	Richest	12.9	1.2	59.1	58.3	75.9	70.5	894
Total		**4.4**	**0.3**	**58.8**	**32.5**	**76.2**	**61.6**	**5045**

[1] MICS indicator 6.3
[2] MICS indicator 6.4
*Not shown, based on less than 25 unweighted cases.

Table CD.3 also shows that 62 per cent of children aged 0-59 months had 2 or more playthings to play with in their homes. The playthings in MICS 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). It is interesting to note that 59 per cent of children play with toys that are home made. The proportion of children who have 2 or more playthings to play with is well balanced among both genders--the percentage among male children was 63 per cent whereas among female childrenit was 60 per cent. There are also significant urban-rural differentials observed in this respect, with urban children (71 per cent) more advantaged than rural children (60 per cent).

There are significant differences observed in terms of household wealth index – 54 per cent of children from the poorest wealth quintile have 2 or more playthings, while the proportion is 71 per cent for children from the richest wealth quintiles. Differentials are small by mother's education and moderately comparable across the counties with the exception of Kisii County where the proportion is much lower at 52 per cent).

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

Table CD.4 shows that 22 per cent of children aged 0-59 months were left in the care of other children, while nearly half (50 per cent) were left alone during the week preceding the interview. Combining the two care indicators, it is estimated that 55 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 were observed by the sex of the child, but there are observed differences between urban (45 per cent) compared to rural areas (57 per cent). On the other hand, 60 per cent of children whose mothers had primary level education received inadequate care, followed by 46 per cent among those with mothers having at least secondary education, and 39 per cent among children whose mothers had no education. Children aged 24-59 months were left with inadequate care more (61 per cent) than those who were aged 0-23 months (46 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, Nyanza Province, Kenya, 2011				
	Percentage 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]	Number of children under age 5
Sex				
Male	50.2	23.5	56.2	2559
Female	49.2	21.0	54.3	2486
County				
Siaya	56.5	19.0	64.2	809
Kisumu	36.8	16.8	41.9	861
Homa Bay	51.7	27.6	57.2	868
Migori	67.8	34.0	72.2	930
Kisii	40.3	16.9	45.6	1135
Nyamira	44.7	17.6	50.3	442
Residence				
Rural	51.1	23.0	56.7	4429
Urban	39.6	17.4	44.8	616
Age				
0-23 months	42.0	15.1	46.0	1870
24-59 months	54.2	26.5	60.7	3175
Mother's education				
None	34.3	15.4	38.9	348
Primary	54.4	24.0	60.0	3523
Secondary+	40.3	19.3	46.1	1175
Missing /DK	(*)	(*)	(*)	3
Wealth index quintiles				
Poorest	54.3	21.7	59.3	1168
Second	48.5	21.4	53.6	1054
Middle	57.6	28.4	63.1	985
Fourth	50.1	23.3	57.5	944
Richest	36.1	16.3	41.1	894
Total	**49.7**	**22.3**	**55.3**	**5045**

[1] MICS indicator 6.5

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

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 Kenya.

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 Nyanza province, 32 per cent of children aged 36-59 months are developmentally on track. ECDI is comparable among boys (32 per cent) and girls (31 per cent). As expected, ECDI is much higher in older age group (41 per cent among 48-59 months old compared to 23 per cent among 36-47 months old), since children mature more skills with increasing age. Higher ECDI is seen in children attending pre-school (49 per cent compared to 18 per cent for those who are not attending preschool). Children living in poorest households have lower ECDI (25 per cent) compared to children living in richest households (43 per cent of children developmentally on track). The analysis of four domains of child development shows that 89 per cent of children are on track in the physical domain, but much less on track in socio-emotional (33 per cent), learning (47 per cent), and literacy-numeracy (34 per cent) domains. In learning and literacy-numeracy domains the higher score were more observed among children living in richest households.

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, Nyanza Province, Kenya, 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	33.6	89.5	34.6	47.4	32.4	1095
Female	35.2	88.4	32.1	46.9	31.1	1033
County						
Siaya	26.5	88.1	26.1	40.3	22.4	317
Kisumu	45.2	92.1	33.8	53.0	41.6	358
Homa Bay	34.0	78.0	31.9	44.6	29.6	356
Migori	30.9	83.5	35.6	35.4	21.7	408
Kisii	33.3	97.8	34.3	55.0	37.3	499
Nyamira	38.4	93.6	40.2	56.8	40.2	189
Residence						
Rural	32.7	88.9	33.4	46.3	30.2	1881
Urban	47.5	89.2	33.6	53.6	43.7	247
Age						
36-47 months	22.1	87.1	33.2	44.9	22.7	1094
48-59 months	47.4	90.9	33.6	49.5	41.4	1034
Attendance to early childhood education						
Attending	60.1	92.2	33.3	53.8	48.6	942
Not attending	14.0	86.4	33.4	41.8	18.4	1186
Mother's education						
None	38.9	95.0	32.9	53.9	40.6	173
Primary	30.9	87.0	33.0	42.6	27.6	1490
Secondary+	43.7	93.0	34.3	59.0	41.6	462
Missing /DK	(*)	(*)	(*)	(*)	(*)	3
Wealth index quintiles						
Poorest	26.5	87.0	33.4	41.6	25.0	491
Second	28.2	88.2	35.3	46.8	28.4	469
Middle	35.6	89.7	30.7	50.5	32.2	428
Fourth	36.3	90.5	34.2	45.0	33.5	383
Richest	49.9	90.2	33.2	53.5	43.3	357
Total	**34.4**	**89.0**	**33.4**	**47.1**	**31.8**	**2128**

[1] MICS indicator 6.6.

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

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 this MICS, since only the women's questionnaire was administered, the results 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 Nyanza Province are literate and that literacy status varies somewhat by place of residence (urban areas about 91 per cent versus 85 in rural areas). Of women who stated that primary school was their highest level of education, about 77 per cent were actually able to read the statement shown to them. The proportion of literate women is much lower in Homa Bay County (74 per cent) when compared to other counties.

Table ED.1: Literacy among young women

Percentage of women age 15-24 years who are literate, Nyanza Province, Kenya, 2011		
	Percentage literate [1]	Number of women age 15-24 years
County		
Siaya	85.9	378
Kisumu	90.2	425
Homa Bay	74.3	379
Migori	82.6	385
Kisii	87.4	592
Nyamira	94.5	248
Residence		
Rural	84.5	1997
Urban	90.7	410
Education		
None	87.5	95
Primary	77.4	1453
Secondary+	n/a	859
Missing/DK	(*)	1
Age		
15-19	88.0	1216
20-24	83.1	1192
Wealth index quintile		
Poorest	75.9	455
Second	86.6	439
Middle	84.9	458
Fourth	85.8	497
Richest	93.0	559
Total	**85.6**	**2408**

[1] MICS indicator 7.1; MDG indicator 2.3

(*) 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, 77 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. The proportion among females is slightly higher (79 per cent) than males (74 per cent), while 84 per cent of children in urban areas had attended pre-school the previous year compared to 76 per cent among children living in rural areas. Regional differentials are also very significant; there is a nearly 12 per cent difference in the proportion of first graders in Migori County who have attended pre-school (82 per cent) as compared to their counterparts in Nyamira County. School readiness does not appear to vary much by household wealth index – for example, while the indicator is 76 per cent among the poorest households, it increases marginally to 80 per cent among those children living in the richest households. A similar observation is noted for the levels of mother's education on school readiness.

Table ED.2: School readiness

Percentage of children attending first grade of primary school who attended pre-school the previous year, Nyanza Province, Kenya, 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	74.3	520
	Female	79.4	496
County	Siaya	74.9	163
	Kisumu	73.9	156
	Homa Bay	77.8	151
	Migori	82.2	225
	Kisii	77.1	212
	Nyamira	70.4	109
Area	Rural	75.9	904
	Urban	84.3	112
Mother's education	None	78.2	109
	Primary	78.1	715
	Secondary +	76.7	178
	Mother not member of household	(*)	6
	Impossible to determine	(*)	8
Wealth index quintiles	Poorest	76.1	239
	Second	77.1	233
	Middle	75.4	215
	Fourth	76.4	168
	Richest	79.6	162
Total		**76.8**	**1016**

[1] MICS indicator 7.2; *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

Of children who are of primary school entry age (age 6) in Nyanza Province, 21 per cent are attending the first grade of primary school (Table ED.3). Sex differentials do exist with the proportion being higher among 17 per cent among males and 25 per cent among females. In addition, there are notable differentials by counties and urban-rural areas. In Nyamira County, for instance, the value of the indicator reaches 37 per cent, while it is 11 per cent in Homa Bay County. Children's participation to primary school is timelier in urban areas (27 per cent) than in rural areas (20 per cent). When one compares the proportions among the lowest and highest categories of wealth index and mothers education, some variations are observed; for children age 6 whose mothers have at least secondary school education, 31 per cent were attending the first grade. In rich households, the proportion is around 35 per cent, while it is 16 per cent among children living in the poorest households.

Table ED.3: Primary school entry

Percentage of children of primary school entry age entering grade 1 (net intake rate), Nyanza Province, Kenya, 2011

		Percentage of children of primary school entry age entering grade 1 [1]	Number of children of primary school entry age
Sex	Male	17.4	504
	Female	24.5	508
County	Siaya	14.7	163
	Kisumu	24.9	158
	Homa Bay	11.3	185
	Migori	28.1	183
	Kisii	18.7	233
	Nyamira	36.9	89
Area	Rural	19.9	868
	Urban	27.3	143
Mother's education	None	23.4	117
	Primary	17.8	695
	Secondary +	30.6	200
Wealth index quintiles	Poorest	16.3	223
	Second	18.8	193
	Middle	19.3	217
	Fourth	17.7	202
	Richest	34.9	177
Total		**21.0**	**1012**

[1] MICS indicator 7.3

Table ED.4 provides the percentage of children of primary school age [6 to 13 years] who are attending primary or secondary school[10]. More than three quarters of children of primary school age are attending school (79 per cent) leaving about 21 per cent of the children out of school when they are expected to be participating in school. In urban and rural areas, an almost equal proportion of children (79.1 versus 78.9 per cent) attend school. At the county level, the proportion ranges from 75 per cent in Homa Bay county to 84 per cent in Nyamira County. The proportion of children of primary school age who are attending primary or secondary school increases with improving levels of the household wealth index. For example, this proportion is noted as 74 per cent among the children from the poorest households compared to 84 per cent among children from the richest households.

Table ED.4: Primary school attendance

Percentage of children of primary school age attending primary or secondary school (Net attendance ratio), Nyanza Province, Kenya, 2011

	Male		Female		Total	
	Net attendance ratio (adjusted) [1]	Number of children	Net attendance ratio (adjusted) [1]	Number of children	Net attendance ratio (adjusted) [1]	Number of children
County						
Siaya	78.7	576	80.8	635	79.8	1211
Kisumu	78.6	595	83.2	590	80.9	1185
Homa Bay	72.9	642	76.4	659	74.7	1301
Migori	77.0	679	78.2	672	77.6	1351
Kisii	79.3	831	79.8	767	79.6	1598
Nyamira	82.7	319	84.8	332	83.8	651
Area						
Rural	77.6	3243	80.2	3218	78.9	6461
Urban	79.6	399	78.8	438	79.1	837
Age						
6	20.1	504	25.1	508	22.6	1012
7	55.4	479	60.6	503	58.0	982
8	77.6	472	84.9	458	81.2	930
9	90.7	418	92.0	432	91.4	850
10	97.1	481	95.3	458	96.2	940
11	98.2	421	98.5	436	98.3	856
12	97.8	449	97.5	449	97.7	898
13	96.6	418	98.1	412	97.4	831
Mother's education						
None	83.6	461	84.1	493	83.9	954
Primary	75.3	2478	77.8	2448	76.6	4928
Secondary +	83.0	702	84.9	712	84.0	1414
Missing/DK	52.8	2	100.0	3	80.9	5
Wealth index quintiles						
Poorest	74.5	788	73.7	796	74.1	1584
Second	77.6	803	81.2	734	79.3	1537
Middle	76.8	756	81.3	741	79.0	1497
Fourth	78.3	697	80.6	746	79.5	1443
Richest	83.4	598	84.7	639	84.1	1237
Total	**77.9**	**3642**	**80.1**	**3656**	**79.0**	**7298**

[1] MICS indicator 7.4; MDG indicator 2.1 (*) Not shown, based on less than 25 unweighted cases.
Note that one child whose sex is not known has been excluded from this table

10 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.5: Secondary school attendance

Percentage of children of secondary school age attending secondary school or higher (adjusted net attendance ratio), and percentage of children attending primary school, Nyanza Province, Kenya, 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
County	Siaya	21.3	67.8	248	11.7	76.8	236	16.6	72.2	484
	Kisumu	28.6	60.4	252	25.5	56.2	241	27.1	58.3	494
	Homa Bay	21.3	71.7	264	18.2	66.8	242	19.8	69.3	506
	Migori	12.4	78.6	244	24.8	55.5	232	18.4	67.3	477
	Kisii	35.3	55.5	299	36.4	53.0	325	35.8	54.2	625
	Nyamira	33.6	58.9	150	37.2	52.2	139	35.3	55.7	289
Area	Rural	23.6	67.7	1312	22.9	63.5	1243	23.3	65.6	2555
	Urban	39.6	46.8	146	44.2	36.8	173	42.1	41.4	319
Age	14	6.6	90.5	346	9.1	87.7	452	8.0	88.9	799
	15	16.8	76.6	407	19.3	71.3	308	17.9	74.3	715
	16	35.2	54.7	323	37.1	46.0	324	36.1	50.3	646
	17	42.5	40.4	382	42.3	26.3	331	42.4	33.9	713
Mother's education	None	22.6	65.6	159	27.3	64.1	134	24.8	64.9	293
	Primary	20.1	74.2	724	18.3	73.6	714	19.2	73.9	1438
	Secondary +	35.1	61.5	209	44.1	52.2	232	39.9	56.6	441
	Mother not in household	30.7	50.9	366	27.2	35.8	336	29.0	43.7	702
Wealth index quintiles	Poorest	17.8	75.1	257	16.5	68.9	276	17.1	71.9	533
	Second	23.0	68.1	296	18.7	68.6	262	21.0	68.3	559
	Middle	20.9	69.4	327	21.0	63.8	290	21.0	66.7	617
	Fourth	28.1	64.4	308	27.1	57.0	296	27.6	60.8	604
	Richest	36.5	50.5	270	43.0	44.1	291	39.9	47.2	561
Total		**25.2**	**65.6**	**1458**	**25.5**	**60.2**	**1416**	**25.3**	**62.9**	**2874**

[1] MICS indicator 7.5

The secondary school net attendance ratio is presented in Table ED.5[11]. More dramatic than in primary school where about 21 per cent of the children are not attending school at all, is the fact than only 25 per cent of the children of secondary school age (14 to 17 years) are attending secondary school. Of the remaining 75 per cent of children--many of them are either out of school or attending primary school. Three in five (63 per cent) of the children of secondary school age are attending primary school when they should be attending secondary school, while the remaining 12 per cent are not attending school at all. The proportion of children of secondary school age attending secondary school drops with improving levels of household wealth index. Among the richest households, this proportion is about 40 per cent compared to 17 per cent among those from the poorest households. While across counties, the proportion ranges from 17 per cent in Siaya County to 36 per cent among those from Kisii County. Similarly, there are observed differences across urban (42 per cent) and rural areas (23 per cent).

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 (89 per cent) will eventually reach the last grade. Notice that this number includes children that repeat grades and that eventually move up to reach last grade. There are no major variations across gender, urban-rural residence or by household wealth index. However, the proportion of those who reach grade 8 of those who enter grade 1, increases with mothers levels of education (85 per cent among those mothers with no education and nearly 100 per cent among those with mothers with secondary or higher level of education). At the County levels, the proportion of those completing the last grade ranges from 85 per cent in Kisii County to 92 per cent in Nyamira County.

11 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.6U: Children reaching last grade of primary school (Unweighted with denominators)

Percentage of children entering first grade of primary school who eventually reach last grade of primary school (Survival rate to last grade of primary school) Nyanza Province, Kenya, 2011

	Per cent attending grade 1 last year who are in grade 2 this year	Number of children who attended grade 1 last year	Per cent attending grade 2 last year who are attending grade 3 this year	Number of children who attended grade 2 last year	Per cent attending grade 3 last year who are attending grade 4 this year	Number of children who attended grade 3 last year	Per cent attending grade 4 last year who are attending grade 5 this year	Number of children who attended grade 4 last year	Per cent attending grade 5 last year who are attending grade 6 this year	Number of children who attended grade 5 last year	Per cent attending grade 6 last year who are attending grade 7 this year	Number of children who attended grade 6 last year	Per cent attending grade 7 last year who are attending grade 8 this year	Number of children who attended grade 7 last year	Percent who reach grade 8 of those who enter grade 1 [1]
Sex															
Male	98.9	515	99.9	516	99.6	530	99.7	429	98.9	433	95.7	452	95.4	363	88.6
Female	99.5	556	99.7	468	99.8	500	99.5	461	98.5	414	97.9	471	94.0	297	89.3
Missing	n/a	0	n/a	0	(*)	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a
County															
Siaya	98.2	171	100.0	152	99.0	173	100.0	156	98.6	155	96.9	145	97.0	132	90.0
Kisumu	99.4	171	99.2	158	100.0	173	99.5	141	98.2	162	96.6	138	98.1	107	91.3
Homa Bay	100.0	191	100.0	195	100.0	175	99.3	156	99.4	160	96.1	170	93.9	117	89.0
Migori	99.4	212	100.0	196	100.0	184	99.1	161	99.4	136	96.9	180	93.5	111	88.7
Kisii	98.9	231	100.0	202	99.5	227	99.7	197	98.3	162	96.5	206	91.2	133	84.9
Nyamira	99.1	94	99.2	82	100.0	99	100.0	79	98.3	72	99.3	85	96.1	61	92.2
Area															
Rural	99.3	951	99.8	898	99.7	921	99.6	807	98.8	753	96.7	843	94.7	589	89.0
Urban	98.1	120	100.0	86	100.0	110	99.2	84	98.2	94	98.0	81	95.8	72	89.7
Mother's education															
None	96.9	147	100.0	131	98.5	137	99.6	145	100.0	132	96.7	100	92.8	56	85.3
Primary	99.5	732	99.8	678	100.0	671	100.0	547	99.1	490	97.8	477	97.6	272	93.9
Secondary +	100.0	188	100.0	173	100.0	206	99.5	175	100.0	151	100.0	167	100.0	128	99.5
Mother not in household	n/a	0	(*)	2	91.9	11	88.9	16	98.2	50	94.3	104	91.3	90	n/a
Missing/DK	n/a	0	n/a	0	(*)	2	n/a	0	(*)	1	(*)	2	(*)	1	n/a
Wealth index quintiles															
Poorest	98.2	246	100.0	217	100.0	226	99.5	193	97.7	147	96.8	197	91.9	89	84.8
Second	99.4	224	100.0	221	100.0	213	99.5	185	98.3	184	96.5	188	94.5	132	88.7
Middle	100.0	223	100.0	201	99.2	218	99.4	199	99.1	187	96.8	168	94.6	139	89.4
Fourth	99.5	210	99.1	197	99.4	206	100.0	179	99.4	173	95.9	195	94.3	159	88.1
Richest	98.9	168	100.0	149	100.0	168	99.5	134	98.9	156	98.3	176	97.6	141	93.4
Total	**99.2**	**1071**	**99.8**	**985**	**99.7**	**1031**	**99.6**	**890**	**98.7**	**847**	**96.8**	**923**	**94.8**	**660**	**89.1**

[1] MICS indicator 7.46 MDG indicator 2.2 (*) Not shown, based on less than 25 unweighted cases.

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 conducting the survey in 2011, the primary school completion rate was 77 per cent. Completion rates vary by household wealth index—85 per cent among the richest households and only 55 per cent among children from the poorest households. Variations by counties are also observed. Completion rates are as high as 88 per cent in Kisumu County versus only 70 per cent in Migori County.

According to the survey findings about two thirds (63 per cent) of all children that completed successfully the last grade of primary school were found at the moment the survey was conducted to be attending the first grade of secondary school. Transition to secondary school does not vary much by gender. At the County levels, secondary school transition rates are higher in Kisii County (73 per cent) and lowest in Homa Bay County (51 per cent).

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

Primary school completion rates and transition rate to secondary school, 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	84.0	418	61.8	271
Female	68.9	412	64.0	224
County				
Siaya	80.3	160	66.9	76
Kisumu	87.9	122	67.3	95
Homa Bay	72.0	153	50.9	90
Migori	69.5	154	52.0	84
Kisii	72.6	170	72.7	91
Nyamira	82.4	72	68.4	60
Area				
Rural	76.6	738	61.9	422
Urban	75.9	92	67.8	73
Mother's education				
None	39.5	132	(67.3)	40
Primary	52.8	516	66.3	155
Secondary +	70.9	182	69.1	66
Mother not in household	-	0	61.2	101
Wealth index quintiles				
Poorest	55.2	152	61.8	66
Second	73.8	173	66.2	92
Middle	78.4	169	52.6	110
Fourth	88.0	173	69.0	111
Richest	84.9	165	64.3	115
Total	**76.5**	**831**	**62.8**	**495**

[1] MICS indicator 7.7 [2] MICS indicator 7.8

( ) Based on 25-49 unweighted cases

The ratio of girls to boys attending primary and secondary education is provided in Table ED.8. These ratios are better known as the Gender Parity Index (GPI). Notice that the ratios included here are obtained from net attendance ratios rather than gross attendance ratios. The latter 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 close to 1.00, indicating no major difference in the attendance of girls and boys to primary school. Similarly, the indicator is 1.02 for secondary education, again indicating no major differences across boys and girls. However, the disadvantage of girls is particularly pronounced in Siaya County, while the reverse is true for Migori County where boys are more disadvantaged.

Table ED.8: Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Nyanza Province, Kenya, 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]
County						
Siaya	80.8	78.7	1.03	11.7	20.8	0.56
Kisumu	83.2	78.6	1.06	25.5	28.3	0.90
Homa Bay	76.4	72.9	1.05	17.9	20.9	0.85
Migori	78.2	77.0	1.02	24.2	12.4	1.95
Kisii	79.8	79.3	1.01	36.4	34.6	1.05
Nyamira	84.8	82.7	1.02	37.2	33.2	1.12
Area						
Rural	80.2	77.6	1.03	22.7	23.3	0.98
Urban	78.8	79.6	0.99	44.2	39.1	1.13
Mother's education						
None	84.1	83.6	1.01	27.3	22.6	1.21
Primary	77.8	75.3	1.03	18.2	19.4	0.93
Secondary +	84.9	83.0	1.02	44.1	35.1	1.26
Mother not in household	-	-	-	26.8	30.5	0.88
Wealth index quintiles						
Poorest	73.7	74.5	.99	16.5	17.5	0.94
Second	81.2	77.6	1.05	18.7	22.3	0.84
Middle	81.3	76.8	1.06	20.7	20.9	0.99
Fourth	80.6	78.3	1.03	27.1	27.3	0.99
Richest	84.7	83.4	1.02	42.5	36.5	1.16
Total	**80.1**	**77.9**	**1.03**	**25.3**	**24.8**	**1.02**

[1] MICS indicator 7.9; MDG indicator 3.1

[2] MICS indicator 7.10; MDG indicator 3.1

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.

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, Nyanza Province, Kenya, 2011

		Children under age 5 whose birth is registered with civil authorities					Children under age 5 whose birth is not registered	
		Has birth certificate		No birth certificate	Total registered [1]	Number of children	Per cent of children whose mother/caretaker knows how to register birth	Number of children without birth registration
		Seen	Not seen					
Sex	Male	7.3	11.5	36.1	54.8	2559	12.8	1156
	Female	6.9	11.8	31.8	50.5	2486	12.4	1230
County	Siaya	6.2	9.5	34.5	50.2	809	22.4	403
	Kisumu	5.3	12.1	36.0	53.4	861	13.9	401
	Homa Bay	7.1	14.6	28.2	49.9	868	10.3	435
	Migori	11.3	15.5	25.6	52.4	930	9.9	443
	Kisii	6.3	8.7	41.2	56.2	1135	7.8	497
	Nyamira	5.5	8.1	39.5	53.1	442	13.0	207
Area	Rural	6.6	10.6	33.7	50.8	4429	12.7	2178
	Urban	10.8	19.0	36.3	66.2	616	11.7	209
Age	0-11	6.0	8.0	37.9	51.9	1002	12.9	482
	12-23	7.1	12.3	35.7	55.2	868	13.2	389
	24-35	8.1	13.1	34.9	56.1	1047	12.5	460
	36-47	6.9	11.7	31.4	50.1	1094	11.7	546
	48-59	7.3	12.9	30.5	50.7	1034	12.9	509
Mother's education	None	11.7	19.8	29.4	61.0	345	9.3	135
	Primary	6.2	11.0	31.3	48.5	3523	12.7	1815
	Secondary+	8.6	10.8	43.4	62.9	1178	13.2	436
	Missing/DK	(*)	(*)	(*)	(*)	3	-	0
Wealth index quintiles	Poorest	4.5	8.8	32.2	45.5	1168	10.9	637
	Second	5.4	9.6	32.4	47.5	1054	14.9	553
	Middle	6.7	10.0	33.1	49.8	985	14.1	495
	Fourth	7.0	12.7	33.3	53.0	944	14.0	444
	Richest	13.1	18.3	39.8	71.2	894	6.4	258
Total		**7.1**	**11.6**	**34.0**	**52.7**	**5045**	**12.6**	**2386**

[1] MICS indicator 8.1; (*) Not shown, based on less than 25 unweighted cases.

The births of 53 per cent of children under five years in Nyanza province have been registered (Table CP.1). There is only a 4.3 percentage variations in birth registration across sex. Similarly, there are limited variations across ages of the child. Children in rural areas are somewhat less likely to have their births registered than children from urban areas. Within counties, the proportions of registered children are very comparable. The proportion of registered children increases with increasing levels of household wealth index. For example, among the children from the poorest households, only 46 per cent are registered, compared to 71 per cent among those from the richest households.

Child Labour

Article 32 of the Convention on the Rights of the Child states: "State 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 moment of the survey if during the week preceding the survey:

- 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. Nearly 66 per cent of children aged 5-11 years are involved in child labour. The proportion of children involved in child laboour varies by counties. For example, about 75 per cent of children in Siaya County aged 5-11 years are involved in child labour compared to 59 percent for those living in Kisumu County. Child labour in the same age group is higher among rural (69 per cent) than in urban areas (43 per cent). The prevalence of child labour in the same age group seems to decline with increasing levels of household wealth index ranging from 43 per cent among the households in the wealthiest index to 71 per cent among households in the poorest index.

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, Nyanza Province, Kenya, 2011

	Percentage of children age 5-11 involved in								Percentage of children age 12-14 involved in										
	Economic activity			Economic activity for at least one hour	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 5-11	Economic activity								Number of children age 12-14	Total child labour [1]	Number of children age 5-14 years
	Working outside household		Working for family business						Working outside household		Working for family business	Economic activity less than 14 hours	Economic activity for 14 hours or more	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour			
	Paid work	Unpaid work							Paid work	Unpaid work									
Sex																			
Male	1.1	2.7	61.8	62.9	53.0	0.4	63.0	3348	3.8	2.3	77.6	69.3	9.0	75.7	0.9	9.5	1214	48.8	4562
Female	1.0	2.6	67.7	68.2	62.3	0.7	68.3	3354	3.6	3.5	83.6	72.2	11.7	84.5	1.4	12.6	1314	52.6	4668
County																			
Siaya	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
Kisumu	0.6	0.4	58.7	58.7	47.2	0.8	58.7	1072	4.0	0.7	72.0	62.4	9.9	73.5	2.6	11.2	417	45.4	1489
Homa Bay	2.3	4.0	67.7	68.7	56.1	0.8	69.0	1173	7.7	5.0	88.7	68.0	21.0	83.4	0.7	21.0	462	55.4	1635
Migori	0.8	3.5	61.6	63.4	59.9	0.0	63.5	1308	2.8	1.2	83.0	78.6	5.1	81.8	0.3	5.4	442	48.8	1749
Kisii	0.7	1.1	62.4	62.6	61.6	0.4	62.9	1463	1.2	1.0	74.7	71.6	3.2	80.6	1.0	4.2	552	46.8	2015
Nyamira	1.0	4.5	64.9	66.0	58.1	0.7	66.2	613	3.5	5.2	75.1	64.4	11.7	78.0	0.9	12.5	239	51.1	852
Residence																			
Rural	1.2	2.6	67.9	68.4	58.8	0.5	68.6	5930	3.9	3.1	82.9	72.3	11.2	80.9	1.1	11.8	2255	52.9	8186
Urban	0.2	3.1	40.9	43.2	49.1	0.6	43.2	773	2.0	2.0	62.6	58.7	4.2	74.9	2.0	5.4	273	33.3	1045
School attendance																			
Yes	1.1	2.7	65.7	66.5	58.7	0.5	66.6	6388	3.4	2.9	80.9	71.1	10.2	80.5	1.0	10.8	2483	51.0	8871
No	0.5	1.9	44.8	45.5	36.3	0.8	45.6	315	19.0	3.8	72.6	55.6	23.2	69.8	10.2	30.0	45	43.7	360
Mother's education																			
None	1.6	1.9	64.6	64.8	56.0	1.0	64.8	775	4.7	1.2	77.2	66.0	11.6	78.0	1.8	12.5	414	46.6	1188
Primary	1.1	2.9	66.9	67.8	58.6	0.5	68.0	4671	4.0	3.5	85.4	74.5	11.5	81.9	1.2	12.2	1598	53.8	6267
Secondary +	0.5	2.2	57.0	57.5	55.3	0.3	57.6	1257	2.0	2.7	69.0	63.3	6.1	77.0	0.4	6.5	515	42.7	1770
Missing /DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	4	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	2	(*)	6
Wealth index quintile																			
Poorest	2.1	2.8	70.2	70.6	58.9	0.9	70.8	1485	6.7	2.2	86.6	75.5	11.6	84.0	1.3	11.8	504	55.8	1989
Second	1.1	3.0	69.2	69.9	58.0	0.4	70.1	1418	3.8	2.9	84.3	73.1	11.6	81.4	1.1	12.2	529	54.3	1947
Middle	1.0	2.9	69.8	70.7	60.6	0.3	70.8	1386	2.9	3.2	83.8	75.7	9.2	81.5	0.7	9.9	518	54.3	1904
Fourth	0.5	1.8	68.2	68.6	61.0	0.8	68.7	1312	3.1	3.4	85.4	71.4	14.2	78.6	1.8	15.4	522	53.5	1834
Richest	0.3	3.0	41.3	42.9	47.8	0.2	42.9	1102	1.7	3.0	61.1	56.8	4.7	75.4	0.8	5.5	454	32.0	1557
Total	**1.0**	**2.7**	**64.7**	**65.5**	**57.6**	**0.6**	**65.7**	**6703**	**3.7**	**3.0**	**80.7**	**70.8**	**10.4**	**80.3**	**1.2**	**11.1**	**2528**	**50.7**	**9231**

[1] MICS indicator 8.2; (*) Not shown, based on less than 25 unweighted cases

Note: The gender of one child aged between 5 - 11 years is not known and has not been included in the sex tabulation

Table CP.3 presents the 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. Of the 96 per cent of the children 5-14 years of age attending school, 51 per cent are involved in child labour activities. On the other hand, out of the 51 per cent of the children who are involved in child labour, the majority of them are also attending school (97 per cent). The proportions of child labourers who are attending school are high in all counties, with limited variations across gender, and urban-rural areas.

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, Nyanza Province, Kenya, 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	48.8	96.0	4562	96.4	2225	49.0	4380
	Female	52.6	96.2	4668	96.8	2456	53.0	4491
County	Siaya	58.2	94.2	1491	94.7	868	58.6	1404
	Kisumu	45.4	95.7	1489	96.5	676	45.7	1425
	Homa Bay	55.4	97.0	1635	98.0	906	56.0	1586
	Migori	48.8	97.0	1749	98.1	854	49.4	1697
	Kisii	46.8	96.3	2015	96.0	943	46.7	1940
	Nyamira	51.1	96.2	852	96.4	435	51.2	820
Area	Rural	52.9	96.1	8186	96.7	4333	53.2	7869
	Urban	33.3	95.9	1045	96.1	348	33.4	1003
Age	5-11 years	65.7	95.3	6703	96.7	4401	66.6	6388
	12-14 years	11.1	98.2	2528	95.2	281	10.8	2483
Mother's education	None	46.6	95.7	1188	95.8	554	46.6	1137
	Primary	53.8	95.8	6267	96.6	3370	54.2	6002
	Secondary+	42.7	97.5	1770	97.6	756	42.8	1726
	Missing/DK	31.8	100.0	6	100.0	2	31.8	6
Wealth index quintiles	Poorest	55.8	94.2	1989	94.6	1110	56.1	1874
	Second	54.3	96.4	1947	98.2	1058	55.4	1876
	Middle	54.3	96.5	1904	96.9	1033	54.5	1838
	Fourth	53.5	96.4	1834	96.5	982	53.6	1768
	Richest	32.0	97.4	1557	97.5	498	32.1	1515
Total		**50.7**	**96.1**	**9231**	**96.6**	**4681**	**51.0**	**8871**

[1] MICS indicator 8.3 (*) Not shown, based on less than 25 unweighted cases. [2] MICS indicator 8.4

Note: The gender of one child aged between 5 - 11 years is not known and has not been included in the sex tabulation

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 Nyanza province 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, Nyanza Province, Kenya, 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	Psychological aggression	Physical punishment		Any violent discipline method [1]			
			Any	Severe				
Sex								
Male	6.4	66.4	81.7	22.5	89.9	6141	62.9	2442
Female	8.9	63.3	77.2	19.0	87.0	6298	60.4	2495
County								
Siaya	9.0	68.1	75.7	15.8	88.6	1968	59.0	813
Kisumu	9.1	55.7	70.9	12.4	82.4	2034	47.7	826
Homa Bay	5.3	75.9	87.6	28.1	92.9	2172	50.5	837
Migori	6.3	50.8	88.4	28.1	90.9	2362	78.9	846
Kisii	6.9	71.5	78.9	17.3	89.1	2768	71.8	1130
Nyamira	12.4	67.5	68.3	23.4	83.8	1135	55.3	486
Area								
Rural	7.6	65.5	79.5	20.3	88.5	11000	62.4	4308
Urban	8.2	59.5	79.3	24.1	88.0	1438	56.7	628
Age								
2-4 years	6.3	63.8	85.0	22.0	90.0	3250	63.7	1425
5-9 years	6.1	65.4	84.9	22.6	91.8	4833	63.7	1793
10-14 years	10.5	65.0	69.2	17.7	83.5	4356	57.8	1718
Education of household head								
None	11.8	62.4	71.2	15.8	84.3	1769	n/a	n/a
Primary	7.1	66.1	81.3	22.3	89.3	7416	n/a	n/a
Secondary +	6.9	63.4	79.6	20.0	88.6	3201	n/a	n/a
Missing/DK	0.0	57.6	83.1	6.4	94.9	54	n/a	n/a
Respondent's education								
None	n/a	n/a	n/a	n/a	n/a	n/a	64.6	508
Primary	n/a	n/a	n/a	n/a	n/a	n/a	64.4	3081
Secondary +	n/a	n/a	n/a	n/a	n/a	n/a	54.3	1345
Missing/DK	n/a	n/a	n/a	n/a	n/a	n/a	(*)	2
Wealth index quintiles								
Poorest	7.3	66.3	80.8	17.7	89.6	2721	66.0	1040
Second	4.9	69.1	81.4	21.3	90.9	2653	63.6	1006
Middle	8.5	62.6	79.3	25.3	87.9	2513	63.7	969
Fourth	8.1	64.7	77.9	20.5	87.8	2438	58.4	973
Richest	10.3	60.5	77.0	18.9	85.3	2115	56.2	948
Total	**7.7**	**64.8**	**79.4**	**20.7**	**88.4**	**12439**	**61.7**	**4936**

[1] MICS indicator 8.5

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

In Nyanza province, 88 per cent of children age 2-14 years were subjected to at least one form of psychological aggression or physical punishment by their mothers/caretakers or other household members. More importantly, 21 per cent of children were subjected to severe physical punishment. About 8 per cent of the children were subjected to only non-violet discipline. This mostly included taking away privileges, or forbidding something that the child liked or not allowing the child to leave the house, or explaining why a given behaviour was wrong, or giving the child something else to do.

Male children were equally subjected to more severe physical discipline (23 per cent) as female children 19 per cent). Severe physical punishment ranges from 28 per cent in Homabay and Migori Counties to 12 per cent in Kisumu County. It is very interesting that any violet discipline differentials with respect to many of the background variables like urban-rural residence and mother's education were comparable and in the expected direction.

The results also show that 62 per cent of respondents believe that children should be physically punished. There are county differentials in terms of how parents or guardians view punishment of children. The proportions of caretakers who believe that a child should be physically disciplined ranges from 79 per cent in Migori County to 48 per cent for Kisumu. The corresponding figures by educational background of parents/caretakers ranges from 65 and 64 per cent among those with none or primary level education to 54 per cent among those with secondary of higher education levels. There are slight variations with respect to the household wealth index levels.

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

Two of the indicators are to estimate the percentage of women married before 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. About one in five young women age 15-19 years are currently married or in union (22 per cent). This proportion does not vary much between household wealth index levels (23 per cent in the poorest and 22 per cent among those from richest households), but is strongly related to the level of education (34 per cent among those with no education and 12 per cent among those with secondary or higher levels of education). At the County levels, the proportion is highest in Migori County at 31 per cent and lowest in Kisii and Nyamira at 16 per cent. Nineteen per cent of the women 15 to 49 years are in polygynous marriage / unions. Polygyny ranges from 10 per cent in Kisii and Nyamira to 29 per cent in Migori and from 8 per cent in women in the 15-19 age group to 27 per cent among women in the 45-49 years age group.

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

	Percentage married before age 15 [1]	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18 [2]	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union [3]	Number of women age 15-19 years	Percentage of women age 15-49 years in polygynous marriage / union [4]	Number of women age 15-49 years currently married/in union
County									
Siaya	9.1	916	10.6	45.0	697	21.8	219	19.0	598
Kisumu	12.3	1057	14.0	41.6	858	23.6	199	18.0	694
Homa Bay	15.5	944	18.6	58.3	734	25.0	210	27.0	618
Migori	17.0	963	19.3	56.6	761	30.6	202	29.0	682
Kisii	10.8	1404	13.0	37.4	1141	15.5	264	9.6	909
Nyamira	9.8	623	11.4	34.7	501	15.9	123	9.5	410
Area									
Rural	13.0	4985	15.3	47.9	3939	21.5	1046	19.3	3333
Urban	9.7	923	10.8	32.4	754	25.8	170	14.8	579
Age									
15-19	4.4	1216	n/a	n/a	n/a	22.1	1216	4.9	269
20-24	10.1	1192	10.1	36.8	1192	n/a	n/a	8.9	834
25-29	13.3	1159	13.3	45.8	1159	n/a	n/a	16.8	974
30-34	11.3	747	11.3	41.2	747	n/a	n/a	23.9	602
35-39	19.4	675	19.4	49.6	675	n/a	n/a	24.5	540
40-44	21.4	478	21.4	55.8	478	n/a	n/a	31.0	363
45-49	20.4	440	20.4	56.9	440	n/a	n/a	26.9	331
Education									
None	12.2	430	12.3	28.1	418	34.1	12	15.4	282
Primary	15.9	3752	18.4	56.3	2984	27.6	768	21.2	2639
Secondary +	5.0	1725	6.4	25.9	1290	12.1	435	12.9	990
Wealth index quintiles									
Poorest	16.1	1115	18.8	52.9	877	22.7	238	19.3	722
Second	14.3	1144	16.9	49.2	938	19.7	206	17.8	779
Middle	12.5	1150	14.3	49.8	897	24.4	253	21.1	791
Fourth	11.8	1188	14.2	47.0	915	21.9	273	20.3	769
Richest	8.2	1311	9.4	30.8	1065	21.6	246	15.0	852
	12.5	**5908**	**14.5**	**45.4**	**4692**	**22.1**	**1216**	**18.6**	**3912**

[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.

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 percentages married before age 15 and 18 by different age groups allow us to see the trends in early marriage over time. The proportion married before age 18 is higher in rural (48 per cent) than urban areas (32 per cent).

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, Nyanza Province, Kenya, 2011

		Rural				Urban				All			
		Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49
Age	15-19	4.3	1046	n/a	0	4.9	170	n/a	0	4.4	1216	n/a	0
	20-24	11.1	952	39.6	952	6.1	240	25.7	240	10.1	1192	36.8	1192
	25-29	14.1	972	48.3	972	9.1	188	33.1	188	13.3	1159	45.8	1159
	30-34	11.9	609	44.1	609	9.0	138	28.4	138	11.3	747	41.2	747
	35-39	20.1	578	51.6	578	15.0	97	37.2	97	19.4	675	49.6	675
	40-44	21.3	435	57.1	435	(22.7)	44	(42.9)	44	21.4	478	55.8	478
	45-49	19.7	394	57.1	394	(27.2)	46	(55.4)	46	20.4	440	56.9	440
Total		**13.0**	**4985**	**47.9**	**3939**	**9.7**	**923**	**32.4**	**754**	**12.5**	**5908**	**45.4**	**4692**

( ) Based on 25-49 unweighted cases

Another component is the spousal age difference 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. The results show that there are some important spousal age differences in Nyanza Province. About one in five women age 20-24 is currently married to a man who is older by ten years or more (17 per cent), and again close to about one in five women age 15-19 are currently married to men who are older by ten years or more (17 per cent). At the County levels among the 20-24 years old, this proportion ranges from 9 per cent in Kisii County to 25 per cent in Kisumu County.

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 husnand or partner, Nyanza Province, Kenya 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:						Number of women age 20-24 years currently married/in union
	Younger	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]	Husband / partner's age unknown	Total	
County														
Siaya	(0.0)	(31.9)	(48.1)	(18.7)	(1.4)	100.0	48	1.9	45.5	33.9	18.8	0.0	100.0	120
Kisumu	(0.0)	(45.3)	(27.1)	(21.5)	(6.1)	100.0	47	1.9	38.2	33.7	24.7	1.6	100.0	155
Homa Bay	1.3	45.5	29.2	12.0	12.0	100.0	52	2.4	34.2	42.7	15.6	5.1	100.0	120
Migori	2.1	48.5	30.4	17.8	1.3	100.0	62	0.5	37.2	40.8	21.5	0.0	100.0	147
Kisii	(0.0)	(43.0)	(40.6)	(10.8)	(5.7)	100.0	41	3.5	53.5	31.4	9.4	2.2	100.0	209
Nyamira	(5.9)	(37.5)	(29.5)	(24.1)	(2.9)	100.0	20	0.5	46.3	34.3	13.7	5.2	100.0	83
Area														
Rural	1.4	42.4	32.4	17.9	6.0	100.0	225	1.6	42.9	35.8	17.7	2.1	100.0	677
Urban	(0.0)	(44.5)	(43.7)	(11.7)	(0.0)	100.0	44	3.6	44.2	35.6	14.4	2.1	100.0	157
Age														
15-19	1.1	42.8	34.2	16.9	5.0	100.0	269	n/a	n/a	n/a	n/a	n/a	n/a	n/a
20-24	n/a	n/a	n/a	n/a	n/a	n/a	0	2.0	43.1	35.7	17.1	2.1	100.0	834
Education														
None	(*)	(*)	(*)	(*)	(*)	100.0	4	(0.0)	(50.9)	(42.0)	(7.1)	(0.0)	100.0	41
Primary	1.4	45.2	31.4	17.1	4.9	100.0	212	2.4	38.3	35.0	22.1	2.3	100.0	555
Secondary +	0.0	34.1	42.5	17.4	6.0	100.0	53	1.3	53.1	36.5	7.0	2.1	100.0	237
Wealth index quintiles														
Poorest	2.3	47.7	22.4	16.7	10.9	100.0	54	1.7	48.2	27.5	21.7	0.9	100.0	164
Second	(1.7)	(45.2)	(39.4)	(11.3)	(2.5)	100.0	40	2.2	44.1	35.8	15.7	2.2	100.0	157
Middle	0.0	42.6	33.8	17.1	6.6	100.0	62	0.4	36.0	42.6	17.5	3.5	100.0	160
Fourth	0.0	44.3	31.0	20.5	4.2	100.0	60	1.6	37.9	39.6	18.4	2.5	100.0	155
Richest	(*)	(*)	(*)	(*)	(*)	100.0	53	3.5	48.1	33.9	12.8	1.6	100.0	197
Total	**1.1**	**42.8**	**34.2**	**16.9**	**5.0**	**100.0**	**269**	**2.0**	**43.1**	**35.7**	**17.1**	**2.1**	**100.0**	**834**

[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. The procedure is generally carried out on girls between the ages of 4 and 14; it is also done to 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 presents the prevalence of FGM/C among women and the type and extent of the procedure. The table shows that in Nyanza province 37 per cent of women aged 15-49 had some form of female genital mutilation.

The practice appears more common in rural areas at 39 per cent versus 21 per cent in urban areas. It is interesting to note that at the county levels, within Nyanza there seems to be two counties where the practice is very common i.e. Kisii and Nyamira counties with nearly 94 per cent of women reporting that they have had FGM. Similarly, there are observed variations across household wealth index levels. For example, among households in the poorest wealth quintile, nearly 48 per cent report having had FGM compared to only 23 per cent among those from the richest households.

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

Percentage distribution of women age 15-49 years by FGM/C status, Nyanza Province, Kenya, 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			
County								
Siaya	99.5	0.1	0.0	0.0	0.4	100.0	0.5	916
Kisumu	97.8	0.7	0.1	0.3	1.1	100.0	2.2	1057
Homa Bay	98.2	0.6	0.3	0.3	0.6	100.0	1.8	944
Migori	79.4	18.2	0.3	1.7	0.5	100.0	20.6	963
Kisii	5.6	88.8	3.0	0.9	1.5	100.0	94.4	1404
Nyamira	6.1	71.8	9.8	2.7	9.6	100.0	93.9	623
Area								
Rural	60.6	34.7	2.0	0.9	1.8	100.0	39.4	4985
Urban	79.3	16.7	1.3	1.0	1.6	100.0	20.7	923
Age								
15-19	67.1	28.3	1.1	1.3	2.2	100.0	32.9	1216
20-24	61.0	34.7	1.4	0.7	2.1	100.0	39.0	1192
25-29	63.7	31.5	2.6	1.0	1.2	100.0	36.3	1159
30-34	63.7	32.5	1.3	0.6	1.9	100.0	36.3	747
35-39	62.2	33.7	2.0	1.0	1.2	100.0	37.8	675
40-44	66.5	27.8	3.2	0.8	1.7	100.0	33.5	478
45-49	58.7	35.7	2.8	0.2	2.5	100.0	41.3	440
Education								
None	68.6	27.0	1.9	0.6	1.9	100.0	31.4	430
Primary	68.9	26.9	1.7	0.8	1.7	100.0	31.1	3752
Secondary +	50.6	44.0	2.1	1.2	2.1	100.0	49.4	1725
Wealth index quintiles								
Poorest	52.1	43.1	2.8	0.8	1.2	100.0	47.9	1115
Second	51.3	44.0	1.6	0.9	2.2	100.0	48.7	1144
Middle	65.1	30.3	1.7	1.1	1.8	100.0	34.9	1150
Fourth	69.8	25.9	1.3	0.8	2.2	100.0	30.2	1188
Richest	76.9	18.6	2.0	0.8	1.7	100.0	23.1	1311
Total	**63.5**	**31.9**	**1.9**	**0.9**	**1.8**	**100.0**	**36.5**	**5908**

[1] MICS indicator 8.12

Table CP.10 presents the woman's attitudes towards FGM/C. Regarding opinion as to whether the practice should be continued or discontinued, one in five (20 per cent) women thought it should be continued while 69 per cent believed it should be discontinued. Women in Kisii and Nyamira counties are more likely to approve of the continuation of the practice of FGM/C than women in other counties. Approval of the continuation of the practice is marginally higher among younger women than older women. For example approval for continuation is about 21 per cent among those aged 15-19 years compared to 15 per cent among those aged 45-49 years. About 14 per cent of women from the richest households approve of the continuation of the practice versus 24 per cent among those from the poorest households.

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 percentage distribution of women according to attitudes towards whether the practice of FGM/C should be continued, Nyanza Province, Kenya, 2011

	Percentage of women who have heard of FGM/C	Number of women aged 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]	Dis-continued	Depends	Don't know/ Missing	Total	
County								
Siaya	64.8	916	13.6	76.7	4.7	5.1	100.0	594
Kisumu	78.1	1057	14.4	75.8	5.5	4.3	100.0	826
Homa Bay	63.1	944	20.6	57.9	12.7	8.8	100.0	595
Migori	85.0	963	5.6	80.0	13.4	1.0	100.0	818
Kisii	99.7	1404	30.3	62.5	5.0	2.1	100.0	1401
Nyamira	99.7	623	28.0	65.9	2.1	4.1	100.0	621
Area								
Rural	81.9	4985	20.9	67.8	7.4	3.9	100.0	4082
Urban	83.7	923	14.7	77.1	5.2	3.0	100.0	773
Age								
15-19	79.5	1216	21.4	69.0	6.1	3.5	100.0	967
20-24	84.2	1192	23.9	66.8	6.2	3.1	100.0	1003
25-29	84.0	1159	20.7	68.0	8.0	3.3	100.0	974
30-34	81.7	747	18.7	71.5	6.3	3.5	100.0	611
35-39	82.0	675	15.9	71.9	8.7	3.6	100.0	554
40-44	80.2	478	16.6	73.1	5.7	4.6	100.0	384
45-49	82.5	440	14.5	68.7	9.8	7.0	100.0	363
Education								
None	90.0	430	13.2	78.0	4.7	4.2	100.0	387
Primary	77.5	3752	21.8	65.7	8.0	4.5	100.0	2910
Secondary +	90.3	1725	18.1	73.9	5.9	2.2	100.0	1558
FGM/C experience								
No FGM/C	72.0	3754	12.9	73.6	8.6	4.8	100.0	2701
Had FGM/C	100.0	2154	28.7	63.9	5.0	2.4	100.0	2154
Wealth index quintiles								
Poorest	82.4	1115	24.4	64.9	7.0	3.7	100.0	919
Second	83.2	1144	23.9	65.0	7.1	4.0	100.0	952
Middle	80.8	1150	20.0	68.7	8.4	2.9	100.0	929
Fourth	80.1	1188	18.5	70.0	6.6	4.9	100.0	951
Richest	84.2	1311	13.8	76.7	6.3	3.2	100.0	1104
Total	**82.2**	**5908**	**19.9**	**69.3**	**7.0**	**3.7**	**100.0**	**4855**

[1] MICS indicator 8.11

Attitudes toward Domestic Violence

A number of questions were asked of women age 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 asked to have an indication of cultural beliefs that tend to be associated with the prevalence of violence against women by their husbands/partners. The main assumption here is that women that agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described in reality tend to be abused by their own husbands/partners. The responses to these questions can be found in Table CP.11. Overall, 65 per cent of women in Nyanza Province feel that their husband/

partner has a right to hit or beat them for at least one of a variety of reasons. Women who approve their partner's violence, most often quoted the reason to justify violence as neglecting the children (50 per cent), or if they demonstrate their autonomy, e.g. go out without telling their husbands or argue with them (35 and 38 per cent respectively). Around one-third of women (30 per cent) believe that their partner has a right to hit or beat them if they refuse to have sex with him, and 15 per cent if she burns the food. Acceptance is more present and comparable among women from the lowest four household wealth index quintiles, with women from the wealthiest quintile having a different opinion.

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, Nyanza Province, Kenya, 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]	
County							
Siaya	32.5	55.3	46.9	27.0	19.9	69.7	916
Kisumu	22.9	39.1	23.6	16.8	10.4	48.9	1057
Homa Bay	36.8	54.5	48.1	34.6	18.5	70.1	944
Migori	37.7	46.7	33.0	33.3	21.5	67.5	963
Kisii	38.6	51.0	34.8	30.2	9.6	64.5	1404
Nyamira	41.8	56.9	44.9	43.3	16.4	75.6	623
Area							
Rural	37.2	52.4	40.0	32.0	16.4	67.7	4985
Urban	21.6	37.3	24.2	18.4	10.0	51.0	923
Age							
15-19	30.5	45.9	36.3	25.7	16.2	62.7	1216
20-24	34.3	52.5	36.6	26.7	13.3	66.6	1192
25-29	33.3	49.2	38.1	31.6	15.1	65.5	1159
30-34	35.3	49.1	35.9	28.0	15.1	61.3	747
35-39	38.2	49.5	38.1	32.7	15.7	64.3	675
40-44	40.0	52.8	42.1	37.1	17.3	68.8	478
45-49	39.6	56.4	39.4	36.6	17.8	69.8	440
Marital/Union status							
Currently married/in union	36.6	52.7	39.6	32.3	15.9	68.1	3912
Formerly married/in union	38.1	51.8	38.3	30.7	16.0	63.6	666
Never married/in union	27.6	41.2	31.1	22.5	13.9	56.9	1330
Education							
None	22.7	35.4	20.7	16.9	9.1	45.1	430
Primary	38.9	55.4	42.9	34.2	18.3	71.2	3752
Secondary +	28.7	42.0	30.1	23.7	10.8	56.7	1725
Wealth index quintiles							
Poorest	40.1	55.8	42.6	34.0	17.4	69.7	1115
Second	39.6	51.8	43.3	33.1	15.3	69.4	1144
Middle	38.8	56.4	39.6	32.9	18.2	71.4	1150
Fourth	36.0	51.8	37.6	31.5	16.4	67.3	1188
Richest	21.3	36.4	26.5	19.6	10.7	49.7	1311
Total	**34.7**	**50.0**	**37.6**	**29.9**	**15.4**	**65.1**	**5908**

[1] MICS indicator 8.14

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 to protect themselves from infection. Misconceptions about HIV are common and can confuse young people and hinder prevention efforts. Different regions are likely to have variations in misconceptions although some appear to be universal (for example that sharing food can transmit HIV or mosquito bites can transmit HIV). The UN General Assembly Special Session on HIV/AIDS (UNGASS) called on governments to improve the knowledge and skills of young people to protect themselves from HIV. The indicators to measure this goal as well as the MDG of reducing HIV infections by half include improving the level of knowledge of HIV and its prevention, and changing behaviours to prevent further spread of the disease. The HIV module was administered to women 15-49 years of age.

One indicator which is both an MDG and UNGASS indicator is the percentage of young women who have comprehensive and correct knowledge of HIV prevention and transmission. In Nyanza Province MICS all women who have heard of AIDS were asked whether they knew of the two main ways of HIV transmission – having only one faithful uninfected partner, and using a condom every time.

The results are presented in Table HA.1. In Nyanza Province, almost all of the interviewed women (99.7 per cent) have heard of AIDS. About 89 per cent of women know of having one faithful uninfected sex partner, 82 per cent know of using a condom every time, and 85 per cent know of abstaining from sex as main ways of preventing HIV transmission. Seventy six per cent of women aged 15-49 years know of both ways i.e that HIV can be prevented by having only one uninfected sexual partner and the consistent use of a condom. However, the percentage of women who know of all three main ways of preventing HIV transmission i.e that HIV can be prevented by having only one uninfected sexual partner, the consistent use of a condom and by abstaining is 69 per cent. Differentials by household wealth index and urban-rural residence are comparable for both knowledge of both ways or three ways of HIV transmission prevention. There are variations in the proportions across the Counties, the figure ranges from 86 per cent of women in Siaya aged 15-49 having knowledge of both ways i.e. two main ways of HIV transmission – having only one faithful uninfected partner, and using a condom every time, to 67 per cent among those from Nyamira County. For all three ways, the proportion ranges from 79 per cent in Siaya county to 63 per cent in Nyamira county.

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 Nyanza Province, Kenya, 2011

		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	Supernatural means	Sharing food with someone with AIDS			
County	Siaya	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
	Kisumu	99.8	90.0	85.6	83.4	78.9	69.8	83.9	83.4	93.8	92.5	67.8	55.8	1057
	Homa Bay	99.0	80.9	82.1	81.0	71.3	64.6	89.9	75.8	92.7	90.4	65.2	47.7	944
	Migori	99.6	84.7	82.8	82.7	74.5	67.8	89.3	79.8	93.9	93.5	69.9	54.7	963
	Kisii	99.9	90.0	79.1	86.5	73.7	67.5	93.0	78.8	82.5	92.3	70.6	55.5	1404
	Nyamira	100.0	93.7	69.8	91.1	67.1	62.7	92.1	68.7	74.8	83.7	56.4	40.7	623
Area	Rural	99.7	89.0	81.2	85.4	75.0	68.4	90.0	76.2	88.3	90.7	65.5	51.4	4985
	Urban	99.8	86.9	87.0	85.2	78.9	71.0	91.8	84.1	92.6	92.8	74.7	61.3	923
Age	15-24	99.7	87.6	80.0	83.5	73.3	66.0	88.0	83.0	90.7	92.0	69.6	53.3	2408
	25-29	99.8	89.1	86.0	87.5	79.2	73.0	91.7	76.3	88.5	91.6	67.0	55.3	1159
	30-39	99.7	90.6	83.8	86.4	77.7	71.0	92.1	76.0	89.5	90.8	67.6	55.1	1422
	40-49	99.8	87.9	80.3	86.2	73.7	67.4	91.8	66.4	84.0	88.2	58.5	45.9	918
Marital status	Ever married/in union	99.7	89.2	83.3	85.7	76.8	69.8	91.3	74.7	88.1	90.4	65.2	52.6	4578
	Never married/in union	99.9	86.9	78.2	84.4	71.4	65.2	86.8	86.8	91.7	93.2	72.7	54.3	1330
Education	None	99.4	90.8	85.6	87.3	80.4	73.6	92.1	83.1	92.5	92.5	75.5	63.4	430
	Primary	99.7	87.6	82.0	84.6	74.8	68.0	88.8	73.2	87.7	89.8	61.7	48.6	3752
	Secondary +	99.9	90.5	81.6	86.7	76.1	69.3	93.1	85.3	90.7	93.3	76.1	59.8	1725
Wealth index quintiles	Poorest	99.7	89.3	77.6	81.6	72.8	65.1	87.5	73.7	86.1	89.7	61.2	46.3	1115
	Second	99.5	89.3	80.0	85.7	74.5	67.3	90.4	75.1	85.3	88.6	64.6	51.6	1144
	Middle	99.8	88.5	84.4	87.9	76.9	71.5	91.5	73.5	88.7	91.4	63.9	51.3	1150
	Fourth	99.8	87.3	82.3	86.8	74.2	69.0	91.0	79.7	90.5	91.6	69.4	54.0	1188
	Richest	99.9	89.0	85.7	84.9	79.0	70.7	91.0	84.0	93.4	93.5	74.1	60.4	1311
Total		**99.7**	**88.7**	**82.1**	**85.4**	**75.6**	**68.8**	**90.3**	**77.4**	**89.0**	**91.0**	**66.9**	**53.0**	**5908**

[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

Percentage of young women age 15-24 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission, Nyanza Province, Kenya, 2011

		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 age 15-24
			Having only one faithful uninfected sex partner	Using a condom every time	By abstaining				Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
County	Siaya	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
	Kisumu	99.7	88.6	82.7	78.6	76.0	64.3	77.6	87.2	95.5	92.9	65.1	51.5	425
	Homa Bay	99.1	79.2	79.9	79.6	68.1	61.7	88.6	83.4	93.1	92.2	69.4	49.4	379
	Migori	99.5	84.9	82.0	85.1	74.6	70.7	89.9	82.3	92.3	93.3	72.1	55.3	385
	Kisii	99.9	89.9	75.1	83.3	70.5	62.5	91.4	83.0	86.5	92.7	73.2	54.8	592
	Nyamira	100.0	91.7	70.1	91.1	66.2	62.1	89.9	76.5	79.2	86.1	62.5	44.5	248
Area	Rural	99.7	87.8	79.1	83.5	72.6	65.4	87.5	82.5	90.0	92.0	68.7	52.0	1997
	Urban	99.7	86.7	84.5	83.8	76.8	69.0	90.6	85.6	94.3	92.0	74.0	59.5	410
	Age													
	15-19	99.7	85.8	78.2	83.4	70.5	63.8	85.7	84.6	91.7	93.0	69.9	51.0	1216
	20-24	99.7	89.4	81.9	83.6	76.2	68.1	90.4	81.4	89.7	91.0	69.3	55.6	1192
Marital status	Ever married/in union	99.5	88.9	82.7	82.5	76.4	67.7	89.1	79.0	89.0	90.7	66.3	52.9	1200
	Never married/in union	99.9	86.4	77.4	84.5	70.2	64.2	86.9	87.0	92.4	93.3	72.9	53.6	1208
Education	None	97.9	89.3	84.1	86.4	78.2	73.6	91.4	87.3	93.3	90.3	78.8	65.9	95
	Primary	99.7	86.1	79.9	82.0	72.4	65.1	85.8	80.1	89.7	90.6	64.5	49.2	1453
	Secondary +	99.9	90.0	79.8	85.7	74.2	66.6	91.3	87.5	92.2	94.5	77.3	58.8	859
Wealth index quintiles	Poorest	99.7	88.8	76.2	79.5	71.2	63.0	85.0	79.7	88.2	91.3	63.8	47.4	455
	Second	99.6	90.3	79.8	83.6	75.5	67.4	89.6	84.2	88.6	88.9	70.7	56.5	439
	Middle	99.8	88.2	80.8	86.8	73.6	67.2	88.5	80.4	92.4	93.5	67.7	50.7	458
	Fourth	99.5	84.9	80.2	85.3	70.6	65.9	89.0	83.7	90.5	92.6	72.1	53.3	497
	Richest	99.8	86.5	82.5	82.4	75.5	66.4	87.9	86.4	93.4	93.2	72.9	57.6	559
Total		**99.7**	**87.6**	**80.0**	**83.5**	**73.3**	**66.0**	**88.0**	**83.0**	**90.7**	**92.0**	**69.6**	**53.3**	**2408**

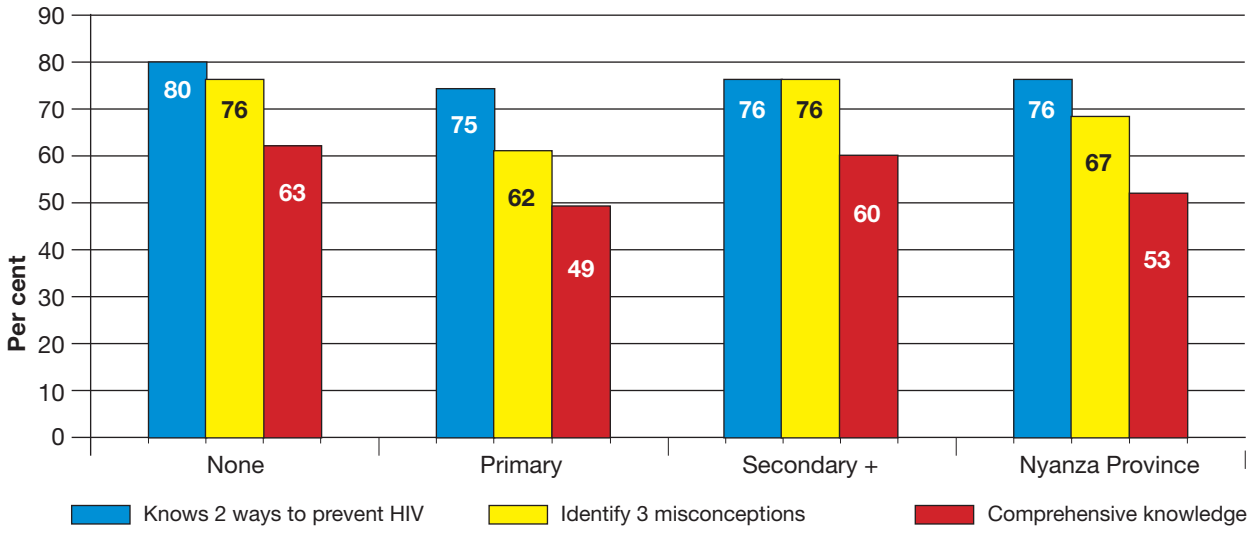
[1] MICS indicator 9.2; MDG indicator 6.3
[2] Percentages computed for the two ways namely having only one faithful uninfected sex partner, and using a condom every time.
[3] Percentages computed for all three ways i.e having only one faithful uninfected sex partner, using a condom every time, and abstaining.

Table HA.1 and HA.2 also present the percentage of women who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions in Kenya, that HIV can be transmitted by supernatural means and mosquito bites. The table also provides information on whether women know that HIV cannot be transmitted by sharing food.

Of the interviewed women ages 15-49 years, 67 per cent reject the two most common misconceptions and know that a healthy-looking person can be infected. About 77 per cent of women reject the misconception that HIV can be transmitted by mosquito bites, and 89 per cent of women know the misconception about supernatural means, while 90 per cent of women know that a healthy-looking person can be infected (Table HA.1). Among young women aged 15-24 years, 70 per cent of women reject the two most common misconceptions and know that a healthy looking person can be infected. Ninety one per cent of young women know that HIV cannot be transmitted through supernatural powers, whereas 92 per cent know that HIV cannot be transmitted by sharing food with a person who has AIDS (Table HA.2).

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 fairly low although there are differences by residence. Overall, 53 per cent of women aged 15-49 years and those aged 15-24 years were found to have comprehensive knowledge, which was slightly higher in urban areas (61 and 60 per cent for the 15-49 years and 15-24 years).

Figure HA.1 Percentage of women aged 15-49 years who have comprehensive knowledge of HIV/AIDS transmission, Nyanza Province, 2011



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 in 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, 95 per cent of women know that HIV can be transmitted from mother to child. Fifty nine per cent of women know that HIV can be transmitted during pregnancy, while 83 per cent know that HIV can be transmitted during delivery. Eighty five per cent of women know that HIV could be transmitted by breastfeeding. The percentage of women who know all three ways of mother-to-child transmission is 50 per cent, while less than 5 per cent of women did not know of any specific way. There are minimal variations of knowledge of mother to child HIV transmission across rural and urban areas, wealth quintiles and across age-groups. At the County levels, the proportion of those who know all three means ranges from 60 per cent in Siaya County to 42 per cent in Kisumu and Nyamira Counties.

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, Nyanza Province, Kenya, 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]		
County	Siaya	98.3	70.9	87.6	88.1	60.4	1.7	916
	Kisumu	93.9	51.7	82.6	81.8	41.9	5.9	1057
	Homa Bay	94.3	58.7	88.4	85.6	50.3	4.7	944
	Migori	95.1	54.7	82.5	87.5	45.9	4.5	963
	Kisii	96.4	64.0	83.4	82.7	55.7	3.6	1404
	Nyamira	94.0	53.0	67.5	88.8	42.4	6.0	623
Area	Rural	95.6	60.1	82.8	85.5	50.6	4.1	4985
	Urban	94.7	55.4	83.3	83.7	47.2	5.1	923
Age group	15-24	95.7	57.4	81.2	85.5	47.8	4.0	2408
	25+	95.3	60.6	84.0	85.1	51.6	4.5	3500
Age group	15-19	94.6	55.1	79.5	84.9	45.4	5.0	1216
	20-24	96.7	59.8	83.0	86.2	50.3	3.0	1192
	25-29	96.1	59.7	84.4	86.7	51.6	3.7	1159
	30-39	95.4	61.0	84.6	83.6	51.5	4.3	1422
	40-49	94.2	61.3	82.7	85.3	51.8	5.6	918
Marital status	Ever married/in union	95.6	60.1	83.6	85.2	51.0	4.1	4578
	Never married/in union	94.9	56.7	80.5	85.3	46.9	4.9	1330
Education	None	94.8	56.4	86.8	87.0	48.1	4.6	430
	Primary	95.5	61.3	82.4	85.2	51.2	4.2	3752
	Secondary +	95.5	55.9	83.0	84.9	48.2	4.4	1725
Wealth index quintiles	Poorest	94.7	62.1	81.7	84.4	52.3	5.0	1115
	Second	95.1	60.3	80.7	84.1	51.0	4.3	1144
	Middle	96.5	62.5	84.1	87.7	53.1	3.3	1150
	Fourth	95.5	55.6	82.7	85.6	46.3	4.2	1188
	Richest	95.3	56.7	84.9	84.4	48.2	4.5	1311
Total		**95.4**	**59.3**	**82.9**	**85.2**	**50.1**	**4.3**	**5908**

[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 who is 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 attitudes of women towards people living with HIV/AIDS. A high proportion of women are willing to care for a family member with AIDS in their own home (93 per cent). In Nyanza, 99 per cent of women who have heard of AIDS agree with at least one accepting attitude statement. The results show that the proportion of women who would not want to keep secret that a family member got infected with HIV is 32 per cent. This finding should be interpreted with caution, since it may also indicate respondents' concerns for maintaining privacy and confidentiality rather than stigma and discrimination against people living with HIV/AIDS. Seventy eight per cent of women agree that they would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus. Similarly, 80 per cent of women believe that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching. The proportion of women from the richest households who have more accepting attitudes is 24 per cent, while the ones from poorest households is 16 per cent. At the County levels, the proportion of women expressing accepting attitudes ranges from 10 per cent in Migori county to 32 per cent in Nyamira County.

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, Nyanza Province, Kenya, 2011								
		Per cent of women who:						
		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]	Number of women who have heard of AIDS
County	Siaya	95.8	86.4	83.9	25.0	99.5	16.9	916
	Kisumu	97.2	82.3	87.1	25.1	99.6	18.8	1055
	Homa Bay	92.9	79.2	82.7	25.9	99.2	16.3	934
	Migori	95.6	72.3	71.1	18.0	98.6	10.3	959
	Kisii	87.4	73.1	78.5	44.0	97.0	27.1	1404
	Nyamira	90.7	79.7	76.3	53.3	98.3	32.0	623
Area	Rural	92.3	78.1	79.1	32.2	98.4	20.1	4970
	Urban	97.0	79.7	85.5	28.1	99.7	19.9	922
Age	15-24	90.7	78.7	80.7	30.1	98.4	18.8	2400
	15-19	89.7	77.4	79.8	29.0	98.1	17.6	1212
	20-24	91.7	80.0	81.6	31.2	98.7	20.0	1189
	25-29	93.7	77.3	80.4	32.1	98.8	21.2	1157
	30-39	95.2	80.5	81.5	30.6	98.9	20.6	1418
	40-49	95.0	75.7	75.9	35.9	98.3	21.2	917
Marital status	Ever married/in union	93.9	78.2	79.0	31.3	98.7	19.9	4563
	Never married/in union	90.0	79.0	83.7	32.2	98.3	20.7	1328
Education	None	91.8	86.2	85.0	34.3	98.6	25.3	428
	Primary	92.6	74.2	75.2	29.5	98.2	16.8	3741
	Secondary +	94.3	85.5	89.6	35.2	99.6	26.0	1723
Wealth index quintiles	Poorest	89.5	71.9	73.0	30.9	97.7	15.7	1112
	Second	92.0	76.7	79.0	32.2	97.6	20.4	1138
	Middle	92.3	78.9	78.1	31.5	98.9	19.0	1147
	Fourth	95.1	81.5	81.6	30.8	98.9	20.7	1186
	Richest	95.7	82.0	87.4	32.1	99.7	23.9	1309
Total		**93.0**	**78.4**	**80.1**	**31.5**	**98.6**	**20.1**	**5892**

[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. Questions related to knowledge among women of a facility for HIV testing and whether they have ever been tested is presented in Table HA.5. About 95 per cent of women knew where to be tested, while 55 per cent have actually been tested. Those tested and received the results are 53 per cent. A high proportion of women in both urban (97 per cent) and rural (95 per cent) areas know of a place where to be tested. Also, the

proportion of those who have ever been tested is 60 per cent for those in urban areas, and 54 per cent for rural areas.The proportion of women who have ever been tested increases with age of women, as well as with improving levels of household wealth index. For example, among women aged 15-19 years, only 44 per cent have ever been tested compared to more than 70 percent among those aged 40-49 years. Also from the poorest households, only 48 per cent have even been tested versus 61 per cent for those from the richest households. At the County levels, the proportion of those tested ranges from 52 per cent in Nyamira County, to 60 per cent in Siaya County.

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, Nyanza Province, Kenya, 2011

		Percentage of women who:			
		Know a place to get tested [1]	Have ever been tested	Have been tested and have been told result [2]	Number of women
County	Siaya	96.6	60.1	58.8	916
	Kisumu	95.5	55.2	53.8	1057
	Homa Bay	94.2	52.8	51.6	944
	Migori	94.7	52.6	51.0	963
	Kisii	94.9	55.8	54.7	1404
	Nyamira	95.8	51.5	45.9	623
Area	Rural	94.9	54.0	52.0	4985
	Urban	97.2	60.0	59.2	923
Age	15-19	90.1	44.1	42.4	1216
	20-24	95.9	42.5	40.7	1192
	25-29	96.5	53.0	51.4	1159
	30-34	95.9	62.9	61.6	747
	35-39	97.4	65.2	63.8	675
	40-44	97.4	74.7	72.5	478
	45-49	97.3	72.4	69.5	440
Marital status	Ever married/in union	96.4	56.2	54.5	4578
	Never married/in union	91.3	50.3	48.5	1330
Education	None	97.4	69.5	67.3	430
	Primary	94.1	51.6	50.1	3752
	Secondary +	97.2	58.5	56.3	1725
Wealth index quintiles	Poorest	92.0	48.0	45.9	1115
	Second	94.6	52.0	50.1	1144
	Middle	96.1	54.7	53.8	1150
	Fourth	95.3	57.4	55.0	1188
	Richest	97.7	61.2	59.7	1311
Total		**95.2**	**54.9**	**53.2**	**5908**

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

Table HA.6 presents the same results for sexually active young women young. 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. Ninety five per cent of women aged 15-24 years in Nyanza province know a place

to get HIV tested and 42 per cent reportedly have been tested. Forty per cent of women 15-24 years were tested and received the results. The proportion of women who have been tested and have been told result for HIV increases with level wealth index and varies across urban and rural areas. For example, 33 per cent of women from the poorest households reportedly tested and got results for HIV compared to 50 per cent among those from the richest households. At the County levels, there are minimal variations in the proportion that have been tested and have been told the results.

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, Nyanza Province, Kenya, 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]	
County	Siaya	58.4	378	96.7	42.8	41.2	221
	Kisumu	66.2	425	96.3	38.6	37.8	281
	Homa Bay	68.5	379	94.2	39.3	39.0	260
	Migori	80.3	385	93.2	42.7	40.7	309
	Kisii	62.6	592	95.9	42.3	40.1	370
	Nyamira	60.9	248	96.1	45.5	40.6	151
Area	Rural	65.3	1997	95.0	39.7	37.7	1304
	Urban	70.6	410	96.9	50.0	49.3	290
Age	15-19	46.4	1216	94.6	45.2	43.3	564
	20-24	86.4	1192	95.7	39.6	37.9	1030
Marital status	Ever married/in union	97.9	1200	95.3	37.0	35.1	1174
	Never married/in union	34.7	1208	95.5	54.6	53.0	419
Education	None	69.5	95	95.6	62.4	57.9	66
	Primary	70.8	1453	94.8	38.5	36.6	1029
	Secondary +	58.0	859	96.3	45.3	44.1	498
Wealth index quintiles	Poorest	66.6	455	93.7	36.4	33.2	303
	Second	62.5	439	94.9	33.8	31.9	275
	Middle	65.3	458	95.6	36.9	36.8	299
	Fourth	67.6	497	95.0	45.2	43.1	336
	Richest	68.1	559	97.0	51.9	50.2	381
Total		**66.2**	**2408**	**95.3**	**41.6**	**39.8**	**1593**

[1] MICS indicator 9.7

Among women who had given birth within the two years preceding the survey, the per cent who received counselling and HIV testing during antenatal care is presented in Table HA.7. Ninety one percentage of mothers who delivered a baby during the two years preceding the survey in Nyanza Province received antenatal care from a health professional; all were provided information about HIV prevention and 78 per cent were tested for HIV during antenatal care visit. Nearly 77 per cent reported that they received the result of the HIV test at an ANC visit. Urban-rural differentials are evident and are in favour or better services in urban areas. Differentials by level of education and wealth index indicated a positive relationship. For example, 71 per cent of the women 15-49 belonging to poorest wealth index households were tested for HIV at an ANC visit compared to 86 per cent of those from the richest wealth index households.

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, Nyanza Province, Kenya, 2011

		Per cent of women who:					
		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	Number of women who gave birth in the 2 years preceding the survey
County	Siaya	91.2	80.1	78.7	86.1	77.6	318
	Kisumu	95.1	83.2	82.2	89.9	81.1	318
	Homa Bay	92.6	76.6	73.9	84.4	72.8	316
	Migori	87.1	74.9	78.8	85.5	77.3	326
	Kisii	89.6	80.2	79.4	87.5	79.2	370
	Nyamira	94.2	69.2	68.8	88.4	67.7	164
Area	Rural	90.8	77.8	76.5	86.1	75.4	1572
	Urban	95.0	86.2	86.2	92.0	85.9	240
Young women	15-24	93.2	79.0	77.6	88.6	76.4	891
Age	15-19	89.8	73.7	71.6	83.8	71.0	284
	20-24	94.8	81.6	80.4	90.9	78.9	607
	25-29	91.2	81.0	79.9	87.0	78.7	480
	30-34	88.1	77.7	77.7	85.4	77.7	223
	35-49	87.5	75.2	73.6	80.9	73.0	218
Marital status	Ever married/ in union	91.5	79.6	78.3	87.2	77.5	1624
	Never married/ in union	89.9	73.7	72.6	83.7	70.7	188
Education	None	87.6	77.0	77.0	85.8	77.0	89
	Primary	90.8	77.7	76.1	85.4	75.1	1287
	Secondary +	93.6	83.1	82.8	91.6	81.6	436
Wealth index quintiles	Poorest	85.9	72.8	70.7	80.0	69.5	415
	Second	92.5	76.9	75.8	87.8	75.1	355
	Middle	92.8	78.9	77.5	89.8	77.0	354
	Fourth	92.3	81.4	80.1	87.0	78.2	345
	Richest	94.2	86.2	86.2	91.1	85.5	341
Total		**91.3**	**79.0**	**77.7**	**86.9**	**76.8**	**1812**

[1] MICS indicator 9.8 [2] MICS indicator 9.9

Sexual Behaviour Related to HIV Transmission

Promoting safer sexual behaviour is critical for reducing HIV prevalence. The use of condoms during sex, especially with non-regular partners, is especially important for reducing the spread of HIV. In most countries over half of new HIV infections are among young people 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 frequency of sexual behaviours that increase the risk of HIV infection among women is presented in Table HA.8 and Figure HA.2. In Nyanza province, 26 per cent of women aged 15-19 years reportedly had sex before age 15 and of those aged 20-24 years 24 per cent had sex before reaching age 15 years. Among those who had sex during the past 12 months, 13 per cent reportedly had sex with a man who is 10 or more years older to them. The proportion having sex before age 15 years decreases with increasing levels of household wealth index. For example, 31 per cent of women aged 15-24 years from the poorest wealth index households had sex before age 15 compared with only 17 per cent among those living in the richest wealth index households. There are some differentials by counties, with the figures ranging from 32 per cent of women in Migori County reportedly having sex before age 15 to 19 per cent in Kisumu County.

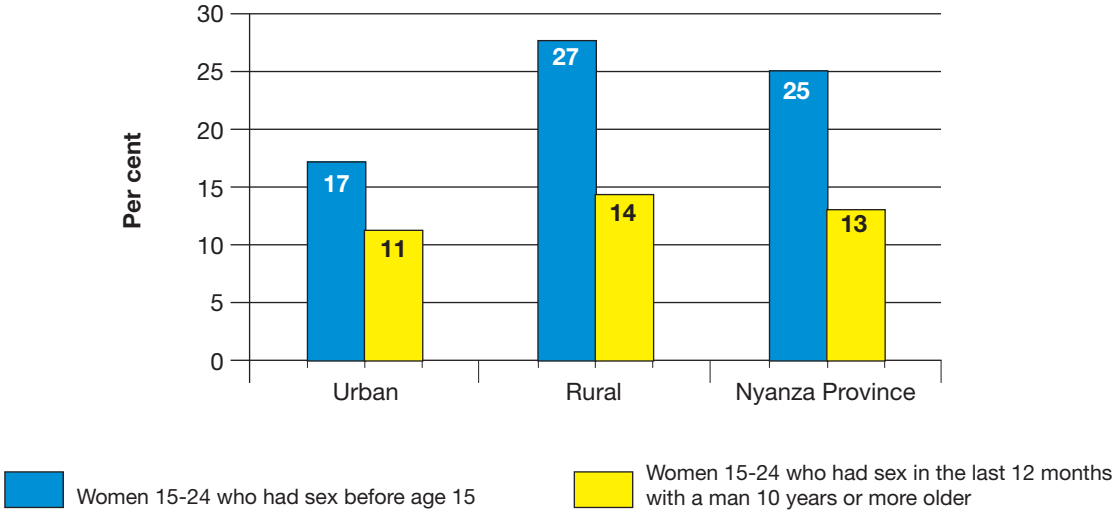
Table HA.8: Sexual behaviour that increases the risk of HIV infection

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, Nyanza Province, Kenya, 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
County	Siaya	58.8	194	21.3	378	16.0	221
	Kisumu	47.9	207	18.9	425	18.0	281
	Homa Bay	41.8	197	30.6	379	12.4	260
	Migori	38.7	159	32.0	385	15.0	309
	Kisii	39.4	318	25.2	592	7.2	370
	Nyamira	42.8	134	25.1	248	12.3	151
Area	Rural	44.8	1015	27.1	1997	13.7	1304
	Urban	43.6	193	16.8	410	10.7	290
Age	15-19	53.5	931	26.4	1216	8.8	564
	20-24	15.0	277	24.4	1192	15.6	1030
Marital status	Ever married/in union	-	0	31.6	1200	17.9	1174
	Never married/ in union	44.6	1208	19.2	1208	0.0	419
Education	None	(26.9)	46	11.7	95	5.9	66
	Primary	51.9	613	31.9	1453	17.0	1029
	Secondary +	38.0	549	15.9	859	6.2	498
Wealth index quintiles	Poorest	49.5	218	31.1	455	15.5	303
	Second	46.3	226	25.3	439	12.1	275
	Middle	40.6	222	30.7	458	15.4	299
	Fourth	42.0	262	25.3	497	13.5	336
	Richest	45.2	280	16.5	559	10.2	381
Total		**44.6**	**1208**	**25.4**	**2408**	**13.2**	**1593**

[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, Nyanza Province, Kenya, 2011



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). Less than 3 per cent of women 15-49 years of age report having sex with more than one partner. Of those women, only 43 per cent report using a condom when they had sex the last time they had sex. Differences by background variables are less stable due to low frequencies for several categories.

Among the 15-24 year old age groups (Table HA.10), about 3 per cent of women report having sex with more than one partner, with only 44 per cent report using a condom when they had sex the last time they had sex. Again, differences by background variables are less stable due to low frequencies for several categories.

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, Nyanza Province, Kenya, 2011

		Percentage of women who:			Number of women age 15-49 years	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]			
County	Siaya	87.4	74.4	1.2	916	(*)	11
	Kisumu	90.2	76.3	2.4	1057	(*)	26
	Homa Bay	91.3	79.9	3.5	944	(46.7)	33
	Migori	93.6	85.5	3.9	963	(42.5)	38
	Kisii	90.8	75.4	1.9	1404	(*)	27
	Nyamira	90.7	76.8	1.3	623	(*)	8
Area	Rural	90.7	78.3	2.2	4985	37.1	108
	Urban	90.6	75.9	3.7	923	(61.7)	34
Age	15-19	59.0	46.4	2.9	1216	(47.0)	36
	20-24	96.5	86.4	3.3	1192	(41.7)	39
	25-29	99.3	92.7	2.3	1159	(30.0)	26
	30-34	99.9	88.3	1.9	747	(*)	14
	35-39	99.8	86.3	2.3	675	(*)	16
	40-44	100.0	76.1	1.2	478	(*)	6
	45-49	100.0	74.7	1.1	440	(*)	5
Marital status	Ever married/in union	100.0	90.4	2.3	4578	38.9	106
	Never married/in union	58.6	34.9	2.7	1330	(55.2)	36
Education	None	96.5	74.7	0.9	430	(*)	4
	Primary	91.5	81.1	2.7	3752	39.4	100
	Secondary +	87.6	71.9	2.2	1725	(48.5)	38
Wealth index quintiles	Poorest	90.2	76.8	2.5	1115	(24.5)	28
	Second	90.7	78.8	2.5	1144	(44.7)	29
	Middle	92.0	77.6	1.6	1150	(*)	19
	Fourth	90.6	78.5	3.0	1188	(42.3)	35
	Richest	90.0	77.9	2.4	1311	(60.0)	32
Total		**90.7**	**77.9**	**2.4**	**5908**	**43.1**	**142**

[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 (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, Nyanza Province, Kenya, 2011

	Percentage of women who:			Number of women age 15-24 years	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 [2]	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 [1]			
County						
Siaya	69.9	58.4	1.7	378	(*)	6
Kisumu	76.7	66.2	2.6	425	(*)	11
Homa Bay	78.3	68.5	4.3	379	(*)	16
Migori	84.1	80.3	4.1	385	(*)	16
Kisii	78.8	62.6	3.1	592	(*)	18
Nyamira	76.9	60.9	2.8	248	(*)	7
Area						
Rural	77.2	65.3	2.9	1997	38.7	57
Urban	79.5	70.6	4.2	410	(*)	17
Age						
15-19	59.0	46.4	2.9	1216	(47.0)	36
20-24	96.5	86.4	3.3	1192	(41.7)	39
Marital status						
Ever married/in union	100.0	97.9	3.4	1200	(36.0)	41
Never married/in union	55.4	34.7	2.8	1208	(53.9)	34
Education						
None	87.1	69.5	1.6	95	(*)	1
Primary	78.1	70.8	3.3	1453	(44.4)	48
Secondary +	75.7	58.0	3.0	859	(*)	25
Wealth index quintiles						
Poorest	76.2	66.6	3.0	455	(*)	14
Second	76.2	62.5	3.0	439	(*)	13
Middle	80.3	65.3	1.9	458	(*)	9
Fourth	77.9	67.6	4.5	497	(*)	23
Richest	77.4	68.1	3.0	559	(*)	17
Total	**77.6**	**66.2**	**3.1**	**2408**	**44.2**	**75**

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

Tables HA.11 presents the 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.

About two in three (66 per cent) women aged 15-24 years reported having sex during the 12 months prior to the survey. Of those women who had sex during the past 12 months, 6 per cent had sex with a non-marital/non-cohabiting partner. More than half (68 per cent) of those women who had sex with a non-marital/non-cohabiting partner report using a condom when they had sex with the high risk partner. At the county levels, the percentage who had sex with a non-marital, non-cohabiting partner in the last 12 months ranges from 14 per cent in Migori county, 9 per cent in Nyamira county to less than 5 per cent for all other counties.

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, Nyanza Province, Kenya, 2011

	Percentage of women 15-24 who:						
	Ever had sex	Had sex in the last 12 months	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 15-49 years who had more than one sexual partner in the last 12 months
County							
Siaya	69.9	58.4	378	2.0	221	(*)	4
Kisumu	76.7	66.2	425	2.3	281	(*)	6
Homa Bay	78.3	68.5	379	4.7	260	(*)	12
Migori	84.1	80.3	385	14.3	309	(72.2)	44
Kisii	78.8	62.6	592	3.4	370	(*)	13
Nyamira	76.9	60.9	248	8.9	151	(*)	13
Area							
Rural	77.2	65.3	1997	6.0	1304	67.3	78
Urban	79.5	70.6	410	5.3	290	(*)	15
Age							
15-19	59.0	46.4	1216	9.7	564	69.9	54
20-24	96.5	86.4	1192	3.8	1030	(65.5)	39
Marital status							
Ever married/in union	100.0	97.9	1200	2.4	1174	(56.0)	29
Never married/in union	55.4	34.7	1208	15.4	419	73.4	65
Education							
None	87.1	69.5	95	3.6	66	(*)	2
Primary	78.1	70.8	1453	5.7	1029	64.6	58
Secondary +	75.7	58.0	859	6.5	498	(75.5)	33
Wealth index quintiles							
Poorest	76.2	66.6	455	4.4	303	(*)	13
Second	76.2	62.5	439	4.8	275	(*)	13
Middle	80.3	65.3	458	6.6	299	(*)	20
Fourth	77.9	67.6	497	8.3	336	(80.5)	28
Richest	77.4	68.1	559	5.0	381	(*)	19
Total	**77.6**	**66.2**	**2408**	**5.8**	**1593**	**68.1**	**93**

[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 a measure of how well communities and governments are responding to their needs. To monitor these variations, a measurable definition of orphaned and vulnerable children needed to be created. The UNAIDS Monitoring and Evaluation Reference Group developed proxy definition of children who have been affected by adult morbidity and mortality. This should capture many of the children affected by AIDS in countries where a significant proportion of the adults are HIV infected. This definition classifies children as orphaned and vulnerable if they have experienced the death of either parent, if either parent is chronically ill, or if an adult (aged 18-59) in the household either died (after being chronically ill) or was chronically ill in the year prior to the survey.

The frequency of children living with neither parent, mother only, and father only is presented in Table HA.12.

Fifty six per cent of children aged 0-17 years in Nyanza province live with both the parents. About 15 per cent of children are living with neither of the parents. About 14 per cent of the children live with only mother although the father is alive, and another 9 per cent live with the mother while their father is not alive. Children living with the father only account for less than 3 per cent. As expected, the proportion of children living with both parents declines with age of the child. Fifty nine per cent of children from the richest wealth index households live with both parents, while the figure is 54 per cent for those from the poorest wealth index households. There is no major difference between males and females across the living arrangements, as well as for rural (55 per cent) and urban (60 per cent) residence. At the County levels, 47 per cent of children live with both parents in Siaya County, compared to nearly 66 per cent among those from Migori County. Additionally, the proportion of children who have one of both parents dead is high in Siaya and Homa bay at 22 and 25 per cent, respectively, while the figures are versus only 11 per cent in Nyamira and Kisii counties.

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

Percentage 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, Nyanza Province, Kenya, 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					
County														
Siaya	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
Kisumu	56.1	1.1	3.2	7.0	4.2	12.9	9.8	1.9	1.0	2.7	100.0	15.5	19.8	2711
Homa Bay	53.5	1.6	3.2	5.4	6.0	13.1	12.1	1.8	1.5	1.8	100.0	16.1	24.5	2868
Migori	66.1	1.2	2.1	7.0	3.4	5.5	10.5	1.2	1.7	1.1	100.0	13.9	19.2	3025
Kisii	54.6	1.5	1.6	10.9	0.9	19.7	6.4	0.7	0.9	2.8	100.0	14.9	11.4	3598
Nyamira	59.4	0.8	1.0	8.1	1.7	15.9	6.0	0.7	0.7	5.7	100.0	11.6	10.9	1493
Sex														
Male	56.5	1.2	2.4	7.3	3.8	14.1	9.5	1.5	1.3	2.5	100.0	14.6	18.4	8245
Female	55.4	1.5	2.7	8.1	3.4	14.6	8.8	1.2	1.1	2.9	100.0	15.9	18.1	8133
Area														
Rural	55.4	1.4	2.6	7.9	3.6	14.5	9.3	1.3	1.3	2.7	100.0	15.6	18.5	14466
Urban	60.4	1.1	1.9	6.5	3.4	12.8	8.4	2.3	0.9	2.2	100.0	12.9	16.3	1913
Age														
0-4 years	65.4	0.5	0.8	4.1	0.4	19.3	4.9	0.7	0.3	3.6	100.0	5.8	7.0	5073
5-9 years	58.3	1.4	2.3	8.4	2.3	13.5	8.9	1.6	1.1	2.2	100.0	14.4	16.2	4907
10-14 years	49.4	2.1	4.1	9.8	6.0	11.2	12.0	2.0	1.8	1.6	100.0	22.0	26.3	4324
15-17 years	41.1	2.0	4.2	10.5	9.8	10.3	14.2	1.3	2.7	3.8	100.0	26.5	33.7	2075
Wealth index quintiles														
Poorest	53.5	1.5	1.9	8.1	3.0	13.9	13.1	1.9	0.7	2.3	100.0	14.5	20.6	3542
Second	58.6	1.2	2.7	7.0	2.9	14.1	8.7	1.0	1.0	2.8	100.0	13.8	16.6	3393
Middle	55.8	1.0	2.5	7.4	4.3	13.7	9.4	1.0	1.4	3.4	100.0	15.2	19.2	3341
Fourth	53.3	1.8	3.2	7.7	4.5	16.8	7.6	1.1	1.6	2.4	100.0	17.2	19.0	3231
Richest	59.1	1.2	2.6	8.4	3.4	13.0	6.2	1.9	1.6	2.7	100.0	15.6	15.3	2873
Total	**56.0**	**1.4**	**2.6**	**7.7**	**3.6**	**14.3**	**9.2**	**1.4**	**1.2**	**2.7**	**100.0**	**15.2**	**18.2**	**16379**

[1] MICS indicator 9.17 [2] MICS indicator 9.18 (*) Not shown, based on less than 25 unweighted cases.
Note: The gender of one child is not known and has not been included in the sex tabulation

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 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 Nyanza province, 6 per cent of children aged 10-14 have lost both parents (Table HA.13). Among those about 96 per cent are currently attending school. About 63 per cent of children aged 10-14 have not lost a parent and live with at least one parent. Among these, 99 per cent are attending school. This would suggest that double orphans are slightly disadvantaged compared to the non-orphaned children in terms of school attendance and the orphans to non-orphans school attendance ratio is 0.96. The results also show that the proportion of children whose mother and father have died is comparable among boys and girls. Within counties, the proportion of orphans is highest in Homa Bay County, followed by Siaya (8 per cent), and less than 2 percent for Kisii and Nyamira counties.

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

School attendance of children age 10-14 years by orphanhood, Nyanza Province, Kenya, 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
County								
Siaya	8.1	53.3	720	91.7	58	99.6	384	0.92
Kisumu	6.9	60.3	719	(91.5)	50	98.8	434	(0.93)
Homa Bay	10.3	59.7	785	98.8	81	99.3	468	0.99
Migori	6.0	63.1	756	(96.7)	45	99.2	477	(0.98)
Kisii	1.9	70.1	949	(*)	18	99.4	665	(*)
Nyamira	1.8	71.2	396	(*)	7	98.6	282	(*)
Sex								
Male	5.9	64.8	2116	96.8	125	99.3	1372	0.97
Female	6.1	60.6	2208	94.4	134	99.1	1337	0.95
Area								
Rural	6.1	62.3	3862	95.6	237	99.4	2406	0.96
Urban	4.8	65.6	462	(*)	22	98.0	303	(*)
Total	**6.0**	**62.6**	**4324**	**95.5**	**259**	**99.2**	**2709**	**0.96**

[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.
Note: The gender of one child is not known and has not been included in the sex tabulation

List of References

1. Kenya National Bureau of Statistics and ICF Macro. 2010. Kenya Demographic and Health Survey 2008-09. Claverton, Maryland: KNBS and ICF Macro.
2. Division of Malaria Control, Ministry of Public Health and Sanitation, Guidelines for the diagnosis, treatment and prevention of Malaria in Kenya, May 2010.
3. National AIDS/STI Control Programme (NASCOP), Kenya. 2009. 2007 Kenya AIDS Indicator Survey: Final Report. Nairobi: NASCOP.
4. United Nations Children's Fund and World Health Organization. 1994. 'World Summit for Children: Mid-decade goal – Iodine deficiency disorders', report from UNICEF and WHO Joint Committee on Health Policy Special Session, Geneva, 27 January 1994
5. International Vaccine Access Centre (IVAC). 2012. VMIS Report: Global Vaccine Introduction. October 2012
6. Republic of Kenya, Ministry of Medical Services and Ministry of Public Health and Sanitation, Clinical Management and Referral Guidelines-Volume II: Clinical Guidelines for Management and Referral of Common Conditions at Levels 2-3: Primary Care, 2009
7. The United Nations Children's Fund (UNICEF) Nutrition Section, Eastern and Southern Africa Regional Office.2007. Protecting Children's Brain Development, Strategic Review on Sustained Universal Salt Iodization in Eastern and Southern Africa, 2007

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, Homa Bay, 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. 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:

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

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 is 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 nh (average household size in Nyanza) was taken as 4.58. Both p and nh 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 x 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
Homa Bay	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):

The term fhi, 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:

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

After the completion of fieldwork, response rates were calculated for each sampling stratum. These were used to adjust the sample weights calculated for each cluster. Response rates in the 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_h = *Completed women's (or under-5's) questionnaires in stratum h / Eligible women (or under-5s) in stratum h*

The non-response adjustment factors for women's and under-5's questionnaires 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
Robert Peter Ndugwa, UNICEF

Data collection County coordinators

Robert Buluma (Siaya County)
Leah wambugu (Kisii County)
David Muthami (Homa Bay County)
James Munguti (Migori County)
James Ng'ang'a (Kisumu County)
Mary Wanyonyi (Nyamira County)

Data collection Supervisors

Pauline Obunga
Maurice Onyango Aringo
Richard Abayo
George O. N. Akuku
Benjamin Omedi Nyatindo
John Ouma Asudi
Paul M. Moherai
Thomas Odhiambo
Aloys M. Otenyo
Samson Karumbo
George M. Ogendi
Raphael Maritim

Research Assistants

Siaya County Team

Lydiah Atieno
Jane L. Ambiche
Aura Beatrice. Akinyi
Zachary O. Ochola
Charles Dieto Manyala
Tony O. Ochieng
Perez Adhiambo Otonde
Molly A. Ochieng
Monica S. Migaya
John B. Okelo
William N. Opondo
Maurice O. Wesa

Kisumu County Team

Edith Amondi Ogallo
Bernadette J. Achieng
Xaviera A. Achach
Maustine O. Oyoo
Kennedy O. Oyoo
Eileen L. Nyamuok
Anne A. Owino
Florence Adhiambo
Grace A. Odallo
Meda M. Michael
Daniel Otieno Onyango
George O. Okuku

Homa Bay County Team

Jackline Atieno Owaga
Watta G. Agutu
Esther Atieno Owuor
John V. C. Abonyo
Evance O. Amach
Phelix O. Onyango
Margaret A. Oburu
Faith Awuor Oliech
Linet Akoth Oloo
Steve B. Odhiambo
Obudho Ambrose
Leonard O. Awino

Migori County Team

Roxventa A.Ongugo
Maureen A. Wasonga
Judith Adhiambo Odima
Joshua O. Ochiel
Stella M. Nabwire
Dorothy Sande Owuor
Yvonne A. Ochieng
Maxine A. Adero
Wanga Alfred Jabuya
Gati L. Marwa
Phance Juma Imbwaga

Kisii County Team

Christine M. Ogoti
Agnes Kemunto Ogega
Flora K. Onyancha
Delila K. Siocha
Peter O. Nyamache
Humphrey M. Kariuki
Dorcas M. Oyieko
Jedidah B. Oirere
Stellah M. Okioga
Valentine O. Angwenyi
Justus G. Morwabe
Akanga O. Janepher

Nyamira County Team

Naomi O. Kwamboka
Caroline Ombok
Lydiah K. Mabuka
Denis Ochomba
Peter N. Otiso
Calvin Opiyo Kalama
Ruth N. Matunda
Kinyosi N. Ruth
Florence O. Nyakondo
Douglas O.Mecha
Eric M. Ichwara
Francis G. Kamau

Household Listing And Mapping

Listing Supervisors

Peter Omolo Ogodo
Dancan Ian Ochieng
Robert Mbeche
Nelson Owuor Aron
Morice O. Motegi
Peter Mumbo
Joakim O. Menya
Joel Mahinda Sporta Ogari
Thomas Odhiambo Omburah
Beryl Marindah

Listing Enumerators

Homa Bay County Team

Pamela Atieno Oreta
Peggy Adhiambo Diemo
Omondi Arthur Nyakado
Henry Obuya Okatch
Peter Oranga Owino
Millicent Akinyi Miyara
Leon Odhiambo Omolo
David Innocent Ogollah
Bernard Ogweno
Jacob Opiyo Opiyo

Nyamira County Team
Ben Teya Fred
Pius Makori Nyangwono
Jacquiline N. Mongare
Lorna N. Nyabuti
Dorothy S. Ondieki
Ronald O. Onduko
Redemsah K. Omwansa
Asah Ochenge Oteki
Ong'ang'a Fred Openda
Everline K. Ochichi

Kisumu County Team

Mary B. Mwanda
Calmax Omondi Otieno
Grace Debora Otieno
Titus Ochieng Onyith
Pulcy Anna Akech
Veronica Akinyi Oluoch
Bernard Ouma Okech
Elvis Otieno Saoke
Beson Odhiambo Jalango
Dorothy A. Otieno

Migori County Team

Mwita Kephar Mwikwabe
Alby Adhiambo Otieno
Kenedy O. Okuku
Ochieng Winnie Awuor
Emily Adhiambo Owuor
Gladys Atieno Ogola
Gordon O. Oyugi
Reagan Okoth Osodo
Mogesi Robi Maroa
Elijah Kinyanjui

Kisii County Team

Thomas S. Orenge
Geoffrey O. Ontere
Census K. Kinyanjui
Evans Anyona
Vanice M. Alloys
Geoffrey M. Mutundura
Duncan N. Gwaro
Josephine K. Onywoki
Peter K. Gichana
Boniface N. Muma

Siaya County Team

John Raphael Opondo
Collins Omondi Ouma
Beatrice Awino Onyango
Benard Otieno Onyango
Millicent Atieno Ndai
Geofrey Omondi Ouma
Angellah D. Achieng
Timothy Allan Adede
Joyce Atieno Odhiambo
Samwel Ochieng Orimba

Data Entry And Analysis Team

Data Entry Research Assistants

Bonface Macharia Gichemi
Caroline Wanjugu Muthonjo
Grace Makena Mukira
Susan Muthoni Mungai
Lucy Rono
Gertrude Otundo
Agnes Mwikali Mwango
Sahal Mohammed
Anastacia Katule Kioko
Esther K. Ondieki
Roselyne Nduku Muthembwa
Grace Kabura Kang'ethe
John Ogodo Otieno
Morema Nyangau
Martin K. Mutuku
Solomon Musili
Modesta M. Omweri
Mary Wikana Musonye
Vivian Vera Awuor Onyango
Rose M. Musili
Daniel Mutembei
Esther W. Kinyanjui
Redempta K. Muyuma
Domittilla M. Kivuvo
Anselim N. Okwoyo
Margaret A. Nyamuok
Eunice W. Maina
Milcah W. Mwangangi

Supervisors

Silas M. Mulwa
Paul Waweru Ngugi
Bernard Dickson Obasi

Cleaning And Validation

Rajab Mbaruku
Rogers M. Munywoki

Data Analysists

Mutua Kakinyi
Cleophas Kiio

UNICEF Survey support team

Robert Peter Ndugwa
Godfrey Ndeng'e
Violet Kinuthia
Susan Govedi
Isa Achoba
John Ndegwa Wagai
Joanne Bosworth

Appendix C. Estimates of Sampling Errors

The sample of respondents selected in the Nyanza province 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. Tables SE.1 to SE.9 show the list of indicators for which sampling errors were calculated for each indicator and for several domains i.e whole province, urban areas, rural areas and the six counties.

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

MICS4 Indicator		Base Population
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: Nyanza Province total sample

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Nyanza Province, 2011

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se*/*r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2*se*	*r* + 2*se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8736	0.00466	0.005	1.316	1.147	6708	6707	0.864	0.883
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.4830	0.01360	0.028	5.054	2.248	30439	6828	0.456	0.510
Use of improved sanitation facilities	4.3	0.1488	0.00855	0.057	3.942	1.986	30439	6828	0.132	0.166
Secondary school net attendance ratio (adjusted)	7.5	0.2534	0.01007	0.040	1.561	1.249	2874	2914	0.233	0.274
Child labour	8.2	0.5071	0.00792	0.016	2.353	1.534	9231	9367	0.491	0.523
Prevalence of children with at least one parent dead	9.18	0.1824	0.00539	0.030	3.237	1.799	16379	16615	0.172	0.193
School attendance of orphans	9.19	0.9555	0.01420	0.015	1.227	1.108	259	260	0.927	0.984
School attendance of non-orphans	9.2	0.9920	0.00192	0.002	1.280	1.131	2709	2770	0.988	0.996
Violent discipline	8.5	0.8840	0.00578	0.007	1.632	1.278	12449	5003	0.872	0.896
WOMEN										
Pregnant women	-	0.0645	0.00342	0.053	1.143	1.069	5908	5908	0.058	0.071
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.7720	0.02444	0.032	1.266	1.125	381	374	0.723	0.821
Intermittent preventive treatment for malaria	3.2	0.2692	0.01102	0.041	1.039	1.019	1655	1684	0.247	0.291
Early childbearing	5.2	0.3991	0.01472	0.037	1.061	1.030	1192	1175	0.370	0.429
Contraceptive prevalence	5.3	0.4749	0.00921	0.019	1.342	1.158	3912	3941	0.456	0.493
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9133	0.00703	0.008	1.150	1.073	1812	1844	0.899	0.927
Antenatal care coverage – at least four times by any provider	5.5b	0.4604	0.01333	0.029	1.318	1.148	1812	1844	0.434	0.487
Skilled attendant at delivery	5.7	0.5563	0.01601	0.029	1.914	1.384	1812	1844	0.524	0.588
Institutional deliveries	5.8	0.5273	0.01652	0.031	2.018	1.421	1812	1844	0.494	0.560
Caesarean section	5.9	0.0610	0.00599	0.098	1.155	1.075	1812	1844	0.049	0.073
Literacy rate among young women	7.1	0.8584	0.00803	0.009	1.266	1.125	2408	2390	0.842	0.874
Marriage before age 18	8.7	0.4540	0.00819	0.018	1.268	1.126	4692	4693	0.438	0.470

Polygyny	8.9	0.1864	0.00673	0.036	1.176	1.085	3912	3941	0.173	0.200
Comprehensive knowledge about HIV prevention among young people	9.2	0.5329	0.01358	0.025	1.770	1.331	2408	2390	0.506	0.560
Knowledge of mother- to-child transmission of HIV	9.3	0.5009	0.00856	0.017	1.732	1.316	5908	5908	0.484	0.518
Accepting attitudes towards people living with HIV	9.4	0.2007	0.00607	0.030	1.353	1.163	5892	5890	0.189	0.213
Women who have been tested for HIV and know the results	9.6	0.5315	0.00792	0.015	1.488	1.220	5908	5908	0.516	0.547
Sexually active young women who have been tested for HIV and know the results	9.7	0.4161	0.01349	0.032	1.187	1.090	1593	1585	0.389	0.443
Sex before age 15 among young women	9.11	0.2538	0.00921	0.036	1.071	1.035	2408	2390	0.235	0.272
Condom use with non-regular partners	9.16	0.6806	0.03412	0.050	0.541	0.735	102	93	0.612	0.749
UNDER-5s										
Underweight prevalence	2.1a	0.1490	0.00578	0.039	1.285	1.134	4872	4876	0.137	0.161
Stunting prevalence	2.2a	0.2707	0.00732	0.027	1.324	1.151	4872	4876	0.256	0.285
Wasting prevalence	2.3a	0.0388	0.00312	0.081	1.275	1.129	4872	4876	0.033	0.045
Exclusive breastfeeding under 6 months	2.6	0.3582	0.02027	0.057	0.871	0.933	480	488	0.318	0.399
Age-appropriate breastfeeding	2.14	0.5331	0.01327	0.025	1.327	1.152	1870	1876	0.507	0.560
Tuberculosis immunization coverage	-	0.9758	0.00538	0.006	1.078	1.038	868	879	0.965	0.987
Received polio immunization	-	0.8443	0.01265	0.015	1.066	1.032	866	876	0.819	0.870
Received DPT immunization	-	0.9112	0.01059	0.012	1.215	1.102	866	877	0.890	0.932
Received measles immunization	-	0.9528	0.00755	0.008	1.107	1.052	865	876	0.938	0.968
Diarrhoea in the previous 2 weeks	-	0.1573	0.00685	0.044	1.786	1.337	5045	5045	0.144	0.171
Illness with a cough in the previous 2 weeks	-	0.0871	0.00480	0.055	1.465	1.210	5045	5045	0.077	0.097
Fever in last two weeks	-	0.2160	0.00727	0.034	1.572	1.254	5045	5045	0.201	0.231
Oral rehydration therapy with continued feeding	3.8	0.5808	0.01716	0.030	.957	.978	794	792	0.546	0.615
Antibiotic treatment of suspected pneumonia	3.1	0.5064	0.02356	0.047	1.010	1.005	439	456	0.459	0.554
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7791	0.00860	0.011	2.169	1.473	5045	5045	0.762	0.796
Anti-malarial treatment of children under age 5	3.18	0.3293	0.01392	0.042	0.969	0.984	1090	1105	0.301	0.357
Support for learning	6.1	0.3192	0.01363	0.043	1.816	1.348	2128	2126	0.292	0.346
Attendance to early childhood education	6.7	0.4425	0.01295	0.029	1.444	1.202	2128	2126	0.417	0.468
Birth registration	8.1	0.5270	0.00969	0.018	1.900	1.379	5045	5045	0.508	0.546

Table SE.3: Sampling errors: Urban areas

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Nyanza Province, 2011

	MICS Indicator	Value (*r*)	Standard error (se)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8953	0.00529	0.006	0.247	0.497	1059	828	0.885	0.906
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6197	0.02906	0.047	3.021	1.738	4060	844	0.562	0.678
Use of improved sanitation facilities	4.3	0.2048	0.03436	0.168	6.110	2.472	4060	844	0.136	0.274
Secondary school net attendance ratio (adjusted)	7.5	0.4210	0.02424	0.058	0.602	0.776	319	251	0.373	0.470
Child labour	8.2	0.3332	0.02537	0.076	2.434	1.560	1045	841	0.282	0.384
Prevalence of children with at least one parent dead	9.18	0.1628	0.01927	0.118	4.286	2.070	1913	1575	0.124	0.201
School attendance of non-orphans	9.2	0.9796	0.01070	0.011	1.425	1.194	303	250	0.958	1.000
Violent discipline	8.5	0.8802	0.01816	0.021	1.613	1.270	1438	517	0.844	0.917
WOMEN										
Pregnant women	-	0.0537	0.00797	0.148	0.920	0.959	923	737	0.038	0.070
Intermittent preventive treatment for malaria	3.2	0.2699	0.01512	0.056	0.227	0.477	228	197	0.240	0.300
Early childbearing	5.2	0.3254	0.02452	0.075	0.526	0.725	240	193	0.276	0.374
Contraceptive prevalence	5.3	0.5390	0.02232	0.041	0.947	0.973	579	473	0.494	0.584
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9503	0.00843	0.009	0.312	0.558	240	208	0.933	0.967
Antenatal care coverage – at least four times by any provider	5.5b	0.5726	0.03950	0.069	1.320	1.149	240	208	0.494	0.652
Skilled attendant at delivery	5.7	0.7637	0.03248	0.043	1.210	1.100	240	208	0.699	0.829
Institutional deliveries	5.8	0.7507	0.03380	0.045	1.263	1.124	240	208	0.683	0.818
Caesarean section	5.9	0.1167	0.01263	0.108	.320	.566	240	208	0.091	0.142
Literacy rate among young women	7.1	0.9104	0.01691	0.019	1.150	1.072	410	329	0.877	0.944
Marriage before age 18	8.7	0.3235	0.01365	0.042	0.511	0.715	754	601	0.296	0.351
Polygyny	8.9	0.1476	0.01357	0.092	0.691	0.831	579	473	0.121	0.174
Comprehensive knowledge about HIV prevention among young people	9.2	0.5947	0.03812	0.064	1.978	1.406	410	329	0.518	0.671

Knowledge of mother- to-child transmission of HIV	9.3	0.4718	0.01606	0.034	0.762	0.873	923	737	0.440	0.504
Accepting attitudes towards people living with HIV	9.4	0.1988	0.01123	0.056	0.581	0.762	922	735	0.176	0.221
Women who have been tested for HIV and know the results	9.6	0.5917	0.01799	0.030	0.986	0.993	923	737	0.556	0.628
Sexually active young women who have been tested for HIV and know the results	9.7	0.4999	0.03160	0.063	0.947	0.973	290	238	0.437	0.563
Sex before age 15 among young women	9.11	0.1681	0.01971	0.117	0.911	0.954	410	329	0.129	0.207
Condom use with non-regular partner	9.16	(*)	(*)	(*)	(*)	(*)	15	15	(*)	(*)
UNDER-5s										
Underweight prevalence	2.1a	0.1361	0.01698	0.125	1.231	1.109	583	503	0.102	0.170
Stunting prevalence	2.2a	0.2322	0.02228	0.096	1.398	1.182	583	503	0.188	0.277
Wasting prevalence	2.3a	0.0294	0.01094	0.372	2.104	1.450	583	503	0.008	0.051
Exclusive breastfeeding under 6 months	2.6	0.4615	0.03384	0.073	0.221	0.470	55	49	0.394	0.529
Age-appropriate breastfeeding	2.14	0.5074	0.02413	0.048	0.461	0.679	230	199	0.459	0.556
Tuberculosis immunization coverage	-	1.0000	0.00000	0.000	N/A	N/A	107	93	1.000	1.000
Received polio immunization	-	0.8191	0.03363	0.041	0.702	0.838	107	93	0.752	0.886
Received DPT immunization	-	0.8960	0.01930	0.022	0.364	0.603	105	92	0.857	0.935
Received measles immunization	-	0.9293	0.03536	0.038	1.731	1.316	105	92	0.859	1.000
Diarrhoea in the previous 2 weeks	-	0.1915	0.02334	0.122	1.848	1.359	616	526	0.145	0.238
Illness with a cough in the previous 2 weeks	-	0.0685	0.01346	0.196	1.490	1.221	616	526	0.042	0.095
Fever in last two weeks	-	0.1795	0.01941	0.108	1.343	1.159	616	526	0.141	0.218
Oral rehydration therapy with continued feeding	3.8	0.5932	0.03630	0.061	0.573	0.757	118	106	0.521	0.666
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7786	0.02616	0.034	2.083	1.443	616	526	0.726	0.831
Anti-malarial treatment of children under age 5	3.18	0.3868	0.03123	0.081	0.411	0.641	111	101	0.324	0.449
Support for learning	6.1	0.4260	0.04298	0.101	1.549	1.244	247	206	0.340	0.512
Attendance to early childhood education	6.7	0.6050	0.04367	0.072	1.636	1.279	247	206	0.518	0.692
Birth registration	8.1	0.6615	0.02856	0.043	1.912	1.383	616	526	0.604	0.719

Table SE.4: Sampling errors: Rural areas

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Nyanza Province, 2011

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8695	.00540	.006	1.510	1.229	5649	5879	0.859	0.880
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.4619	0.01482	0.032	5.286	2.299	26379	5984	0.432	0.492
Use of improved sanitation facilities	4.3	0.1402	0.00832	0.059	3.433	1.853	26379	5984	0.124	0.157
Secondary school net attendance ratio (adjusted)	7.5	0.2325	0.00994	0.043	1.475	1.214	2555	2663	0.213	0.252
Child labour	8.2	0.5294	0.00793	0.015	2.154	1.468	8186	8526	0.513	0.545
Prevalence of children with at least one parent dead	9.18	0.1850	0.00557	0.030	3.090	1.758	14466	15040	0.174	0.196
School attendance of orphans	9.19	0.9562	0.01554	0.016	1.384	1.177	237	241	0.925	0.987
School attendance of non-orphans	9.2	0.9935	0.00162	0.002	1.024	1.012	2406	2520	0.990	0.997
Violent discipline	8.5	0.8845	0.00589	0.007	1.523	1.234	11011	4486	0.873	0.896
WOMEN										
Pregnant women	-	0.0665	0.00357	0.054	1.058	1.029	4985	5171	0.059	0.074
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.7798	0.02060	0.026	0.833	0.913	332	338	0.739	0.821
Intermittent preventive treatment for malaria	3.2	0.2691	0.01240	0.046	1.162	1.078	1427	1487	0.244	0.294
Early childbearing	5.2	0.4177	0.01712	0.041	1.182	1.087	952	982	0.384	0.452
Contraceptive prevalence	5.3	0.4638	0.00945	0.020	1.246	1.116	3333	3468	0.445	0.483
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9077	0.00797	0.009	1.240	1.113	1572	1636	0.892	0.924
Antenatal care coverage – at least four times by any provider	5.5b	0.4432	0.01382	0.031	1.265	1.125	1572	1636	0.416	0.471
Skilled attendant at delivery	5.7	0.5247	0.01640	0.031	1.764	1.328	1572	1636	0.492	0.557
Institutional deliveries	5.8	0.4932	0.01696	0.034	1.883	1.372	1572	1636	0.459	0.527
Caesarean section	5.9	0.0524	0.00616	0.118	1.251	1.118	1572	1636	0.040	0.065
Literacy rate among young women	7.1	0.8477	0.00858	0.010	1.175	1.084	1997	2061	0.831	0.865
Marriage before age 18	8.7	0.4790	0.00819	0.017	1.098	1.048	3939	4092	0.463	0.495

Polygyny	8.9	0.1932	0.00716	0.037	1.141	1.068	3333	3468	0.179	0.207
Comprehensive knowledge about HIV prevention among young people	9.2	0.5202	0.01381	0.027	1.574	1.254	1997	2061	0.493	0.548
Knowledge of mother- to-child transmission of HIV	9.3	0.5063	0.00972	0.019	1.954	1.398	4985	5171	0.487	0.526
Accepting attitudes towards people living with HIV	9.4	0.2011	0.00683	0.034	1.495	1.223	4970	5155	0.187	0.215
Women who have been tested for HIV and know the results	9.6	0.5204	0.00851	0.016	1.500	1.225	4985	5171	0.503	0.537
Sexually active young women who have been tested for HIV and know the results	9.7	0.3975	0.01439	0.036	1.165	1.079	1304	1347	0.369	0.426
Sex before age 15 among young women	9.11	0.2714	0.00986	0.036	1.012	1.006	1997	2061	0.252	0.291
Condom use with non-regular partners	9.16	0.6728	0.03150	0.470	0.388	0.623	78	87	0.610	0.736
UNDER-5s										
Underweight prevalence	2.1a	0.1507	0.00602	0.040	1.238	1.113	4288	4373	0.139	0.163
Stunting prevalence	2.2a	0.2759	0.00766	0.028	1.285	1.134	4288	4373	0.261	0.291
Wasting prevalence	2.3a	0.0400	0.00315	0.079	1.126	1.061	4288	4373	0.034	0.046
Exclusive breastfeeding under 6 months	2.6	0.3447	0.02242	0.065	0.975	0.987	425	439	0.300	0.390
Age-appropriate breastfeeding	2.14	0.5367	0.01495	0.028	1.506	1.227	1641	1677	0.507	0.567
Tuberculosis immunization coverage	-	0.9724	0.00614	0.006	1.103	1.050	762	786	0.960	0.985
Received polio immunization	-	0.8479	0.01349	0.016	1.104	1.051	760	783	0.821	0.875
Received DPT immunization	-	0.9133	0.01149	0.013	1.307	1.143	761	785	0.890	0.936
Received measles immunization	-	0.9560	0.00700	0.007	.911	.955	760	784	0.942	0.970
Diarrhoea in the previous 2 weeks	-	0.1525	0.00714	0.047	1.783	1.335	4429	4519	0.138	0.167
Illness with a cough in the previous 2 weeks	-	0.0897	0.00504	0.056	1.405	1.185	4429	4519	0.080	0.100
Fever in last two weeks	-	0.2211	0.00774	0.035	1.571	1.253	4429	4519	0.206	0.237
Oral rehydration therapy with continued feeding	3.8	0.5786	0.01906	0.033	1.021	1.011	676	686	0.540	0.617
Antibiotic treatment of suspected pneumonia	3.1	0.4959	0.02546	0.051	1.084	1.041	397	419	0.445	0.547
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7792	0.00886	0.011	2.062	1.436	4429	4519	0.761	0.797
Anti-malarial treatment of children under age 5	3.18	0.3228	0.01517	0.047	1.056	1.028	979	1004	0.292	0.353
Support for learning	6.1	0.3052	0.01396	0.046	1.763	1.328	1881	1920	0.277	0.333
Attendance to early childhood education	6.7	0.4211	0.01283	0.030	1.297	1.139	1881	1920	0.395	0.447
Birth registration	8.1	0.5083	0.01012	0.020	1.851	1.361	4429	4519	0.488	0.529

Table SE.5: Sampling errors: Siaya County

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Siaya County, 2011

	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se*/*r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2*se*	*r* + 2*se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8730	0.01104	0.013	1.284	1.133	1197	1169	0.851	0.895
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.5169	0.03260	0.063	5.021	2.241	4981	1181	0.452	0.582
Use of improved sanitation facilities	4.3	0.0956	0.01115	0.117	1.697	1.303	4981	1181	0.073	0.118
Secondary school net attendance ratio (adjusted)	7.5	0.1662	0.02069	0.125	1.440	1.200	484	467	0.125	0.208
Child labour	8.2	0.5819	0.01460	0.025	1.266	1.125	1491	1446	0.553	0.611
Prevalence of children with at least one parent dead	9.18	0.2218	0.01181	0.053	2.110	1.453	2684	2613	0.198	0.245
School attendance of orphans	9.19	0.9168	0.05305	0.058	1.955	1.398	58	54	0.811	1.000
School attendance of non-orphans	9.2	0.9959	0.00414	0.004	1.585	1.259	384	374	0.988	1.000
Violent discipline	8.5	0.8862	0.01302	0.015	1.330	1.153	1968	792	0.860	0.912
WOMEN										
Pregnant women	-	0.0674	0.00751	0.111	0.849	0.922	916	949	0.052	0.082
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.8154	0.04231	0.052	0.726	0.852	62	62	0.731	0.900
Intermittent preventive treatment for malaria	3.2	0.2675	0.02567	0.096	1.002	1.001	290	299	0.216	0.319
Early childbearing	5.2	0.4177	0.03769	0.090	.952	0.976	159	164	0.342	0.493
Contraceptive prevalence	5.3	0.4265	0.02595	0.061	1.695	1.302	598	617	0.375	0.478
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9117	0.01644	0.018	1.098	1.048	318	328	0.879	0.945
Antenatal care coverage – at least four times by any provider	5.5b	0.4484	0.02238	0.050	0.662	0.814	318	328	0.404	0.493
Skilled attendant at delivery	5.7	0.5586	0.03237	0.058	1.389	1.179	318	328	0.494	0.623
Institutional deliveries	5.8	0.5350	0.03394	0.063	1.514	1.231	318	328	0.467	0.603
Caesarean section	5.9	0.0560	0.01093	0.195	0.738	0.859	318	328	0.034	0.078
Literacy rate among young women	7.1	0.8589	0.01523	0.018	0.745	0.863	378	390	0.828	0.889

Marriage before age 18	8.7	0.4497	0.02323	0.052	1.574	1.255	697	723	0.403	0.496
Polygyny	8.9	0.1896	0.01871	0.099	1.403	1.185	598	617	0.153	0.226
Comprehensive knowledge about HIV prevention among young people	9.2	0.6054	0.02141	0.035	0.747	0.864	378	390	0.563	0.648
Knowledge of mother- to-child transmission of HIV	9.3	0.6035	0.01755	0.029	1.220	1.105	916	949	0.568	0.639
Accepting attitudes towards people living with HIV	9.4	0.1688	0.01438	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	0.5880	0.01768	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	0.4281	0.04391	0.103	1.787	1.337	221	228	0.340	0.516
Sex before age 15 among young women	9.11	0.2129	0.01878	0.088	0.818	0.905	378	390	0.175	0.250
Condom use with non-regular partners	9.16	(*)	(*)	(*)	(*)	(*)	4	5	(*)	(*)
UNDER-5s										
Underweight prevalence	2.1a	0.1365	0.01089	0.080	0.798	.893	800	793	0.115	0.158
Stunting prevalence	2.2a	0.2773	0.01671	0.060	1.103	1.050	800	793	0.244	0.311
Wasting prevalence	2.3a	0.0141	0.00522	0.371	1.555	1.247	800	793	0.004	0.025
Exclusive breastfeeding under 6 months	2.6	0.2867	0.04610	0.161	0.987	0.994	100	96	0.195	0.379
Age-appropriate breastfeeding	2.14	0.5409	0.02555	0.047	0.875	0.936	340	334	0.490	0.592
Tuberculosis immunization coverage	-	0.9651	0.01327	0.014	0.701	0.837	137	135	0.939	0.992
Received polio immunization	-	0.8569	0.02781	0.032	0.845	0.919	137	135	0.801	0.913
Received DPT immunization	-	0.8962	0.02714	0.030	1.061	1.030	137	135	0.842	0.951
Received measles immunization	-	0.9376	0.01629	0.017	0.608	0.780	137	135	0.905	0.970
Diarrhoea in the previous 2 weeks	-	0.1951	0.01594	0.082	1.295	1.138	809	801	0.163	0.227
Illness with a cough in the previous 2 weeks	-	0.1319	0.01515	0.115	1.603	1.266	809	801	0.102	0.162
Fever in last two weeks	-	0.2919	0.02153	0.074	1.794	1.339	809	801	0.249	0.335
Oral rehydration therapy with continued feeding	3.8	0.6630	0.04075	0.061	1.197	1.094	158	162	0.582	0.745
Antibiotic treatment of suspected pneumonia	3.1	0.5600	0.06076	0.108	1.573	1.254	107	106	0.439	0.682
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7955	0.02186	0.027	2.349	1.533	809	801	0.752	0.839
Anti-malarial treatment of children under age 5	3.18	0.3998	0.03584	0.090	1.247	1.117	236	234	0.328	0.471
Support for learning	6.1	0.2707	0.03007	0.111	1.443	1.201	317	316	0.211	0.331
Attendance to early childhood education	6.7	0.3006	0.02440	0.081	0.892	0.945	317	316	0.252	0.349
Birth registration	8.1	0.5021	0.01955	0.039	1.223	1.106	809	801	0.463	0.541

Table SE.6: Sampling errors: Migori county

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Migori County, 2011										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se*/*r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2*se*	*r* + 2*se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.9121	0.00791	0.009	0.869	0.932	1121	1115	0.896	0.928
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.3166	0.03148	0.099	5.139	2.267	5333	1123	0.254	0.380
Use of improved sanitation facilities	4.3	0.1002	0.01527	0.153	2.904	1.704	5333	1123	0.070	0.131
Secondary school net attendance ratio (adjusted)	7.5	0.1845	0.02730	0.148	2.477	1.574	477	501	0.130	0.239
Child labour	8.2	0.4883	0.01941	0.040	2.792	1.671	1749	1852	0.449	0.527
Prevalence of children with at least one parent dead	9.18	0.1916	0.01404	0.073	4.084	2.021	3025	3210	0.164	0.220
School attendance of non-orphans	9.2	0.9916	0.00413	0.004	1.060	1.030	477	519	0.983	1.000
Violent discipline	8.5	0.9089	0.01246	0.014	1.659	1.288	2362	886	0.884	0.934
WOMEN										
Pregnant women	-	0.0645	0.00948	0.147	1.416	1.190	963	952	0.046	0.083
Intermittent preventive treatment for malaria	3.2	0.3271	0.03271	0.100	1.473	1.214	284	304	0.262	0.393
Early childbearing	5.2	0.4945	0.03976	0.080	1.176	1.085	184	187	0.415	0.574
Contraceptive prevalence	5.3	0.4301	0.02610	0.061	1.915	1.384	682	690	0.378	0.482
Antenatal care coverage - at least once by skilled personnel	5.5a	0.8711	0.02654	0.030	2.176	1.475	326	348	0.818	0.924
Antenatal care coverage – at least four times by any provider	5.5b	0.4978	0.03672	0.074	1.872	1.368	326	348	0.424	0.571
Skilled attendant at delivery	5.7	0.4795	0.03144	0.066	1.375	1.172	326	348	0.417	0.542
Institutional deliveries	5.8	0.4456	0.03148	0.071	1.392	1.180	326	348	0.383	0.509
Caesarean section	5.9	0.0275	0.00726	0.265	0.686	0.828	326	348	0.013	0.042
Literacy rate among young women	7.1	0.8262	0.02550	0.031	1.707	1.307	385	378	0.775	0.877
Marriage before age 18	8.7	0.5662	0.01642	0.029	0.834	0.913	761	761	0.533	0.599
Polygyny	8.9	0.2898	0.02287	0.079	1.751	1.323	682	690	0.245	0.335

Comprehensive knowledge about HIV prevention among young people	9.2	0.5527	0.04113	0.074	2.579	1.606	385	378	0.470	0.635
Knowledge of mother- to-child transmission of HIV	9.3	0.4592	0.01189	0.026	0.541	0.735	963	952	0.435	0.483
Accepting attitudes towards people living with HIV	9.4	0.1031	0.01137	0.110	1.324	1.151	959	948	0.080	0.126
Women who have been tested for HIV and know the results	9.6	0.5097	0.01791	0.035	1.220	1.105	963	952	0.474	0.546
Sexually active young women who have been tested for HIV and know the results	9.7	0.4268	0.02787	0.065	0.988	0.994	309	312	0.371	0.483
Sex before age 15 among young women	9.11	0.3197	0.03543	0.111	2.175	1.475	385	378	0.249	0.391
Condom use with non-regular partners	9.16	0.7220	0.06724	0.093	1.081	1.041	44	49	0.587	0.856
UNDER-5s										
Underweight prevalence	2.1a	0.1709	0.01511	0.088	1.498	1.224	879	931	0.141	0.201
Stunting prevalence	2.2a	0.3231	0.01915	0.059	1.559	1.248	879	931	0.285	0.361
Wasting prevalence	2.3a	0.0637	0.01106	0.174	1.906	1.381	879	931	0.042	0.086
Exclusive breastfeeding under 6 months	2.6	0.3559	0.04137	0.116	.597	.773	73	81	0.273	0.439
Age-appropriate breastfeeding	2.14	0.5643	0.02916	0.052	1.200	1.095	322	348	0.506	0.623
Tuberculosis immunization coverage	-	0.9656	0.01709	0.018	1.444	1.202	152	165	0.931	1.000
Received polio immunization	-	0.8751	0.03096	0.035	1.429	1.195	152	164	0.813	0.937
Received DPT immunization	-	0.9398	0.01924	0.020	1.072	1.036	152	165	0.901	0.978
Received measles immunization	-	0.9639	0.01509	0.016	1.073	1.036	152	165	0.934	0.994
Diarrhoea in the previous 2 weeks	-	0.1287	0.01484	0.115	1.914	1.383	930	975	0.099	0.158
Illness with a cough in the previous 2 weeks	-	0.0757	0.00877	0.116	1.071	1.035	930	975	0.058	0.093
Fever in last two weeks	-	0.1953	0.01714	0.088	1.820	1.349	930	975	0.161	0.230
Oral rehydration therapy with continued feeding	3.8	0.6677	0.04942	0.074	1.343	1.159	120	123	0.569	0.766
Antibiotic treatment of suspected pneumonia	3.1	0.4731	0.06711	0.142	1.409	1.187	70	79	0.339	0.607
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7670	0.02312	0.030	2.913	1.707	930	975	0.721	0.813
Anti-malarial treatment of children under age 5	3.18	0.4310	0.02963	0.069	0.723	0.850	182	203	0.372	0.490
Support for learning	6.1	0.3285	0.04013	0.122	3.037	1.743	408	417	0.248	0.409
Attendance to early childhood education	6.7	0.4031	0.03660	0.091	2.316	1.522	408	417	0.330	0.476
Birth registration	8.1	0.5242	0.02787	0.053	3.033	1.742	930	975	0.468	0.580

Table SE.7: Sampling errors: Homa Bay County

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Homa Bay County, 2011										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se*/*r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2*se*	*r* + 2*se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8346	0.01269	0.015	1.324	1.151	1061	1135	0.809	0.860
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.3469	0.03228	0.093	5.350	2.313	5010	1164	0.282	0.411
Use of improved sanitation facilities	4.3	0.1462	0.01277	0.087	1.520	1.233	5010	1164	0.121	0.172
Secondary school net attendance ratio (adjusted)	7.5	0.1981	0.02292	0.116	1.846	1.359	506	559	0.152	0.244
Child labour	8.2	0.5539	0.01792	0.032	2.277	1.509	1635	1752	0.518	0.590
Prevalence of children with at least one parent dead	9.18	0.2450	0.01358	0.055	3.066	1.751	2868	3076	0.218	0.272
School attendance of orphans	9.19	0.9876	0.01251	0.013	1.101	1.049	81	87	0.963	1.000
School attendance of non-orphans	9.2	0.9933	0.00324	0.003	0.792	0.890	468	505	0.987	1.000
Violent discipline	8.5	0.9261	0.00937	0.010	1.143	1.069	2178	891	0.907	0.945
WOMEN										
Pregnant women	-	0.0607	0.00778	0.128	1.095	1.046	944	1033	0.045	0.076
Intermittent preventive treatment for malaria	3.2	0.2494	0.02278	0.091	0.882	.939	293	319	0.204	0.295
Early childbearing	5.2	0.4728	0.03820	0.081	1.077	1.038	169	185	0.396	0.549
Contraceptive prevalence	5.3	0.4171	0.02384	0.057	1.592	1.262	618	682	0.369	0.465
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9264	0.01252	0.014	0.791	0.889	316	345	0.901	0.951
Antenatal care coverage – at least four times by any provider	5.5b	0.5261	0.03025	0.058	1.263	1.124	316	345	0.466	0.587
Skilled attendant at delivery	5.7	0.4952	0.04114	0.083	2.329	1.526	316	345	0.413	0.578
Institutional deliveries	5.8	0.4737	0.04154	0.088	2.381	1.543	316	345	0.391	0.557
Caesarean section	5.9	0.0731	0.01613	0.221	1.322	1.150	316	345	0.041	0.105
Literacy rate among young women	7.1	0.7492	0.01926	0.026	0.816	0.903	379	414	0.711	0.788
Marriage before age 18	8.7	0.5832	0.01903	0.033	1.196	1.094	734	804	0.545	0.621
Polygyny	8.9	0.2702	0.01451	0.054	0.727	0.852	618	682	0.242	0.299

Comprehensive knowledge about HIV prevention among young people	9.2	0.4943	0.03217	0.065	1.710	1.308	379	414	0.430	0.559
Knowledge of mother- to-child transmission of HIV	9.3	0.5029	0.02269	0.045	2.125	1.458	944	1033	0.458	0.548
Accepting attitudes towards people living with HIV	9.4	0.1630	0.01676	0.103	2.103	1.450	934	1022	0.129	0.197
Women who have been tested for HIV and know the results	9.6	0.5162	0.02152	0.042	1.915	1.384	944	1033	0.473	0.559
Sexually active young women who have been tested for HIV and know the results	9.7	0.3925	0.02990	0.076	1.057	1.028	260	283	0.333	0.452
Sex before age 15 among young women	9.11	0.3058	0.02162	0.071	0.909	0.953	379	414	0.263	0.349
Condom use with non-regular partners	9.16	(*)	(*)	(*)	(*)	(*)	13	12	(*)	(*)
UNDER-5s										
Underweight prevalence	2.1a	0.1502	0.01382	0.092	1.311	1.145	836	877	0.123	0.178
Stunting prevalence	2.2a	0.2631	0.01589	0.060	1.141	1.068	836	877	0.231	0.295
Wasting prevalence	2.3a	0.0423	0.00616	0.146	0.820	0.906	836	877	0.030	0.055
Exclusive breastfeeding under 6 months	2.6	0.3496	0.04267	0.122	0.745	0.863	88	94	0.264	0.435
Age-appropriate breastfeeding	2.14	0.4996	0.03753	0.075	1.989	1.410	340	354	0.425	0.575
Tuberculosis immunization coverage	-	0.9480	0.01856	0.020	1.202	1.097	165	173	0.911	0.985
Received polio immunization	-	0.7562	0.03248	0.043	0.984	0.992	165	173	0.691	0.821
Received DPT immunization	-	0.8675	0.03178	0.037	1.511	1.229	165	173	0.804	0.931
Received measles immunization	-	0.9154	0.02009	0.022	0.892	0.944	164	172	0.875	0.956
Diarrhoea in the previous 2 weeks	-	0.1562	0.01200	0.077	0.993	0.997	868	911	0.132	0.180
Illness with a cough in the previous 2 weeks	-	0.0872	0.01010	0.116	1.167	1.080	868	911	0.067	0.107
Fever in last two weeks	-	0.2786	0.01688	0.061	1.291	1.136	868	911	0.245	0.312
Oral rehydration therapy with continued feeding	3.8	0.6648	0.04228	0.064	1.147	1.071	136	144	0.580	0.749
Antibiotic treatment of suspected pneumonia	3.1	0.6078	0.05045	0.083	0.886	0.941	76	84	0.507	0.709
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7677	0.01829	0.024	1.707	1.307	868	911	0.731	0.804
Anti-malarial treatment of children under age 5	3.18	0.3159	0.03278	0.104	1.287	1.135	242	260	0.250	0.381
Support for learning	6.1	0.2314	0.01928	0.083	0.780	0.883	356	374	0.193	0.270
Attendance to early childhood education	6.7	0.5087	0.03477	0.068	1.804	1.343	356	374	0.439	0.578
Birth registration	8.1	0.4991	0.01742	0.035	1.104	1.051	868	911	0.464	0.534

Table SE.8: Sampling errors: Kisumu County

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kisumu County, 2011										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se*/*r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2*se*	*r* + 2*se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.9028	0.00894	0.010	0.990	0.995	1226	1088	0.885	0.921
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.4841	0.03463	0.072	5.368	2.317	5260	1119	0.415	0.553
Use of improved sanitation facilities	4.3	0.2399	0.03399	0.142	7.083	2.661	5260	1119	0.172	0.308
Secondary school net attendance ratio (adjusted)	7.5	0.2707	0.01996	0.074	0.868	0.931	494	431	0.231	0.311
Child labour	8.2	0.4537	0.02337	0.052	2.921	1.709	1489	1327	0.407	0.500
Prevalence of children with at least one parent dead	9.18	0.1979	0.01236	0.062	2.316	1.522	2711	2407	0.173	0.223
School attendance of orphans	9.19	0.9153	0.02618	0.029	0.380	0.617	50	44	0.863	0.968
School attendance of non-orphans	9.2	0.9882	0.00467	0.005	0.725	0.851	434	387	0.979	0.998
Violent discipline	8.5	0.8237	0.02034	0.025	2.101	1.449	2034	738	0.783	0.864
WOMEN										
Pregnant women	-	0.0642	0.00794	0.124	0.970	0.985	1057	926	0.048	0.080
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.8265	0.05113	0.062	1.094	1.046	68	61	0.724	0.929
Intermittent preventive treatment for malaria	3.2	0.1846	0.01928	0.104	0.647	0.804	302	263	0.146	0.223
Early childbearing	5.2	0.3989	0.03205	0.080	0.840	0.916	226	197	0.335	0.463
Contraceptive prevalence	5.3	0.4439	0.02151	0.048	1.138	1.067	694	608	0.401	0.487
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9514	0.00837	0.009	0.418	0.646	318	277	0.935	0.968
Antenatal care coverage – at least four times by any provider	5.5b	0.5232	0.03268	0.062	1.182	1.087	318	277	0.458	0.589
Skilled attendant at delivery	5.7	0.5948	0.03621	0.061	1.502	1.225	318	277	0.522	0.667
Institutional deliveries	5.8	0.5548	0.03909	0.070	1.708	1.307	318	277	0.477	0.633
Caesarean section	5.9	0.0656	0.01311	0.200	0.774	0.880	318	277	0.039	0.092
Literacy rate among young women	7.1	0.9020	0.01335	0.015	0.748	0.865	425	372	0.875	0.929
Marriage before age 18	8.7	0.4157	0.02382	0.057	1.751	1.323	858	751	0.368	0.463

Polygyny	8.9	0.1801	0.01634	0.091	1.097	1.048	694	608	0.148	0.212
Comprehensive knowledge about HIV prevention among young people	9.2	0.5147	0.02862	0.056	1.216	1.103	425	372	0.457	0.572
Knowledge of mother- to-child transmission of HIV	9.3	0.4194	0.01926	0.046	1.409	1.187	1057	926	0.381	0.458
Accepting attitudes towards people living with HIV	9.4	0.1876	0.01339	0.071	1.086	1.042	1055	924	0.161	0.214
Women who have been tested for HIV and know the results	9.6	0.5383	0.01609	0.030	0.964	0.982	1057	926	0.506	0.570
Sexually active young women who have been tested for HIV and know the results	9.7	0.3860	0.02807	0.073	0.811	0.901	281	245	0.330	0.442
Sex before age 15 among young women	9.11	0.1887	0.01782	0.094	0.770	0.877	425	372	0.153	0.224
Condom use with non regular partners	9.16	(*)	(*)	(*)	(*)	(*)	6	5	(*)	(*)
UNDER-5s										
Underweight prevalence	2.1a	0.1491	0.01768	0.119	1.794	1.339	823	729	0.114	0.184
Stunting prevalence	2.2a	0.2370	0.01677	0.071	1.133	1.064	823	729	0.203	0.271
Wasting prevalence	2.3a	0.0410	0.00840	0.205	1.308	1.143	823	729	0.024	0.058
Exclusive breastfeeding under 6 months	2.6	0.3853	0.03465	0.090	0.380	0.617	84	76	0.316	0.455
Age-appropriate breastfeeding	2.14	0.4173	0.02791	0.067	0.894	0.946	320	280	0.361	0.473
Tuberculosis immunization coverage	-	0.9928	0.00727	0.007	0.962	0.981	147	132	0.978	1.000
Received polio immunization	-	0.7906	0.03617	0.046	1.035	1.018	147	132	0.718	0.863
Received DPT immunization	-	0.8746	0.03212	0.037	1.223	1.106	146	131	0.810	0.939
Received measles immunization	-	0.9614	0.01292	0.013	0.584	0.764	146	131	0.936	0.987
Diarrhoea in the previous 2 weeks	-	0.1817	0.01731	0.095	1.539	1.241	861	765	0.147	0.216
Illness with a cough in the previous 2 weeks	-	0.0615	0.01010	0.164	1.349	1.161	861	765	0.041	0.082
Fever in last two weeks	-	0.2560	0.01632	0.064	1.068	1.034	861	765	0.223	0.289
Oral rehydration therapy with continued feeding	3.8	0.5587	0.04109	0.074	0.938	0.969	156	138	0.477	0.641
Antibiotic treatment of suspected pneumonia	3.1	0.6301	0.03221	0.051	0.218	0.467	53	50	0.566	0.695
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7783	0.02067	0.027	1.891	1.375	861	765	0.737	0.820
Anti-malarial treatment of children under age 5	3.18	0.3669	.02710	0.074	0.610	0.781	220	194	0.313	0.421
Support for learning	6.1	0.3093	0.03747	0.121	2.109	1.452	358	322	0.234	0.384
Attendance to early childhood education	6.7	0.5304	0.02980	0.056	1.145	1.070	358	322	0.471	0.590
Birth registration	8.1	0.5336	0.02379	0.045	1.738	1.318	861	765	0.486	0.581

Table SE.9: Sampling errors: Kisii County

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kisii County, 2011										
	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	*r + 2se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8763	0.01347	0.015	1.899	1.378	1455	1136	0.849	0.903
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6150	0.02702	0.044	3.577	1.891	6851	1161	0.561	0.669
Use of improved sanitation facilities	4.3	0.1271	0.01700	0.134	3.021	1.738	6851	1161	0.093	0.161
Secondary school net attendance ratio (adjusted)	7.5	0.3585	0.02730	0.076	1.584	1.259	625	490	0.304	0.413
Child labour	8.2	0.4681	0.01820	0.039	2.124	1.457	2015	1598	0.432	0.504
Prevalence of children with at least one parent dead	9.18	0.1143	0.01333	0.117	5.019	2.240	3598	2863	0.088	0.141
School attendance of orphans	(*)	(*)	(*)	(*)	(*)	(*)	18	14	(*)	(*)
School attendance of non-orphans	9.2	0.9940	0.00486	0.005	2.093	1.447	665	528	0.984	1.000
Violent discipline	8.5	0.8914	0.01280	0.014	1.523	1.234	2772	900	0.866	0.917
WOMEN										
Pregnant women	-	0.0676	0.00792	0.117	1.073	1.036	1404	1078	0.052	0.083
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.7110	0.07761	0.109	2.023	1.422	95	70	0.556	0.866
Intermittent preventive treatment for malaria	3.2	0.3785	0.03115	0.082	1.064	1.032	331	259	0.316	0.441
Early childbearing	5.2	0.3213	0.03368	0.105	1.269	1.127	328	245	0.254	0.389
Contraceptive prevalence	5.3	0.5424	0.01541	0.028	0.673	0.820	909	704	0.512	0.573
Antenatal care coverage - at least once by skilled personnel	5.5a	0.8956	0.01452	0.016	0.652	0.807	370	290	0.867	0.925
Antenatal care coverage – at least four times by any provider	5.5b	0.3557	0.03064	0.086	1.184	1.088	370	290	0.294	0.417
Skilled attendant at delivery	5.7	0.6115	0.04499	0.074	2.462	1.569	370	290	0.521	0.701
Institutional deliveries	5.8	0.5779	0.04696	0.081	2.612	1.616	370	290	0.484	0.672
Caesarean section	5.9	0.0750	0.01894	0.252	1.494	1.222	370	290	0.037	0.113
Literacy rate among young women	7.1	0.8805	0.02030	0.023	1.770	1.330	592	453	0.840	0.921
Marriage before age 18	8.7	0.3741	0.01740	0.047	1.124	1.060	1141	870	0.339	0.409
Polygyny	8.9	0.0959	0.01179	0.123	1.128	1.062	909	704	0.073	0.119

Comprehensive knowledge about HIV prevention among young people	9.2	0.5485	0.03213	0.059	1.885	1.373	592	453	0.484	0.613
Knowledge of mother- to-child transmission of HIV	9.3	0.5565	0.02258	0.041	2.225	1.492	1404	1078	0.511	0.602
Accepting attitudes towards people living with HIV	9.4	0.2706	0.01476	0.055	1.189	1.090	1404	1077	0.241	0.300
Women who have been tested for HIV and know the results	9.6	0.5469	0.02108	0.039	1.932	1.390	1404	1078	0.505	0.589
Sexually active young women who have been tested for HIV and know the results	9.7	0.4233	0.03275	0.077	1.244	1.115	370	284	0.358	0.489
Sex before age 15 among young women	9.11	0.2517	0.01900	0.075	0.866	0.931	592	453	0.214	0.290
Condom use with non-regular partners	9.16	(*)	(*)	(*)	(*)	(*)	13	9	(*)	(*)
UNDER-5s										
Underweight prevalence	2.1a	0.1472	0.01140	0.077	0.903	0.950	1105	873	0.124	0.170
Stunting prevalence	2.2a	0.2629	0.01608	0.061	1.163	1.078	1105	873	0.231	0.295
Wasting prevalence	2.3a	0.0340	0.00552	0.162	0.809	0.899	1105	873	0.023	0.045
Exclusive breastfeeding under 6 months	2.6	0.4164	0.05959	0.143	0.979	0.989	88	68	0.297	0.536
Age-appropriate breastfeeding	2.14	0.5924	0.03112	0.053	1.215	1.102	385	304	0.530	0.655
Tuberculosis immunization coverage	-	1.0000	0.00000	0.000	N/A	N/A	187	149	1.000	1.000
Received polio immunization	-	0.9098	0.02034	0.022	0.746	0.864	187	149	0.869	0.950
Received DPT immunization	-	0.9503	0.01489	0.016	0.695	0.834	187	149	0.921	0.980
Received measles immunization	-	0.9681	0.02071	0.021	2.054	1.433	187	149	0.927	1.000
Diarrhoea in the previous 2 weeks	-	0.1458	0.01954	0.134	2.746	1.657	1135	897	0.107	0.185
Illness with a cough in the previous 2 weeks	-	0.0798	0.01154	0.145	1.626	1.275	1135	897	0.057	0.103
Fever in last two weeks	-	0.1285	0.01568	0.122	1.966	1.402	1135	897	0.097	0.160
Oral rehydration therapy with continued feeding	3.8	0.4211	0.03166	0.075	0.543	0.737	165	133	0.358	0.484
Antibiotic treatment of suspected pneumonia	3.1	0.4034	0.04433	0.110	0.555	0.745	91	69	0.315	0.492
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7858	0.01841	0.023	1.805	1.343	1135	897	0.749	0.823
Anti-malarial treatment of children under age 5	3.18	0.1431	0.02756	0.193	0.706	0.840	146	115	0.088	0.198
Support for learning	6.1	0.4576	0.03201	0.070	1.651	1.285	499	401	0.394	0.522
Attendance to early childhood education	6.7	0.4460	0.02424	0.054	0.952	0.975	499	401	0.397	0.494
Birth registration	8.1	0.5618	0.02319	0.041	1.958	1.399	1135	897	0.515	0.608

Table SE.10: Sampling errors: Nyamira County

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Nyamira County, 2011										
	MICS Indicator	Value (*r*)	Standard error (*se*)	Coefficient of variation (*se*/*r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count	Confidence limits	
									r - 2*se*	*r* + 2*se*
HOUSEHOLDS										
Iodized salt consumption	2.16	0.8104	0.01029	0.013	0.732	0.856	648	1064	0.790	0.831
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.6459	0.04416	0.068	9.201	3.033	3004	1080	0.558	0.734
Use of improved sanitation facilities	4.3	0.2182	0.02091	0.096	2.764	1.663	3004	1080	0.176	0.260
Secondary school net attendance ratio (adjusted)	7.5	0.3533	0.01585	0.045	0.511	0.715	289	466	0.322	0.385
Child labour	8.2	0.5111	0.01756	0.034	1.717	1.310	852	1392	0.476	0.546
Prevalence of children with at least one parent dead	9.18	0.1086	0.01071	0.099	2.895	1.702	1493	2446	0.087	0.130
School attendance of non-orphans	9.2	0.9861	0.00677	0.007	1.521	1.233	282	457	0.973	1.000
Violent discipline	8.5	0.8377	0.01552	0.019	1.408	1.187	1135	796	0.807	0.869
WOMEN										
Pregnant women	-	0.0599	0.00875	0.146	1.319	1.148	623	970	0.042	0.077
Intermittent preventive treatment for malaria	3.2	0.1349	0.01999	0.148	0.818	0.905	154	240	0.095	0.175
Early childbearing	5.2	0.3403	0.03127	0.092	0.854	0.924	126	197	0.278	0.403
Contraceptive prevalence	5.3	0.6102	0.01998	0.033	1.072	1.036	410	640	0.570	0.650
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9417	0.01240	0.013	0.714	0.845	164	256	0.917	0.967
Antenatal care coverage – at least four times by any provider	5.5b	0.3968	0.02870	0.072	0.877	0.937	164	256	0.339	0.454
Skilled attendant at delivery	5.7	0.6241	0.02730	0.044	0.810	0.900	164	256	0.569	0.679
Institutional deliveries	5.8	0.6106	0.02673	0.044	0.766	0.875	164	256	0.557	0.664
Caesarean section	5.9	0.0730	0.01630	0.223	1.001	1.001	164	256	0.040	0.106
Literacy rate among young women	7.1	0.9472	0.00885	0.009	0.598	0.773	248	383	0.929	0.965
Marriage before age 18	8.7	0.3475	0.01374	0.040	0.652	0.807	501	784	0.320	0.375
Polygyny	8.9	0.0951	0.01144	0.12	0.972	0.986	410	640	0.073	0.118

Comprehensive knowledge about HIV prevention among young people	9.2	0.4448	0.03237	0.073	1.621	1.273	248	383	0.380	0.510
Knowledge of mother- to-child transmission of HIV	9.3	0.4241	0.01897	0.045	1.428	1.195	623	970	0.386	0.462
Accepting attitudes towards people living with HIV	9.4	0.3196	0.01827	0.057	1.487	1.219	623	970	0.283	0.356
Women who have been tested for HIV and know the results	9.6	0.4590	0.01409	0.031	0.775	0.880	623	970	0.431	0.487
Sexually active young women who have been tested for HIV and know the results	9.7	0.4552	0.02841	0.062	0.755	0.869	151	233	0.398	0.512
Sex before age 15 among young women	9.11	0.2510	0.02099	0.084	0.895	0.946	248	383	0.209	0.293
Condom use with non-regular partners	9.16	(*)	(*)	(*)	(*)	(*)	13	21	(*)	(*)
UNDER-5s										
Underweight prevalence	2.1a	0.1291	0.01435	0.111	1.231	1.110	428	673	0.100	0.158
Stunting prevalence	2.2a	0.2505	0.02569	0.103	2.363	1.537	428	673	0.199	0.302
Wasting prevalence	2.3a	0.0345	0.00748	0.217	1.129	1.063	428	673	0.020	0.049
Age-appropriate breastfeeding	2.14	0.6132	0.04369	0.071	2.052	1.432	163	256	0.526	0.701
Tuberculosis immunization coverage	-	0.9826	0.01293	0.013	1.212	1.101	80	125	0.957	1.000
Received polio immunization	-	0.8923	0.02539	0.028	0.819	0.905	79	123	0.842	0.943
Received DPT immunization	-	0.9482	0.02147	0.023	1.155	1.075	80	124	0.905	0.991
Received measles immunization	-	0.9824	0.01304	0.013	1.212	1.101	80	124	0.956	1.000
Diarrhoea in the previous 2 weeks	-	0.1323	0.01282	0.097	0.995	0.997	442	696	0.107	0.158
Illness with a cough in the previous 2 weeks	-	0.0972	0.01305	0.134	1.349	1.162	442	696	0.071	0.123
Fever in last two weeks	-	0.1445	0.01531	0.106	1.319	1.148	442	696	0.114	0.175
Oral rehydration therapy with continued feeding	3.8	0.4967	0.04554	0.092	0.755	0.869	58	92	0.406	0.588
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.7818	0.02335	0.030	2.222	1.491	442	696	0.735	0.828
Anti-malarial treatment of children under age 5	3.18	0.1256	0.03384	0.269	1.022	1.011	64	99	0.058	0.193
Support for learning	6.1	0.1994	0.02603	0.131	1.252	1.119	189	296	0.147	0.251
Attendance to early childhood education	6.7	0.4654	0.03326	0.071	1.312	1.145	189	296	0.399	0.532
Birth registration	8.1	0.5314	0.02557	0.048	1.825	1.351	442	696	0.480	0.583

Appendix D: Data Quality Tables

Table DQ.1: Age distribution of household population

Single-year age distribution of household population by sex, Nyanza Province, Kenya, 2011							
		Sex					
		Male		Female		Missing	
		Number	Per cent	Number	Per cent	Number	Per cent
Age	0	491	3.3	501	3.2	0	0.0
	1	431	2.9	432	2.8	0	0.0
	2	536	3.6	513	3.3	0	0.0
	3	540	3.6	559	3.6	0	0.0
	4	574	3.9	497	3.2	0	0.0
	5	573	3.9	560	3.6	0	0.0
	6	504	3.4	508	3.3	0	0.0
	7	479	3.2	503	3.2	0	0.0
	8	472	3.2	458	2.9	0	0.0
	9	418	2.8	432	2.8	0	0.0
	10	481	3.2	458	2.9	1	14.6
	11	421	2.8	436	2.8	0	0.0
	12	449	3.0	449	2.9	0	0.0
	13	418	2.8	412	2.6	0	0.0
	14	346	2.3	452	2.9	0	0.0
	15	407	2.7	308	2.0	0	0.0
	16	323	2.2	324	2.1	0	0.0
	17	382	2.6	331	2.1	0	0.0
	18	385	2.6	325	2.1	0	0.0
	19	286	1.9	236	1.5	0	0.0
	20	262	1.8	272	1.7	0	0.0
	21	205	1.4	259	1.7	0	0.0
	22	245	1.7	304	1.9	0	0.0
	23	185	1.2	255	1.6	0	0.0
	24	209	1.4	254	1.6	0	0.0
	25	261	1.8	326	2.1	0	0.0
	26	213	1.4	241	1.5	0	0.0
	27	171	1.2	216	1.4	0	0.0
	28	204	1.4	236	1.5	0	0.0
	29	163	1.1	211	1.4	0	0.0
	30	243	1.6	174	1.1	0	0.0
	31	101	0.7	140	0.9	0	0.0
	32	199	1.3	201	1.3	0	0.0
	33	140	0.9	171	1.1	0	0.0
	34	95	0.6	107	0.7	0	0.0
	35	197	1.3	172	1.1	1	22.9
	36	110	0.7	152	1.0	0	0.0
	37	113	0.8	130	0.8	0	0.0
	38	141	0.9	123	0.8	0	0.0
	39	122	0.8	137	0.9	0	0.0
	40	149	1.0	82	0.5	0	0.0

		Sex				Missing	
		Male		Female			
		Number	Per cent	Number	Per cent	Number	Per cent
Age	41	64	0.4	100	0.6	0	0.0
	42	101	0.7	125	0.8	0	0.0
	43	92	0.6	121	0.8	0	0.0
	44	42	0.3	68	0.4	0	0.0
	45	106	0.7	105	0.7	0	0.0
	46	70	0.5	73	0.5	0	0.0
	47	64	0.4	83	0.5	0	0.0
	48	80	0.5	115	0.7	0	0.0
	49	74	0.5	86	0.6	0	0.0
	50	97	0.7	103	0.7	0	0.0
	51	90	0.6	120	0.8	0	0.0
	52	56	0.4	116	0.7	0	0.0
	53	86	0.6	103	0.7	0	0.0
	54	48	0.3	93	0.6	0	0.0
	55	87	0.6	113	0.7	0	0.0
	56	68	0.5	60	0.4	0	0.0
	57	59	0.4	91	0.6	0	0.0
	58	61	0.4	74	0.5	0	0.0
	59	66	0.4	79	0.5	0	0.0
	60	90	0.6	102	0.7	0	0.0
	61	44	0.3	64	0.4	0	0.0
	62	50	0.3	57	0.4	0	0.0
	63	42	0.3	42	0.3	0	0.0
	64	42	0.3	37	0.2	0	0.0
	65	55	0.4	69	0.4	0	0.0
	66	24	0.2	36	0.2	0	0.0
	67	26	0.2	32	0.2	0	0.0
	68	31	0.2	35	0.2	0	0.0
	69	24	0.2	26	0.2	0	0.0
	70	53	0.4	60	0.4	0	0.0
	71	24	0.2	38	0.2	0	0.0
	72	21	0.1	40	0.3	0	0.0
	73	22	0.2	26	0.2	0	0.0
	74	20	0.1	12	0.1	0	0.0
	75	28	0.2	31	0.2	0	0.0
	76	17	0.1	24	0.2	0	0.0
	77	8	0.1	12	0.1	0	0.0
	78	35	0.2	12	0.1	2	42.1
	79	12	0.1	15	0.1	0	0.0
	80+	95	0.6	146	0.9	0	0.0
	DK/missing	8	0.1	2	0.0	1	20.4
Total		**14827**	**100.0**	**15607**	**100.0**	**4**	**100.0**

Table DQ.2: Age distribution of eligible and interviewed women

Household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed, by five-year age groups, Nyanza Province, Kenya, 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	2208	-	-	-
	15-19	1524	1216	20.6	79.8
	20-24	1343	1189	20.1	88.5
	25-29	1231	1157	19.6	94.0
	30-34	794	747	12.7	94.1
	35-39	715	674	11.4	94.3
	40-44	498	479	8.1	96.3
	45-49	462	439	7.4	95.0
	50-54	536	-	-	-
Total (15-49)		**6567**	**5901**	**100.0**	**89.9**

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, Nyanza Province, Kenya, 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	992	980	19.7	98.7
	1	863	852	17.1	98.8
	2	1049	1022	20.5	97.5
	3	1099	1081	21.7	98.4
	4	1071	1042	20.9	97.3
	5	1133	-	-	-
	6	1012	-	-	-
	7	982	-	-	-
Total (0-4)		**5073**	**4977**	**100.0**	**98.1**

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, Nyanza Province, Kenya, 2011						
		Household population of women age 15-49 years		Interviewed women age 15-49 years		Percent of eligible women interviewed (Completion rates)
		Number	Per cent	Number	Per cent	
County	Siaya	1020	15.5	974	16.5	95.5
	Kisumu	1175	17.9	1053	17.8	89.6
	Homa Bay	1045	15.9	970	16.4	92.8
	Migori	1083	16.5	930	15.8	85.9
	Kisii	1557	23.7	1375	23.3	88.3
	Nyamira	687	10.5	598	10.1	87.1
Area	Rural	5513	84.0	4982	84.4	90.4
	Urban	1054	16.0	918	15.6	87.2
Household size	1-3	4839	73.7	1080	18.3	92.7
	4-6	1334	20.3	3035	51.4	90.8
	7+	394	6.0	1785	30.3	86.8
Education of household head	None	1016	15.5	868	14.7	85.5
	Primary	3665	55.8	3346	56.7	91.3
	Secondary +	1859	28.3	1668	28.3	89.7
	Missing/DK	26	0.4	18	0.3	68.7
Wealth index quintiles	Poorest	1208	18.4	1108	18.8	91.7
	Second	1248	19.0	1139	19.3	91.3
	Middle	1252	19.1	1152	19.5	92.0
	Fourth	1336	20.3	1191	20.2	89.2
	Richest	1523	23.2	1310	22.2	86.0
Total		**6567**	**100.0**	**5901**	**100.0**	**89.9**

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, Nyanza Province, Kenya, 2011

		Household population of under-5 children		Interviewed under-5 children		Per cent of eligible under-5s with completed under-5 questionnaires (Completion rates)
		Number	Per cent	Number	Per cent	
County	Siaya	817	16.1	811	16.3	99.2
	Kisumu	866	17.1	860	17.3	99.3
	Homa Bay	873	17.2	860	17.3	98.5
	Migori	936	18.5	906	18.2	96.7
	Kisii	1138	22.4	1116	22.4	98.0
	Nyamira	442	8.7	425	8.5	96.3
Area	Rural	4445	87.6	4367	87.7	98.2
	Urban	628	12.4	611	12.3	97.3
Household size	1-3	637	12.5	503	10.1	97.1
	4-6	2955	58.3	2828	56.8	98.5
	7+	1481	29.2	1647	33.1	97.8
Education of household head	None	619	12.2	606	12.2	97.9
	Primary	3085	60.8	3036	61.0	98.4
	Secondary +	1341	26.4	1310	26.3	97.6
	Missing/DK	27	0.5	25	0.5	90.8
Wealth index quintiles	Poorest	1169	23.0	1149	23.1	98.3
	Second	1063	20.9	1039	20.9	97.8
	Middle	985	19.4	972	19.5	98.7
	Fourth	953	18.8	933	18.7	97.8
	Richest	904	17.8	885	17.8	97.9
Total		**5073**	**100.0**	**4977**	**100.0**	**98.1**

Table DQ.6: Completeness of reporting

Percentage of observations that are missing information for selected questions and indicators, Nyanza Province, Kenya, 2011		
	Per cent with missing/ incomplete information*	Number of cases
Age	0.0	30763
Salt testing	0.2	6828
Starting time of interview	0.5	6828
Ending time of interview	0.2	6828
Woman's date of birth: Only month	23.7	5908
Woman's date of birth: Both month and year	0.4	5908
Date of first birth: Only month	1.4	4757
Date of first birth: Both month and year	0.1	4757
Completed years since first birth	0.0	4757
Date of last birth: Only month	1.2	4757
Date of last birth: Both month and year	0.1	4757
Date of first marriage/union: Only month	3.7	4578
Date of first marriage/union: Both month and year	1.9	4578
Age at first marriage/union	0.4	4578
Age at first intercourse	0.1	1868
Time since last intercourse	0.0	1868
Starting time of interview	0.2	5908
Ending time of interview	0.2	5908
Date of birth: Only month	0.6	5045
Date of birth: Both month and year	0.0	5045
Anthropometric measurements: Weight	2.0	5045
Anthropometric measurements: Height	2.3	5045
Anthropometric measurements: Both weight and height	2.0	5045
Starting time of interview	0.4	5045
Ending time of interview	0.4	5045
* Includes "Don't know" responses		

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

Distribution of children under 5 by completeness of information for anthropometric indicators, Nyanza Province, Kenya, 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	97.5	2.5	0.0	0.0	0.0	100.0	2.5	488
	6-11 months	98.6	1.4	0.0	0.0	0.0	100.0	1.4	509
	12-23 months	98.2	1.6	0.2	0.0	0.0	100.0	1.8	879
	24-35 months	98.7	0.9	0.5	0.0	0.0	100.0	1.3	1043
	36-47 months	96.7	2.2	0.9	0.2	0.0	100.0	3.3	1105
	48-59 months	95.9	3.0	1.0	0.1	0.0	100.0	4.1	1021
Total		**97.5**	**1.9**	**0.5**	**0.1**	**0.0**	**100.0**	**2.5**	**5045**

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

Distribution of children under 5 by completeness of information for anthropometric indicators, Nyanza Province, Kenya, 2011

		Valid height and date of birth	Reason for exclusion from analysis				Total	Percent 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	93.4	6.1	0.0	0.0	0.4	100.0	6.6	488
	6-11 months	98.2	1.2	0.0	0.0	0.6	100.0	1.8	509
	12-23 months	98.2	1.4	0.2	0.0	0.2	100.0	1.8	879
	24-35 months	98.8	0.8	0.5	0.0	0.0	100.0	1.2	1043
	36-47 months	96.7	2.1	0.9	0.2	0.2	100.0	3.3	1105
	48-59 months	95.8	3.0	1.0	0.1	0.1	100.0	4.2	1021
Total		**97.0**	**2.2**	**0.5**	**0.1**	**0.2**	**100.0**	**3.0**	**5045**

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

Distribution of children under 5 by completeness of information for anthropometric indicators, Nyanza Province, Kenya, 2011

		Valid weight and height	Reason for exclusion from analysis				Total	Per cent of children excluded from analysis	Number of children under 5
			Weight not measured	Height not measured	Weight and height not measured	Flagged cases (outliers)			
Weight by height	<6 months	90.2	0.0	3.7	2.5	3.7	100.0	9.8	488
	6-11 months	98.4	0.2	0.0	1.2	0.2	100.0	1.6	509
	12-23 months	97.8	0.3	0.1	1.3	0.2	100.0	1.9	879
	24-35 months	98.7	0.1	0.0	0.8	0.0	100.0	0.9	1043
	36-47 months	96.7	0.1	0.0	2.1	0.3	100.0	2.4	1105
	48-59 months	95.8	0.0	0.0	3.0	0.2	100.0	3.2	1021
Total		**96.7**	**0.1**	**0.4**	**1.8**	**0.5**	**100.0**	**2.8**	**5045**

Table DQ.8: Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for decimals, Nyanza Province, Kenya, 2011

		Weight		Height	
		Number	Per cent	Number	Per cent
Digits	0	570	11.5	1002	20.2
	1	483	9.8	384	7.8
	2	515	10.4	474	9.6
	3	490	9.9	399	8.1
	4	496	10.0	373	7.5
	5	470	9.5	884	17.9
	6	476	9.6	448	9.0
	7	495	10.0	422	8.5
	8	490	9.9	270	5.5
	9	460	9.3	295	6.0
	0 or 5	1040	21.0	1886	38.1
Total		**4945**	**100.0**	**4951**	**100.0**

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

Percentage of all households interviewed observed by the interviewer , and percentage of places for handwashing observed by the interviewer in all interviewed households, Nyanza Province, Kenya 2011

		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	Total	Number of households interviewed
County	Siaya	2.1	2825	2.5	97.5	0.0	100.0	1181
	Kisumu	3.9	2456	10.2	88.7	1.1	100.0	1119
	Homa Bay	2.3	2704	2.7	97.1	0.1	100.0	1164
	Migori	2.3	2514	3.7	96.1	0.2	100.0	1123
	Kisii	3.0	3188	0.7	99.2	0.1	100.0	1161
	Nyamira	3.4	3060	3.4	96.5	0.1	100.0	1080
Area	Rural	2.8	15006	2.9	97.0	0.1	100.0	5984
	Urban	2.9	1741	10.5	88.0	1.4	100.0	844
Wealth index quintiles	Poorest	2.5	3073	0.8	99.1	0.0	100.0	1406
	Second	3.5	3277	1.5	98.5	0.0	100.0	1324
	Middle	2.8	3431	2.6	97.3	0.1	100.0	1369
	Fourth	2.9	3486	2.4	97.4	0.0	100.0	1361
	Richest	2.6	3480	11.7	87.1	1.2	100.0	1368
Total		**2.8**	**16747**	**3.8**	**95.9**	**0.2**	**100.0**	**6828**

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

Percent distribution of women with a live birth in the last 2 years by presence of a health card,and the percentage of health cards seen by the interviewers, Nyanza Province, Kenya, 2011

			Woman has health card					
		Woman does not have health card	Seen by the interviewer (1)	Not seen by the interviewer (2)	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
County	Siaya	0.0	87.2	4.3	1.2	100.0	95.3	328
	Kisumu	0.0	91.7	5.4	0.4	100.0	94.4	277
	Homa Bay	0.0	85.8	9.6	0.9	100.0	90.0	345
	Migori	0.0	87.4	5.7	1.7	100.0	93.8	348
	Kisii	0.0	87.9	1.7	2.4	100.0	98.1	290
	Nyamira	0.0	92.2	2.3	2.3	100.0	97.5	256
Area	Rural	0.0	87.8	5.4	1.3	100.0	94.2	1636
	Urban	0.0	93.3	2.4	2.4	100.0	97.5	208
Wealth index quintiles	Poorest	0.0	82.8	7.5	1.4	100.0	91.7	429
	Second	0.0	88.3	4.4	2.2	100.0	95.3	367
	Middle	0.0	91.7	4.5	0.3	100.0	95.3	375
	Fourth	0.0	88.5	5.6	1.1	100.0	94.0	356
	Richest	0.0	92.4	2.5	2.5	100.0	97.3	317
Total		**0.0**	**88.4**	**5.0**	**1.5**	**100.0**	**94.6**	**1844**

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

Percent distribution of children under 5 by presence of birth certificates,and percentage of birth calendar seen, Nyanza Province, Kenya, 2011

		Child has birth certificate						
		Child does not have birth certificate	Seen by the interviewer [1]	Not seen by the interviewer [2]	Missing/ DK	Total	Per cent of birth certificates seen by the interviewer [1]/[1+2]*100	Number of children under age 5
County	Siaya	83.4	6.4	9.5	0.7	100.0	40.2	801
	Kisumu	82.1	5.0	12.0	0.9	100.0	29.2	765
	Homa Bay	76.8	7.2	15.3	0.7	100.0	32.2	911
	Migori	73.0	11.1	15.3	0.5	100.0	42.0	975
	Kisii	84.2	5.9	8.6	1.1	100.0	40.8	897
	Nyamira	85.6	5.7	7.8	0.9	100.0	42.6	696
Area	Rural	81.5	6.7	10.8	0.8	100.0	38.4	4519
	Urban	71.1	9.7	18.6	0.6	100.0	34.2	526
Child's age	0	85.8	6.1	7.8	0.2	100.0	43.8	987
	1	79.6	7.3	12.6	0.5	100.0	36.6	878
	2	78.4	7.6	12.6	1.3	100.0	37.6	1038
	3	79.3	7.0	12.6	1.1	100.0	35.8	1114
	4	79.4	7.3	12.5	0.9	100.0	36.9	1028
Total		**80.5**	**7.1**	**11.6**	**0.8**	**100.0**	**37.8**	**5045**

Table DQ.12: Observation of vaccination cards

Percent distribution of children under 5 by presence of a vaccination card, and the percentage of vaccination cards seen by the interviewers, Nyanza Province, Kenya, 2011

		Child has vaccination card						
		Has, Seen by the interviewer (1)	Has, not seen by the interviewer (2)	Child has no vaccination card	Missing/ DK	Total	Per cent of vaccination cards seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
County	Siaya	68.5	24.8	6.6	0.0	100.0	73.4	801
	Kisumu	59.7	32.7	7.6	0.0	100.0	64.6	765
	Homa Bay	58.1	27.8	14.2	0.0	100.0	67.6	911
	Migori	64.4	22.7	12.8	0.1	100.0	74.0	975
	Kisii	64.8	27.9	7.2	0.1	100.0	69.9	897
	Nyamira	70.0	20.7	9.3	0.0	100.0	77.2	696
Area	Rural	64.9	24.9	10.2	0.0	100.0	72.3	4519
	Urban	56.7	36.5	6.7	0.2	100.0	60.8	526
Child's age	0	82.3	10.3	7.3	0.1	100.0	88.8	987
	1	76.5	18.1	5.4	0.0	100.0	80.9	878
	2	63.3	28.4	8.3	0.0	100.0	69.0	1038
	3	51.6	35.8	12.6	0.0	100.0	59.0	1114
	4	50.1	35.2	14.6	0.1	100.0	58.7	1028
Total		**64.0**	**26.1**	**9.8**	**0.0**	**100.0**	**71.0**	**5045**

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, Nyanza Province, Kenya, 2011							
		Mother in the household	Mother not in the household				
		Mother interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed	Total	Number of children under 5
Age	0	98.9	0.1	1.0	0.0	100.0	992
	1	95.3	0.4	4.4	0.0	100.0	863
	2	90.5	0.5	8.9	0.1	100.0	1049
	3	87.8	0.3	11.8	0.2	100.0	1099
	4	87.4	0.6	11.5	0.4	100.0	1071
Total		**91.7**	**0.4**	**7.8**	**0.2**	**100.0**	**5073**

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, Nyanza Province, Kenya, 2011			
		Per cent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
County	Siaya	4.2	544
	Kisumu	3.7	544
	Homa Bay	3.8	657
	Migori	2.6	697
	Kisii	1.9	638
	Nyamira	3.5	574
Area	Rural	3.2	3315
	Urban	3.8	339
Number of households by number of children 2-14	2	1.1	1399
	3	4.1	1110
	4	4.4	702
	5+	5.9	443
Total		**3.2**	**3654**

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, Nyanza Province, Kenya, 2011

		Not attending school	Preschool/ kindergarten	Primary								Post primary						Secondary	Higher	Non-standard curriculum	DK	Total	Number of household members
				1	2	3	4	5	6	7	8	1	2	3	4	DK	Missing						
Age at beginning of school year	5	14.8	77.8	5.5	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	100.0	1133
	6	6.8	69.9	15.8	5.3	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	100.0	1012
	7	3.0	38.3	31.1	19.8	5.2	1.2	.4	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	100.0	982
	8	1.1	17.1	26.7	31.9	17.3	3.3	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.4	100.0	930
	9	1.6	6.9	11.1	33.2	26.3	15.9	4.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	100.0	850
	10	0.8	2.4	6.9	16.2	27.8	27.7	12.0	4.0	1.5	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.2	100.0	940
	11	0.3	0.9	2.9	11.5	21.4	28.6	20.7	10.9	2.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	100.0	856
	12	1.4	0.3	1.2	3.7	13.1	24.8	22.6	20.2	9.6	2.3	0.0	0.0	0.1	0.1	0.0	0.0	0.4	0.0	0.2	0.0	100.0	899
	13	1.1	0.0	0.4	1.3	3.2	12.1	23.6	25.3	21.4	9.6	0.0	0.0	0.0	0.1	0.0	0.0	1.6	0.0	0.0	0.3	100.0	831
	14	2.7	0.0	0.8	0.9	2.2	6.7	14.3	18.4	25.8	19.9	0.0	0.0	0.0	0.1	0.0	0.0	7.9	0.0	0.2	0.1	100.0	799
	15	7.3	0.0	1.8	0.2	0.7	2.2	6.6	17.7	26.8	18.5	0.0	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0	0.1	100.0	715
	16	12.8	0.0	0.4	0.3	0.5	1.8	4.4	7.4	20.1	15.4	0.0	0.0	0.1	0.0	0.0	0.0	36.1	0.3	0.2	0.2	100.0	646
	17	23.1	0.0	1.9	0.0	0.6	0.5	1.3	4.7	12.3	12.5	0.4	0.5	0.0	0.0	0.0	0.0	41.6	0.2	0.1	0.4	100.0	713
	18	37.7	0.0	0.4	0.2	0.2	0.8	0.8	2.2	5.3	7.6	0.2	0.2	0.0	0.0	0.0	0.0	42.7	1.5	0.0	0.1	100.0	711
	19	47.6	0.4	0.1	0.2	0.0	0.0	0.3	1.3	5.4	5.0	0.0	0.2	0.4	0.0	0.0	0.0	36.0	2.2	0.5	0.5	100.0	521
	20	64.8	0.2	0.4	0.0	0.2	0.1	0.0	0.7	1.5	2.3	0.0	0.4	0.1	0.5	0.0	0.0	24.0	4.2	0.0	0.3	100.0	534
	21	73.0	0.0	0.2	0.0	0.1	0.0	0.2	0.3	0.2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	6.3	0.2	0.3	100.0	463
	22	77.8	0.0	0.1	0.2	0.0	0.2	0.0	0.0	0.6	1.0	0.2	0.2	0.0	0.0	0.0	0.0	13.1	6.5	0.1	0.2	100.0	549
	23	83.7	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.3	1.1	0.0	0.2	0.4	0.2	0.0	0.2	6.2	6.2	0.1	0.8	100.0	440
	24	89.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	5.0	4.3	0.2	0.6	100.0	463

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, Nyanza Province, Kenya

		Children Ever Born			Children Living			Children Deceased			
		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	Number of women
Age	15-19	253	242	1.05	237	228	1.04	16	14	1.14	1215
	20-24	1021	1003	1.02	937	918	1.02	84	85	0.99	1175
	25-29	1769	1804	0.98	1555	1633	0.95	214	171	1.25	1166
	30-34	1600	1521	1.05	1380	1344	1.03	220	177	1.24	745
	35-39	1901	1847	1.03	1586	1579	1.00	315	268	1.18	689
	40-44	1470	1341	1.10	1193	1128	1.06	277	213	1.30	479
	45-49	1452	1417	1.02	1141	1162	0.98	311	255	1.22	439
Total		**9466**	**9175**	**1.04**	**8029**	**7992**	**1.01**	**1437**	**1183**	**1.19**	**5908**

Table DQ.17: Births by calender years

Number of births, percentage with complete birth date, sex ratio at birth and calender year, according to living, dead and total children (weighted, unimputed), Nyanza Province, Kenya

	Number of births			Percent with complete birth date**			Sex ratio at birth***			Calendar year ratio****		
	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
Year of birth												
2011	784	31	815	99.9	100.0	99.9	97.0	247.9	100.4	n/a	n/a	n/a
2010	857	68	925	99.4	100.0	99.4	99.3	101.0	99.5	98.6	128.1	100.3
2009	954	75	1029	99.6	97.3	99.5	105.0	147.4	107.6	105.6	110.5	106.0
2008	949	68	1018	99.5	95.6	99.2	96.8	120.1	98.2	99.1	70.7	96.5
2007	962	118	1080	98.6	98.2	98.5	119.0	163.6	123.1	100.8	140.4	104.0
2006	960	99	1059	98.7	99.3	98.8	88.5	123.7	91.3	106.9	90.4	105.1
2005	833	102	935	98.9	95.5	98.5	104.9	110.0	105.5	92.5	96.6	93.0
2004	841	112	953	98.3	95.9	98.0	91.6	111.8	93.8	107.7	100.4	106.8
2003	729	121	850	98.4	97.8	98.3	94.1	130.4	98.6	94.0	107.1	95.6
2002	710	114	825	98.1	95.9	97.8	105.4	110.0	106.0	103.8	98.3	103.0
2001	640	111	751	98.7	96.0	98.3	109.0	112.3	109.5	91.4	96.4	92.1
2000	690	116	806	96.8	94.5	96.5	94.2	119.9	97.5	114.6	103.4	112.8
1999	564	114	677	98.8	92.1	97.7	100.5	95.8	99.7	89.5	105.0	91.8
1998	570	101	671	98.0	94.0	97.4	111.6	115.6	112.2	101.8	89.5	99.8
1997	556	111	667	97.0	89.4	95.7	91.0	123.1	95.7	107.8	102.0	106.8
1996	461	117	578	97.5	97.3	97.5	107.7	98.6	105.8	97.8	113.4	100.6
1995	387	96	482	96.9	92.7	96.1	96.6	77.0	92.4	87.5	89.8	87.9
1994	423	96	519	96.3	89.9	95.1	102.9	120.2	105.9	111.9	109.7	111.5
1993	370	79	449	97.8	97.1	97.6	109.3	101.4	107.9	96.9	83.1	94.1
1992	341	95	436	97.9	93.7	97.0	106.8	99.4	105.1	17.4	58.8	20.6
2008-2012	3544	243	3787	99.6	97.9	99.5	99.6	132.9	101.4	n/a	n/a	n/a
2003-2007	4325	552	4877	98.6	97.3	98.4	99.4	127.2	102.2	n/a	n/a	n/a
1998-2002	3174	556	3729	98.1	94.5	97.5	103.8	110.3	104.7	n/a	n/a	n/a
1993-1997	2196	500	2696	97.1	93.2	96.4	100.6	103.1	101.1	n/a	n/a	n/a
<1993	2532	768	3300	96.7	91.8	95.6	101.4	128.3	107.0	n/a	n/a	n/a
DK / missing	9	36	45	60.1	0.0	4.7	125.5	218.5	201.0	n/a	n/a	n/a
Total	**15780**	**2654**	**18434**	**98.2**	**93.1**	**97.4**	**100.8**	**120.2**	**103.4**	**n/a**	**n/a**	**n/a**

n/a: Not Applicable
* Interviews were conducted from [Month] to [Month]
** Both month and year of birth given
*** (Bm/Bf) x 100, where Bm and Bf are the numbers of male and female births, respectively
**** (2 x Bt/(Bt-1 + Bt+1)) x 100, where Bt is the number of births in calendar year t

Table DQ.18: Reporting of age at death in days

Distribution of reported deaths under one month of age at death in days and percentage of neonatal deaths reported to occur at ages 0 - 6 days, by 5-year periods preceding the survey (weighted, unimputed), Nyanza Province, Kenya

		Number of years preceding the survey				
		0-4	5-9	10-14	15-19	Total 0-19
Age at death (days)	0	25	26	11	20	82
	1	30	44	39	25	138
	2	10	9	15	5	40
	3	11	6	7	7	31
	4	2	7	1	1	12
	5	1	4	1	1	7
	6	2	2	5	3	12
	7	9	19	5	9	42
	8	0	0	0	2	2
	9	0	0	2	0	2
	10	0	1	1	0	2
	11	0	0	0	1	1
	12	2	0	2	0	4
	13	1	0	1	0	2
	14	6	2	4	6	18
	20	0	1	0	0	1
	21	2	2	3	1	7
	Total 0 - 30 days	101	123	98	81	403
Percent early neonatal*		80.5	79.7	81.5	76.3	79.6

* <7 days / <31 days

Table DQ.19: Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, by 5-year periods preceding survey (weighted, unimputed), Nyanza Province, Kenya

		Number of years preceding the survey				
		0-4	5-9	10-14	15-19	Total 0-19
Age at death (months)	0	101	123	98	81	403
	1	9	21	19	18	67
	2	15	30	23	13	81
	3	17	40	28	31	115
	4	6	24	23	24	77
	5	4	21	29	19	74
	6	16	33	31	25	106
	7	6	20	14	17	57
	8	12	30	26	23	91
	9	6	12	21	21	60
	10	3	8	13	6	30
	11	7	8	10	4	29
	12	8	28	32	24	92
	13	1	3	10	4	19
	14	4	15	8	10	37
	15	0	5	3	3	10
	16	2	3	2	3	10
	17	1	2	5	3	11
	18	2	6	10	8	24
	19	0	1	2	1	4
	20	2	3	4	6	15
	21	0	1	1	0	2
	22	1	0	0	1	2
	23	1	1	0	1	3
	Total 0 - 11 months	202	369	336	283	1189
Percent neonatal*		50.2	33.3	29.1	28.6	33.9

* <1 month / <1 year

Appendix E: MICS4 Indicators - Numerators and Denominators

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
1. MORTALITY					
1.1	Under-five mortality rate	CM	Probability of dying by exact age 5 years		MDG 4.1
1.2	Infant mortality rate	CM	Probability of dying by exact age 1 year		MDG 4.2
2. NUTRITION					
2.1a 2.1b	Underweight prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for age of the WHO standard	Total number of children under age 5	MDG 1.8
2.2a 2.2b	Stunting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median height for age of the WHO standard	Total number of children under age 5	
2.3a 2.3b	Wasting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for height of the WHO standard	Total number of children under age 5	
2.5	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	

12 Some indicators are constructed by using questions in several modules. In such cases, only the module(s) which contains most of the necessary information is indicated.

13 MDG indicators as of February 2010

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

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
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[15] or more, according to breastfeeding status, during the previous day	Total number of children age 6-23 months	
2.16	Iodized salt consumption	SI	Number of households with salt testing 15 parts per million or more of iodide/iodate	Total number of households in which salt was tested or with no salt	
2.17	Vitamin A supplementation (children under age 5)	IM	Number of children age 6-59 months who received at least one high-dose vitamin A supplement in the 6 months preceding the survey	Total number of children age 6-59 months	
2.18	Low-birthweight 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[16]	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
3.6	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[17] prior to giving birth	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	

15 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

16 Age groups used in indicators 3.1 to 3.6 are applicable when basic immunization schedules are used (with measles administered at 9 months). For the calculation of indicators when different schedules are used, see MICS4 manual for detailed descriptions

17 See MICS4 manual for a detailed description

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
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	
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)[18]	TN	Number of households with at least one insecticide treated net (ITN)	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
3.18	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	

18 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

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
3.21	Place for handwashing	HW	Number of households with a designated place for hand washing where water and soap are present	Total number of households	
3.22	Availability of soap	HW	Number of households with soap anywhere in the dwelling	Total number of households	
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 facilities	WS	Number of household members using improved sanitation facilities	Total number of household members	MDG 7.9
4.4	Safe disposal of child's faeces	CA	Number of children age 0-2 years whose (last) stools were disposed of safely	Total number of children age 0-2 years	
5. REPRODUCTIVE HEALTH					
5.1	Adolescent birth rate	CM	Age-specific fertility rate for women age 15-19 years	MDG 5.4	
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
5.7	Skilled attendant at delivery	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who were attended during childbirth by skilled health personnel	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.2
5.8	Institutional deliveries	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who delivered in a health facility	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
6. CHILD DEVELOPMENT					
6.1	Support for learning	CE	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	CE	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	CE	Number of children under age 5 who have three or more children's books	Total number of children under age 5	
6.5	Inadequate care	CE	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	CE	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	CE	Number of children age 36-59 months who are attending an early childhood education programme	Total number of children age 36-59 months	
7. LITERACY AND EDUCATION					
7.1	Literacy rate among young women	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
7.3	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	
7.7	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)	
7.9	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

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
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	
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	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	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	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	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	
8.13	Prevalence of female genital mutilation/ cutting (FGM/C) among girls	FG	Number of girls age 0-14 years who have undergone any form of female genital mutilation/ cutting (FGM/C), as reported by mothers	Total number of girls age 0-14 years	

MICS4 INDICATOR		Module[12]	Numerator	Denominator	MDG[13]
8.14	Attitudes towards domestic violence	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	HA	Number of women age 15-49 years who correctly identify two ways of preventing HIV infection[19], know that a healthy looking person can have HIV, and reject the two most common misconceptions about HIV transmission	Total number of women age 15-49 years	
9.2	Comprehensive knowledge about HIV prevention among young people	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	HA	Number of women age 15-49 years who correctly identify all three means[20] of mother-to-child transmission of HIV	Total number of women age 15-49 years	
9.4	Accepting attitudes towards people living with HIV	HA	Number of women age 15-49 years expressing accepting attitudes on all four questions[21] 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	HA	Number of women age 15-49 years who state knowledge of a place to be tested for HIV	Total number of women age 15-49 years	
9.6	Women who have been tested for HIV and know the results	HA	Number of women age 15-49 years who have been tested for HIV in the 12 months preceding the survey and who know their results	Total number of women age 15-49 years	
9.8	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	

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

20 Transmission during pregnancy, during delivery, and by breastfeeding

21 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		Module[12]	Numerator	Denominator	MDG[13]
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	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	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	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	
9.13	Sex with multiple partners	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	
9.15	Sex with non-regular partners	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	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	

Appendix F: Questionnaires

a) Household Questionnaire
b) Individual Women's Questionnaire
c) Children under 5 years Questionnaire

HOUSEHOLD QUESTIONNAIRE

HOUSEHOLD INFORMATION PANEL	HH
HH-A. Province Name & Code: _____ ___ ___	HH-B. County Name & Code: _____ ___ ___
HH-C. District Name & Code: _____ ___ ___ ___	
HH1. Cluster number: ___ ___ ___ ___	HH2. Household number: ___ ___ ___
HH3. Interviewer name and number: Name _____ _____	HH4. Supervisor (name and number): Name _____ _____
HH5. Day/Month/Year of interview: ___ ___ / ___ ___ / ___ ___ ___ ___	
HH6. Area: Urban.....2 Rural.....1	
HH8. Name of head of household: _____	

After all questionnaires for the household have been completed, fill in the following information:

HH9. Result of household interview: Completed.....01 No household member or no competent respondent at home at time of visit.....02 Entire household absent for extended period of time .....03 Refused .....04 Dwelling vacant / Address not a dwelling .....05 Dwelling destroyed.....06 Dwelling not found .....07 Other (specify) 96	HH10. Respondent to household questionnaire: Name: _____ Line No: _____ HH11. Total number of household members:
HH12. No of women age 15-49 years: _____	HH13. No of women age 15-49 years forms completed: _____
HH14. No of children under age 5: _____	HH15. No of under-5 questionnaires completed: _____

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.*

HH16. Field edited by (Name and number): Name: _____	HH17. Data entry clerk(Name and number): Name: _____

INTRODUCTION

WE ARE FROM KENYA NATIONAL BUREAU OF STATISTICS (KNBS). WE ARE CONDUCTING A FAMILY HEALTH AND EDUCATION SURVEY. I WOULD LIKE TO TALK TO YOU ABOUT THIS. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE IDENTIFIED. MAY I START NOW?

IF PERMISSION IS GIVEN, BEGIN THE INTERVIEW.

HOUSEHOLD LISTING FORM — HL

HL0. Record the time

Hour __ __

Minutes __ __

FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES HERE, STARTING WITH THE HEAD OF THE HOUSEHOLD. *List the head of the household in line 01. List all household members (HL2), their relationship to the household head (HL3), and their sex (HL4)*
Then ask: ARE THERE ANY OTHERS WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW? (THESE MAY INCLUDE CHILDREN IN SCHOOL OR AT WORK). *If yes, complete listing.*
Then, ask questions starting with HL5 for each person at a time. Add a continuation sheet if there is not enough room on this page.

Tick here if continuation sheet used ☐

						ELIGIBILITY FOR WOMEN'S INTERVIEW	MOTHER OR CARETAKER OF CHILD 5-14	ELIGIBILITY FOR UNDER-5 INTERVIEW	Ask if age 18-59 years	*Ask if age 0-17 years*					
HL1. *Line no*	HL2. *Name*	HL3. WHAT IS THE RELATIONSHIP OF *(name)* TO THE HEAD OF THE HOUSEHOLD?	HL4. IS *(name)* MALE OR FEMALE? 1 Male 2 Fem		HL5. HOW OLD IS *(name)*? Probe: HOW OLD WAS *(name)* ON HIS/ HER LAST BIRTHDAY? *Record age in completed years*	HL6. *Circle Line no. if woman is age 15-49*	HL7. *For each child age 5-14:* WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? *Record line no. of mother/ caretaker*	HL8. *For each child under 5:* WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? *Record line no. of mother/ caretaker*	HL8A. HAS *(name)* BEEN VERY SICK FOR AT LEAST 3 MONTHS DURING THE PAST 12 MONTHS?	HL9. IS *(name's)* NATURAL MOTHER ALIVE? 1 Yes 2 No —►HL11 8 DK —►HL11	HL10. *If alive:* DOES (name) S NATURAL MOTHER LIVE IN THIS HOUSEHOLD? *Record line no. of mother or 00 for 'no'*	HL10A. *If mother does not live in household:* HAS *(name's)* MOTHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS?	HL11. IS *(name's)* NATURAL FATHER ALIVE? 1 Yes 2 No —► Next Line 8 DK —► Next Line	HL12. *If alive:* DOES *(name)* S NATURAL FATHER LIVE IN THIS HOUSEHOLD? *Record line no. of father or 00 for 'no'*	HL12A. *If father does not live in household:* HAS *(name's)* FATHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS?
Line	Name	Relation	M	F	Age	15-49	Mother	Mother	Y N DK	Y N DK	Mother	Y N DK	Y N DK	Father	Y N DK
01		01	1	2		01			128	128		128	128		128
02			1	2		02			128	128		128	128		128
03			1	2		03			128	128		128	128		128
04			1	2		04			128	128		128	128		128
05			1	2		05			128	128		128	128		128
06			1	2		06			128	128		128	128		128
07			1	2		07			128	128		128	128		128
08			1	2		08			128	128		128	128		128
09			1	2		09			128	128		128	128		128
10			1	2		10			128	128		128	128		128

						ELIGIBILITY FOR WOMEN'S INTERVIEW	MOTHER OR CARETAKER OF CHILD 5-14	ELIGIBILITY FOR UNDER-5 INTERVIEW	Ask if age 18-59 years	*Ask if age 0-17 years*					
HL1. *Line no*	HL2. *Name*	HL3. WHAT IS THE RELATIONSHIP OF *(name)* TO THE HEAD OF THE HOUSEHOLD?	HL4. IS *(name)* MALE OR FEMALE? 1 Male 2 Fem		HL5. HOW OLD IS *(name)*? Probe: HOW OLD WAS *(name)* ON HIS/ HER LAST BIRTHDAY? *Record age in completed years*	HL6. *Circle Line no. if woman is age 15-49*	HL7. *For each child age 5-14:* WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? *Record line no. of mother/ caretaker*	HL8. *For each child under 5:* WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? *Record line no. of mother/ caretaker*	HL8A. HAS *(name)* BEEN VERY SICK FOR AT LEAST 3 MONTHS DURING THE PAST 12 MONTHS?	HL9. IS *(name's)* NATURAL MOTHER ALIVE? 1 Yes 2 No —►HL11 8 DK —►HL11	HL10. *If alive:* DOES (name) S NATURAL MOTHER LIVE IN THIS HOUSEHOLD? *Record line no. of mother or 00 for 'no'*	HL10A. *If mother does not live in household:* HAS *(name's)* MOTHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS?	HL11. IS *(name's)* NATURAL FATHER ALIVE? 1 Yes 2 No —► Next Line 8 DK —► Next Line	HL12. *If alive:* DOES *(name)* S NATURAL FATHER LIVE IN THIS HOUSEHOLD? *Record line no. of father or 00 for 'no'*	HL12A. *If father does not live in household:* HAS *(name's)* FATHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS?
Line	Name	Relation	M	F	Age	15-49	Mother	Mother	Y N DK	Y N DK	Mother	Y N DK	Y N DK	Father	Y N DK
11			1	2		11			128	128		128	128		128
12			1	2		12			128	128		128	128		128
13			1	2		13			128	128		128	128		128
14			1	2		14			128	128		128	128		128
15			1	2		15			128	128		128	128		128

ARE THERE ANY OTHER PERSONS LIVING HERE – EVEN IF THEY ARE NOT MEMBERS OF YOUR FAMILY OR DO NOT HAVE PARENTS LIVING IN THIS HOUSEHOLD? INCLUDING CHILDREN AT WORK OR AT SCHOOL? *If yes, insert name and complete form.*

Probe for additional household members.
Probe especially for any infants or small children not listed, and others who may not be members of the family (such as servants, friends) but who usually live in the household. Insert names of additional members in the household list and complete form accordingly.

Now for each woman age 15-49 years, write her name and line number and other identifying information in the information panel of the Women's Questionnaire.
For each child under age 5, write his/her name and line number AND the line number of his/her mother or caretaker in the information panel of the Under 5 Questionnaire.
You should now have a separate questionnaire for each eligible woman and each child under five in the household.

** Codes for HL3: Relationship to head of household:*

01 = Head
02 = Wife or Husband
03 = Son or Daughter
04 = Son or Daughter In-Law
05 = Grandchild
06 = Parent
07 = Parent-In-Law
08 = Brother or Sister
09 = Brother or Sister-In-Law
10 = Uncle/Aunt
11 = Niece/Nephew
12 = Other Relative
14 = Adopted/Foster/Stepchild
15 = Not Related
98 = Don't Know

EDUCATION **ED**

For household members age 5 and above							For household members age 5-24 years									
ED1. *Line no.*	ED1A. *Name and age*		ED2. HAS (*name*) EVER ATTENDED SCHOOL, PRESCHOOL OR ANY NON-FORMAL EDUCATION? 1 Yes—►ED3 2 No—►Next Line		ED3. WHAT IS THE HIGHEST LEVEL OF SCHOOL (*name*) ATTENDED? WHAT IS THE HIGHEST GRADE (STANDARD/ FORM/CLASS) (*name*) COMPLETED AT THIS LEVEL? Level: 0 Preschool 1 Primary 2 Post-Primary/Vocational 3 Secondary, A level 4 Higher 6 Non-formal education 8 DK Grade/Standard/Form/Class: 98 DK *If less than 1 grade, enter 00 If Level=0 or 6, leave Grade blank*		ED4. DURING THE CURRENT (2011) SCHOOL YEAR, DID (*name*) ATTEND SCHOOL, PRESCHOOL OR NON-FORMAL EDUCATION AT ANY TIME? 1 Yes 2 No—►ED7		ED5. SINCE LAST (day of the week), HOW MANY DAYS DID (*name*) ATTEND SCHOOL? *Insert number of days. Exclude the day of interview.* 8 DK 9 School closed	ED6. DURING THIS SCHOOL YEAR, WHICH LEVEL AND GRADE (STANDARD/ FORM/CLASS) IS (*name*) ATTENDING? Level: 0 Preschool 1 Primary 2 Post-Primary/ Vocational 3 Secondary, A level 4 Higher 6 Non-formal education 8 DK Grade/Standard/Form/Class: 98 DK *If Level=0 or 6, leave Grade blank*		ED7. DID (*name*) ATTEND SCHOOL, PRESCHOOL OR NON-FORMAL EDUCATION AT ANY TIME DURING THE PREVIOUS SCHOOL YEAR, THAT IS 2010? 1 Yes 2 No—►Next Line 8 DK—►Next Line			ED8. DURING THE PREVIOUS SCHOOL YEAR, WHICH LEVEL AND GRADE (STANDARD/FORM/ CLASS) DID (*name*) ATTEND? Level: 0 Preschool 1 Primary 2 Post-Primary/ Vocational 3 Secondary, A level 4 Higher 6 Non-formal education 8 DK Grade/Standard/Form/Class: 98 DK *If Level=0 or 6, leave Grade blank*	
Line	Name	Age	Yes	No	Level	Grade	Yes	No	Days	Level	Grade	Y	N	DK	Level	Grade
01			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
02			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
03			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
04			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
05			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
06			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
07			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
08			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
09			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
10			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
11			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
12			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
13			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
14			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	
15			1	2—►Next Line	0 1 2 3 4 6 8		1	2		0 1 2 3 4 6 8		1	2	8	0 1 2 3 4 6 8	

WATER AND SANITATION		WS
WS1. WHAT IS THE MAIN SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?	Piped water Piped into dwelling ..... 11 Piped into compound, yard or plot ..... 12 Piped to neighbor ..... 13 Piped to water kiosk ..... 14 Public tap/standpipe ..... 15 Tubewell/Borehole ..... 21 Dug well Protected well ..... 31 Unprotected well ..... 32 Water from spring Protected spring ..... 41 Unprotected spring ..... 42 Rainwater collection ..... 51 Tanker-truck ..... 61 Cart with small tank/drum ..... 71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) ..... 81 Bottled water ..... 91 Other (*specify*) 96	 11 —▸WS5 12 —▸WS5 —▸WS3 96 —▸WS3
WS2. WHAT IS THE MAIN SOURCE OF WATER USED BY YOUR HOUSEHOLD FOR OTHER PURPOSES SUCH AS COOKING AND HANDWASHING?	Piped water Piped into dwelling ..... 11 Piped into yard or plot ..... 12 Piped to neighbor ..... 13 Piped to water kiosk ..... 14 Public tap/standpipe ..... 15 Tubewell/Borehole ..... 21 Dug well Protected well ..... 31 Unprotected well ..... 32 Water from spring Protected spring ..... 41 Unprotected spring ..... 42 Rainwater collection ..... 51 Tanker-truck ..... 61 Cart with small tank/drum ..... 71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) ..... 81 Other (*specify*) 96	 11 —▸WS5 12 —▸WS5
WS3. HOW LONG DOES IT TAKE TO GO THERE, GET WATER, AND COME BACK?	No. of minutes ..... __ __ __ Water on premises ..... 995 DK 998	 995 —▸WS5

WS4. WHO USUALLY GOES TO THIS SOURCE TO COLLECT THE WATER FOR YOUR HOUSEHOLD? *Probe:* IS THIS PERSON UNDER AGE 15? WHAT SEX?	Adult woman (15+ years) ..... 1 Adult man (15+ years) ..... 2 Female child (under 15) ..... 3 Male child (under 15) ..... 4 DK 8	
WS5. DO YOU TREAT YOUR WATER IN ANY WAY TO MAKE IT SAFER TO DRINK?	Yes ..... 1 No ..... 2 DK 8	2—▸WS7 8—▸WS7
WS6. WHAT DO YOU USUALLY DO TO THE WATER TO MAKE IT SAFER TO DRINK? *Probe:* ANYTHING ELSE? *Record all items mentioned.*	Boil ..... A Add bleach/chlorine ..... B Strain it through a cloth ..... C Use water filter (ceramic, sand, composite, etc.) ..... D Solar disinfection ..... E Let it stand and settle ..... F Other (*a*) ..... X DK ..... Z	
WS7. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? *If "flush" or "pour flush", probe:* WHERE DOES IT FLUSH TO? *If necessary, ask permission to observe the facility.*	Flush/pour flush Flush to piped sewer system ..... 11 Flush to septic tank ..... 12 Flush to pit (latrine) ..... 13 Flush to somewhere else ..... 14 Flush to unknown place/not sure/DK where ..... 15 Ventilated Improved Pit latrine (VIP) ..... 21 Pit latrine with slab ..... 22 Pit latrine without slab/open pit ..... 23 Composting toilet ..... 31 Bucket ..... 41 Hanging toilet/hanging latrine ..... 51 No facilities or bush or field or ocean ..... 95 Other (*specify*) 96	95—▸NEXT MODULE
WS8. DO YOU SHARE THIS FACILITY WITH OTHER HOUSEHOLDS?	Yes ..... 1 No 2	2—▸NEXT MODULE
WS8A. DO YOU SHARE THIS FACILITY ONLY WITH OTHER HOUSEHOLDS THAT YOU KNOW, OR IS THE FACILITY OPEN TO THE USE OF THE GENERAL PUBLIC?	Other households only (not public) ..... 1 Public facility 2	2—▸NEXT MODULE
WS9. HOW MANY HOUSEHOLDS IN TOTAL USE THIS TOILET FACILITY?	No. of households (if less than 10) ..... 0 __ Ten or more households ..... 10 DK 98	

HOUSEHOLD CHARACTERISTICS		HC
HC1A. WHAT IS THE RELIGION OF THE HEAD OF THIS HOUSEHOLD?	Roman Catholic ..... 1 Protestant and Other Christian ..... 2 Muslim ..... 3 No Religion ..... 4 Others (*specify*)_____ 6	
HC2. HOW MANY ROOMS IN THIS HOUSEHOLD ARE USED FOR SLEEPING?	No. of rooms ..... __ __	
HC3. MAIN MATERIAL OF THE DWELLING FLOOR: *Record observation.*	Natural floor Earth/sand ..... 11 Dung ..... 12 Rudimentary floor Wood planks ..... 21 Palm/bamboo ..... 22 Finished floor Parquet or polished wood ..... 31 Vinyl or asphalt strips ..... 32 Ceramic tiles ..... 33 Cement ..... 34 Carpet ..... 35 Other (*specify*) 96	
HC4. MAIN MATERIAL OF THE ROOF. *Record observation.*	Natural roofing No Roof ..... 11 Grass/Thatch/Makuti ..... 12 Dung/Mud ..... 13 Rudimentary Roofing Corrugated iron (Mabati) ..... 21 Tin cans ..... 22 Finished roofing Asbestos sheet ..... 31 Concrete ..... 32 Tiles ..... 33 Other (*specify*) 96	
HC5. MAIN MATERIAL OF THE WALLS. *Record observation.*	Natural walls No walls ..... 11 Cane/palm/trunks ..... 12 Dirt ..... 13 Rudimentary walls Bamboo with mud ..... 21 Stone with mud ..... 22 Uncovered adobe ..... 23 Plywood ..... 24 Cardboard ..... 25 Reused wood ..... 26 Finished walls Cement ..... 31 Stone with lime/cement ..... 32 Bricks ..... 33 Cement blocks ..... 34 Covered adobe ..... 35 Wood planks/shingles ..... 36 Other (*specify*) 96	2—►WS7 8—►WS7

HC6. WHAT TYPE OF FUEL DOES YOUR HOUSEHOLD MAINLY USE FOR COOKING?	Electricity ..... 01 Liquefied Petroleum Gas (LPG) ..... 02 Natural gas ..... 03 Biogas ..... 04 Kerosene ..... 05 Coal / Lignite ..... 06 Charcoal ..... 07 Wood ..... 08 Straw/shrubs/grass ..... 09 Animal dung ..... 10 Agricultural crop residue ..... 11 Other (*specify*) ..... 96 No food cooked in household 97	01—►HC9 02—►HC9 03—►HC9 04—►HC9 05—►HC9 97—►HC9
HC8. IS THE COOKING USUALLY DONE IN THE INDOOR LIVING SPACE, IN A SEPARATE KITCHEN/BUILDING, OR OUTDOORS?	In a room used for living/sleeping ..... 1 In a separate room used as kitchen ..... 2 In a separate building used as kitchen ..... 3 Outdoors ..... 4 Other (*specify*) 6	

HC9. DOES YOUR HOUSEHOLD HAVE:		Yes	No
A. ELECTRICITY?	Electricity	1	2
B. RADIO?	Radio	1	2
C. COLOR TELEVISION?	Color Television	1	2
D. B&W TELEVISION?	B&W Television	1	2
E. MOBILE TELEPHONE?	Mobile Telephone	1	2
F. NON-MOBILE TELEPHONE?	Non-Mobile Telephone	1	2
G. REFRIGERATOR?	Refrigerator	1	2
H. BLENDER OR MIXER?	Blender or Mixer	1	2
I. WATER HEATER?	Water Heater	1	2
J. WASHING MACHINE?	Washing Machine	1	2
K. COMPUTER?	Computer	1	2
L. INTERNET CONNECTION?	Internet connection	1	2
M. VCR, VCD OR DVD?	VCR, VCD or DVD	1	2
N. AIR CONDITIONER?	Air Conditioner	1	2
O. SEWING MACHINE?	Sewing Machine	1	2

HC10. DOES ANY MEMBER OF YOUR HOUSEHOLD OWN:		Yes	No
A. A WATCH?	Watch	1	2
B. A BICYCLE?	Bicycle	1	2
C. A MOTORCYCLE OR SCOOTER?	Motorcycle/Scooter	1	2
D. AN ANIMAL-DRAWN CART?	Animal drawn-cart	1	2
E. A CAR OR TRUCK?	Car/Truck	1	2
F. A BOAT WITH A MOTOR?	Boat with motor	1	2

HC10A. DO YOU OR SOMEONE LIVING IN THIS HOUSEHOLD OWN THIS DWELLING, OR DO YOU RENT THIS DWELLING?	Own ..... 1 Rent ..... 2 Rent free/squatter/other 3	
HC11. DOES ANY MEMBER OF THIS HOUSEHOLD OWN ANY LAND THAT CAN BE USED FOR AGRICULTURE?	Yes ..... 1 No 2	 2—►HC13

HC12. HOW MANY ACRES OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN? *If less than 1, record "00". If more than 97, record '97'. If unknown, record '98'.*	Acres ..... ___ ___	
HC13. DOES THIS HOUSEHOLD OWN ANY LIVESTOCK, HERDS, OR FARM ANIMALS?	Yes ..... 1 No 2	2—►NEXT MODULE
HC14. HOW MANY OF THE FOLLOWING ANIMALS DOES THIS HOUSEHOLD HAVE? A. LOCAL CATTLE (INDIGENOUS)? B. MILK COWS OR BULLS? C. HORSES, DONKEYS, OR MULES? D. GOATS? E. SHEEP? F. CHICKENS? *If none, record '00'.* *If more than 97, record '97'.* *If unknown, record '98'.*	Cattle ..... ___ ___ Milk cows or bulls..... ___ ___ Horses, donkeys, or mules..... ___ ___ Goats ..... ___ ___ Sheep ..... ___ ___ Chickens..... ___ ___	

INDOOR RESIDUAL SPRAYING		IR
IR1. AT ANY TIME IN THE PAST 12 MONTHS, HAS ANYONE SPRAYED THE INTERIOR WALLS OF YOUR DWELLING AGAINST MOSQUITOES?	Yes ..... 1 No 2	2—►NEXT MODULE
IR2. HOW MANY MONTHS AGO WAS THE HOUSE SPRAYED? *If less than one month, record "00".*	Months ago ..... __ __	
IR3. WHO SPRAYED THE HOUSE?	Government worker/program ..... 1 Private company ..... 2 Household member ..... 3 Other (*specify*) ..... 6 DK 8	

ITN			TN
TN1. DOES YOUR HOUSEHOLD HAVE ANY MOSQUITO NETS THAT CAN BE USED WHILE SLEEPING?	Yes ... 1 No ... 2		2 → NEXT MODULE
TN2. HOW MANY MOSQUITO NETS DOES YOUR HOUSEHOLD HAVE?	Months ago ... __ __		

TN2A. *Ask the respondent to show you the nets in the household. If unable to observe the net(s), ask the respondent to determine the brand/type of net.*

If more than 3 nets, use additional questionnaire(s). *Tick here if additional questionnaire is used* [ ]

	1ST NET	2ND NET	3RD NET
TN3. *Mosquito net observed?*	Observed ... 1 Not observed ... 2	Observed ... 1 Not observed ... 2	Observed ... 1 Not observed ... 2
TN4. HOW MANY MONTHS AGO DID YOUR HOUSEHOLD OBTAIN THE MOSQUITO NET? *If less than one month, record "00"*	Months ago ... __ __ 37+ months ago ... 95 Not sure ... 98	Months ago ... __ __ 37+ months ago ... 95 Not sure ... 98	Months ago ... __ __ 37+ months ago ... 95 Not sure ... 98
TN5. *Observe or ask the brand/ type of mosquito net*	Long-lasting treated nets Perma Net ... 11 Olyset ... 12 Supernet ... 13 Other (*specify*) ... 16 DK brand ... 18 Pre-treated nets Supanet ... 21 Other (*specify*) ... 26 DK brand ... 28 Other net (*specify*) ______ 31 DK brand/type ... 98	Long-lasting treated nets Perma Net ... 11 Olyset ... 12 Supernet ... 13 Other (*specify*) ... 16 DK brand ... 18 Pre-treated nets Supanet ... 21 Other (specify) ... 26 DK brand ... 28 Other net (*specify*) ______ 31 DK brand/type ... 98	Long-lasting treated nets Perma Net ... 11 Olyset ... 12 Supernet ... 13 Other (*specify*) ... 16 DK brand ... 18 Pre-treated nets Supanet ... 21 Other (*specify*) ... 26 DK brand ... 28 Other net (*specify*) ______ 31 DK brand/type ... 98
TN5A. WHERE DID YOU GET THE MOSQUITO NET? ______________ (Name of place)	Public sector Govt. hospital ... 11 Govt. health centre ... 12 Govt. health post/ Dispensary. ... 13 Village hlth worker ... 14 Mobile/outreach clinic ... 15 Other public (*specify*)______ 16 Private medical sector Private hospital/clinic21 Private physician ... 22 Private pharmacy ... 23 Mobile clinic ... 24 Other private medical (*specify*)______ 26 Other source Relative or friend ... 31 Shop ... 32 Trad. practitioner ... 33 Other (*specify*)______ 96 DK ... 98	Public sector Govt. hospital ... 11 Govt. health centre ... 12 Govt. health post/ Dispensary. ... 13 Village hlth worker ... 14 Mobile/outreach clinic ... 15 Other public (*specify*)______ 16 Private medical sector Private hospital/clinic21 Private physician ... 22 Private pharmacy ... 23 Mobile clinic ... 24 Other private medical (*specify*)______ 26 Other source Relative or friend ... 31 Shop ... 32 Trad. practitioner ... 33 Other (*specify*)______ 96 DK ... 98	Public sector Govt. hospital ... 11 Govt. health centre ... 12 Govt. health post/ Dispensary. ... 13 Village hlth worker ... 14 Mobile/outreach clinic ... 15 Other public (*specify*)______ 16 Private medical sector Private hospital/clinic21 Private physician ... 22 Private pharmacy ... 23 Mobile clinic ... 24 Other private medical (*specify*)______ 26 Other source Relative or friend ... 31 Shop ... 32 Trad. practitioner ... 33 Other (*specify*)______ 96 DK ... 98

TN5B. HOW MUCH DID YOU PAY FOR THE MOSQUITO NET?	Shillings .....__ __ __ __ Free .....9995 DK.....9998	Shillings .....__ __ __ __ Free .....9995 DK.....9998	Shillings .....__ __ __ __ Free .....9995 DK.....9998
TN6. *Check TN5 for type of net*	[ ] Long-lasting—►TN10 [ ] Pretreated—►TN8 [ ] Else—►Continue	[ ] Long-lasting—►TN10 [ ] Pretreated—►TN8 [ ] Else—►Continue	[ ] Long-lasting—►TN10 [ ] Pretreated—►TN8 [ ] Else—►Continue
TN7. WHEN YOU GOT THE NET, WAS IT TREATED WITH AN INSECTICIDE TO KILL OR REPEL MOSQUITOS?	Yes.....1 No.....2 DK/Not sure.....8	Yes.....1 No.....2 DK/Not sure.....8	Yes.....1 No.....2 DK/Not sure.....8
TN8. SINCE YOU GOT THE MOSQUITO NET, WAS IT EVER SOAKED OR DIPPED IN A LIQUID TO KILL OR REPEL MOSQUITOS?	Yes.....1 No.....2 —►TN10 DK/Not sure.....8 —►TN10	Yes.....1 No.....2 —►TN10 DK/Not sure.....8 —►TN10	Yes.....1 No.....2 —►TN10 DK/Not sure.....8 —►TN10
TN9. HOW MANY MONTHS AGO WAS THE NET LAST SOAKED OR DIPPED? *If less than one month, record "00"*	Months ago ..... ___ ___ More than 24 mo. ago .95 Not sure.....98	Months ago ..... ___ ___ More than 24 mo. ago .95 Not sure.....98	Months ago ..... ___ ___ More than 24 mo. ago .95 Not sure.....98
TN10. DID ANYONE SLEEP UNDER THIS MOSQUITO NET LAST NIGHT?	Yes.....1 No.....2 —►TN12 DK/Not sure.....8 —►TN12	Yes.....1 No.....2 —►TN12 DK/Not sure.....8 —►TN12	Yes.....1 No.....2 —►TN12 DK/Not sure.....8 —►TN12
TN11. WHO SLEPT UNDER THIS MOSQUITO NET LAST NIGHT? *Record the person's line number from the household listing form* *If someone not in the household list slept under the mosquito net, record "00"*	Name..... Line no..... ___ ___ Name..... Line no..... ___ ___ Name..... Line no..... ___ ___ Name..... Line no..... ___ ___	Name..... Line no..... ___ ___ Name..... Line no..... ___ ___ Name..... Line no..... ___ ___ Name..... Line no..... ___ ___	Name..... Line no..... ___ ___ Name..... Line no..... ___ ___ Name..... Line no..... ___ ___ Name..... Line no..... ___ ___
TN12.	*Go back to TN3 for next net. If no more nets, go to next module*	*Go back to TN3 for next net. If no more nets, go to next module*	*Go back to TN3 for next net. If no more nets, go to next module*

ORPHANED & VULNERABLE CHILDREN		**OV**
OV1. Check HL5: any children 0-17? [ ] *Yes —► Continue to OV2* [ ] *No —► Child Labour Module*		
OV2. I WOULD LIKE YOU TO THINK BACK OVER THE PAST 12 MONTHS. HAS ANY USUAL MEMBER OF YOUR HOUSEHOLD DIED IN THE LAST 12 MONTHS?	Yes ..... 1 No 2	2—►OV5
OV3. (OF THOSE WHO DIED IN THE PAST 12 MONTHS) WERE ANY OF THESE PEOPLE BETWEEN THE AGES OF 18 AND 59?	Yes ..... 1 No 2	2—►OV5
OV4. (OF THOSE WHO DIED IN THE PAST 12 MONTHS AND WERE BETWEEN THE AGES OF 18 AND 59) WERE ANY OF THESE PEOPLE VERY SICK FOR 3 OF THE 12 MONTHS BEFORE HE/SHE DIED?	Yes ..... 1 No 2	1—►OV8
OV5. Return to the Household Listing and check the following: *OV5A. Check HL9 and HL11.* [ ] *At least one mother or father dead. —► Go to OV8* [ ] *No mother or father dead*		
OV5B. Check HL8A. [ ] *At least one adult aged 18-59 very sick 3 of last 12 months —► Go to OV8* [ ] *No adult aged 18-59 very sick 3 of last 12 months*		
OV5C. Check HL10A and HL12A. [ ] *At least one mother or father very sick 3 of last 12 months —► Go to OV8* [ ] *No mother or father very sick 3 of last 12 months —► Go to Child Labour Module*		

OV8. *List all children aged 0-17 below. Record names, line numbers and ages of all children, beginning with the first child and continue in order in which listed in the household listing module. Use an additional questionnaire if there are more than 4 children age 0-17 in the household. Ask all questions for one child before moving to the next child.*

Tick here if additional questionnaire is used [ ]

	1ST CHILD	2ND CHILD	3RD CHILD	4TH CHILD
Name (from HL2)	_____	_____	_____	_____
Line number (from HL1)	_____	_____	_____	_____
Age (from HL5)	_____	_____	_____	_____

I WOULD LIKE TO ASK YOU ABOUT ANY FORMAL, ORGANIZED HELP OR SUPPORT THAT YOUR HOUSEHOLD MAY HAVE RECEIVED FOR (name) AND FOR WHICH YOU DID NOT HAVE TO PAY. BY FORMAL ORGANIZED SUPPORT I MEAN HELP PROVIDED BY SOMEONE WORKING FOR A PROGRAM. THIS PROGRAM COULD BE GOVERNMENT, PRIVATE, RELIGIOUS, CHARITY, OR COMMUNITY-BASED. REMEMBER THIS SHOULD BE SUPPORT FOR WHICH YOU DID NOT PAY.

OV10. NOW I WOULD LIKE TO ASK YOU ABOUT THE SUPPORT YOUR HOUSEHOLD RECEIVED FOR (*name*). IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY MEDICAL SUPPORT FOR (*name*), SUCH AS MEDICAL CARE, SUPPLIES OR MEDICINE?	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8
OV11. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY EMOTIONAL OR PSYCHOLOGICAL SUPPORT FOR (*name*), SUCH AS COMPANIONSHIP, COUNSELING FROM A TRAINED COUSELOR, OR SPIRITUAL SUPPORT, WHICH YOU RECEIVED AT HOME?	Yes..... 1 No..... 2 —►OV13 DK..... 8	Yes..... 1 No..... 2 —►OV13 DK..... 8	Yes..... 1 No..... 2 —►OV13 DK..... 8	Yes..... 1 No..... 2 —►OV13 DK..... 8
OV12. DID YOUR HOUSEHOLD RECEIVE ANY OF THIS SUPPORT IN THE PAST 3 MONTHS?	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8
OV13. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY MATERIAL SUPPORT FOR (*name*), SUCH AS CLOTHING, FOOD OR FINANCIAL SUPPORT?	Yes..... 1 No..... 2 —►OV15 DK..... 8	Yes..... 1 No..... 2 —►OV15 DK..... 8	Yes..... 1 No..... 2 —►OV15 DK..... 8	Yes..... 1 No..... 2 —►OV15 DK..... 8
OV14. DID YOUR HOUSEHOLD RECEIVE ANY OF THIS SUPPORT IN THE PAST 3 MONTHS?	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8
OV15. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY SOCIAL SUPPORT FOR (*name*), SUCH AS HELP IN HOUSEHOLD WORK, TRAINING FOR A CAREGIVER, OR LEGAL SERVICES?	Yes..... 1 No..... 2 —►OV17 DK..... 8	Yes..... 1 No..... 2 —►OV17 DK..... 8	Yes..... 1 No..... 2 —►OV17 DK..... 8	Yes..... 1 No..... 2 —►OV17 DK..... 8
OV16. DID YOUR HOUSEHOLD RECEIVE ANY OF THIS SUPPORT IN THE PAST 3 MONTHS?	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8
OV17. *Check OV8 for age of child:*	[ ] *Age 0-4* —►*Next child* [ ] *Age 5-17* —► *OV18*	[ ] *Age 0-4* —►*Next child* [ ] *Age 5-17* —► *OV18*	[ ] *Age 0-4* —►*Next child* [ ] *Age 5-17* —► *OV18*	[ ] *Age 0-4* —►*Next child* [ ] *Age 5-17* —► *OV18*
OV18. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY SUPPORT FOR (*name's*) SCHOOLING, SUCH AS ALLOWANCE, FREE ADMISSION, BOOKS OR SUPPLIES?	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8	Yes..... 1 No..... 2 DK..... 8

CHILD LABOUR **CL**

To be administered for children in the household age 5 through 14 years. For household members below age 5 or above age 14, leave rows blank.
NOW I WOULD LIKE TO ASK ABOUT ANY WORK CHILDREN IN THIS HOUSEHOLD MAY DO.

CL1. Line no.	CL2. Name and age		CL3. DURING THE PAST WEEK, DID (name) DO ANY KIND OF WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HOUSEHOLD? *If yes:* PROBE FOR (PAY IN CASH OR KIND) OR UNPAID? 1 Yes, for pay (cash or kind) 2 Yes, unpaid 3 No —► CL5			CL4. *If yes:* SINCE LAST (*day of the week*), ABOUT HOW MANY HOURS DID HE/SHE DO THIS WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HOUSEHOLD? *If more than one job, include all hours at all jobs*	CL5. DURING THE PAST WEEK, DID (*name*) FETCH WATER OR COLLECT FIREWOOD FOR HOUSEHOLD USE? 1 Yes 2 No —► To CL7		CL6. *If yes:* SINCE LAST (*day of the week*), ABOUT HOW MANY HOURS DID HE/ SHE FETCH WATER OR COLLECT FIREWOOD FOR HOUSEHOLD USE?	CL7. DURING THE PAST WEEK, DID (*name*) DO ANY PAID OR UNPAID WORK ON A FAMILY FARM OR IN A FAMILY BUSINESS OR SELLING GOODS? Include work for a business run by the child, alone or with one or more partners. 1 Yes 2 No —► CL9		CL8. *If yes:* SINCE LAST (*day of the week*), ABOUT HOW MANY HOURS DID HE/SHE DO THIS WORK FOR HIS/HER FAMILY OR HIMSELF/ HERSELF?	CL9. DURING THE PAST WEEK, DID (*name*) HELP WITH HOUSEHOLD CHORES SUCH AS SHOPPING, CLEANING, WASHING CLOTHES, COOKING; OR CARING FOR CHILDREN, OLD OR SICK PEOPLE? 1 Yes 2 No —► Next Line		CL10. *If yes:* SINCE LAST (*day of the week*), ABOUT HOW MANY HOURS DID HE/ SHE SPEND DOING THESE CHORES?
			YES		NO												
LINE	NAME	AGE	PAID	UNPAID		NO. HOURS	YES	NO	NO. HOURS	YES	NO	NO. HOURS	YES	NO	NO. HOURS		
01			1	2	3		1	2		1	2		1	2			
02			1	2	3		1	2		1	2		1	2			
03			1	2	3		1	2		1	2		1	2			
04			1	2	3		1	2		1	2		1	2			
05			1	2	3		1	2		1	2		1	2			
06			1	2	3		1	2		1	2		1	2			
07			1	2	3		1	2		1	2		1	2			
08			1	2	3		1	2		1	2		1	2			
09			1	2	3		1	2		1	2		1	2			
10			1	2	3		1	2		1	2		1	2			
11			1	2	3		1	2		1	2		1	2			
12			1	2	3		1	2		1	2		1	2			

CHILD DISCIPLINE

Table 1: children Aged 2-14 YEARS ELIGIBLE for child Discipline questions

Review the household listing and list each of the children aged 2-14 years below in order according to their line number (HL1). Do not include other household members outside of the age range 2-14 years. Record the line number, name, sex, and age for each child. Then record the total number of children aged 2-14 in the box provided (CD7).

CD1. Rank no.	CD2. Line no. from HL1	CD3. Name from HL2.	CD4. Sex from HL4.		CD5. Age from HL5.
RANK	LINE	NAME	M	F	AGE
1			1	2	
2			1	2	
3			1	2	
4			1	2	
5			1	2	
6			1	2	
7			1	2	
8			1	2	

CD7.	TOTAL CHILDREN AGED 2-14 YEARS	___

If there is only one child age 2-14 years in the household, then skip table 2 and go to CD9; write down the rank number of the child and continue with CD11

Table 2: selection of random child for child Discipline questions

Use this table to select one child between the ages of 2 and 14 years, if there is more than one child in that age range in the household. Look for the last digit of the household number from the cover page. This is the number of the row you should go to in the table below. Check the total number of eligible children (2-14) in CD7 above. This is the number of the column you should go to. Find the box where the row and the column meet and circle the number that appears in the box. This is the rank number of the child about whom the questions will be asked. Record the rank number in CD9 below. Finally, record the line number and name of the selected child in CD11 on the next page.

CD8.	TOTAL NUMBER OF ELIGIBLE CHILDREN IN THE HOUSEHOLD							
Last digit of the household number	1	2	3	4	5	6	7	8+
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5

CD9. Record the rank number of the selected child	Rank number of child _____

CHILD DISCIPLINE		CD
Identify eligible child aged 2 to 14 in the household using the tables on the preceding page, according to your instructions.		
CD11. *Write name and line no. of the child selected for the module from CD3 and CD2, based on the rank number in CD9.*	Name_____ Line_____	
CD12. ALL ADULTS USE CERTAIN WAYS TO TEACH CHILDREN THE RIGHT BEHAVIOUR OR TO ADDRESS A BEHAVIOUR PROBLEM. I WILL READ VARIOUS METHODS THAT ARE USED AND I WANT YOU TO TELL ME IF YOU OR ANYONE ELSE IN YOUR HOUSEHOLD HAS USED THIS METHOD WITH (*name*) IN THE PAST MONTH.		
CD12A. TOOK AWAY PRIVILEGES, FORBADE SOMETHING (name) LIKED OR DID NOT ALLOW HIM/HER TO LEAVE HOUSE).	Yes ..... 1 No 2	
CD12B. EXPLAINED WHY SOMETHING (THE BEHAVIOR) WAS WRONG.	Yes ..... 1 No 2	
CD12C. SHOOK HIM/HER.	Yes ..... 1 No 2	
CD12D. SHOUTED, YELLED AT OR SCREAMED AT HIM/HER.	Yes ..... 1 No 2	
CD12E. GAVE HIM/HER SOMETHING ELSE TO DO.	Yes ..... 1 No 2	
CD12F. SPANKED, HIT OR SLAPPED HIM/HER ON THE BOTTOM WITH BARE HAND.	Yes ..... 1 No 2	
CD12G. HIT HIM/HER ON THE BOTTOM OR ELSEWHERE ON THE BODY WITH SOMETHING LIKE A BELT, HAIRBRUSH, STICK OR OTHER HARD OBJECT.	Yes ..... 1 No 2	
CD12H. CALLED HIM/HER DUMB, LAZY, OR ANOTHER NAME LIKE THAT.	Yes ..... 1 No 2	
CD12I. HIT OR SLAPPED HIM/HER ON THE FACE, HEAD OR EARS.	Yes ..... 1 No 2	
CD12J. HIT OR SLAPPED HIM/HER ON THE HAND, ARM, OR LEG.	Yes ..... 1 No 2	

CD12K. BEAT HIM/HER UP WITH AN IMPLEMENT (HIT OVER AND OVER AS HARD AS ONE COULD).	Yes ..... 1 No 2	
CD13. DO YOU BELIEVE THAT IN ORDER TO BRING UP (RAISE, EDUCATE) (name) PROPERLY, YOU NEED TO PHYSICALLY PUNISH HIM/HER?	Yes ..... 1 No ..... 2 Don't know/no opinion 8	

DISABILITY **DA**

To be administered for all children 2 through 9 years old living in the household. For household members below age 2 or above age 9, leave rows blank

I WOULD LIKE TO ASK YOU IF ANY CHILDREN IN THIS HOUSEHOLD AGED 2 THROUGH 9 HAS ANY OF THE HEALTH CONDITIONS I AM GOING TO MENTION TO YOU.

DA1. *Line no.*	DA2. *Child's name and age*		DA3. COMPARED WITH OTHER CHILDREN, DOES OR DID (*name*) HAVE ANY SERIOUS DELAY IN SITTING, STANDING, OR WALKING?		DA4. COMPARED WITH OTHER CHILDREN, DOES (*name*) HAVE DIFFICULTY SEEING, EITHER IN THE DAYTIME OR AT NIGHT?		DA5. DOES (*name*) APPEAR TO HAVE DIFFICULTY HEARING? (USES HEARING AID, HEARS WITH DIFFICULTY, COMPLETELY DEAF?)		DA6. WHEN YOU TELL (*name*) TO DO SOMETHING, DOES HE/SHE SEEM TO UNDERSTAND WHAT YOU ARE SAYING?		DA7. DOES (*name*) HAVE DIFFICULTY IN WALKING OR MOVING HIS/HER ARMS OR DOES HE/SHE HAVE WEAKNESS AND/OR STIFFNESS IN THE ARMS OR LEGS?		DA8. DOES (*name*) SOMETIMES HAVE FITS, BECOME RIGID, OR LOSE CONSCIOUSNESS?		DA9. DOES (*name*) LEARN TO DO THINGS LIKE OTHER CHILDREN HIS/HER AGE?		DA10. DOES (*name*) SPEAK AT ALL (CAN HE/SHE MAKE HIM OR HERSELF UNDERSTOOD IN WORDS; CAN SAY ANY RECOGNIZABLE WORDS)?		DA11. (*For 3-9 year olds*): IS (*name*)'S SPEECH IN ANY WAY DIFFERENT FROM NORMAL (NOT CLEAR ENOUGH TO BE UNDERSTOOD BY PEOPLE OTHER THAN THE IMMEDIATE FAMILY)?		DA12. (*For 2-year-olds*): CAN (*name*) NAME AT LEAST ONE OBJECT (FOR EXAMPLE, AN ANIMAL, A TOY, A CUP, A SPOON)?		DA13. COMPARED WITH OTHER CHILDREN OF THE SAME AGE, DOES (*name*) APPEAR IN ANY WAY MENTALLY BACKWARD, DULL OR SLOW?	
LINE	NAME	AGE	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
01			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
02			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
03			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
04			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
05			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
06			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
07			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
08			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
09			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
10			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
11			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
12			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
13			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
14			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
15			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2

HANDWASHING FACILITY		HW
HW1. WE WOULD LIKE TO SEE THE PLACE WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS? MAY I SEE THIS PLACE?	Place for hand washing observed ..... 1 No specific place for hand washing ..... 2 No permission to see 3	 2—►HW5 3—►HW5
HW1A. Place where household members most often wash their hands? *Ask to see and observe. Record only one hand washing place. This is the hand washing place most often used by household members. Estimate the distance of "within 10 paces".*	Inside Toilet facility ..... 01 Kitchen/Cooking place ..... 02 Within 10 paces of Both toilet and kitchen ..... 03 Toilet facility (but farther from kitchen) ..... 04 Kitchen (but farther from toilet facility) ..... 05 Elsewhere Elsewhere in home or yard ..... 06 Elsewhere outside the yard ..... 07 Other (*specify*) 96	
HW2. Water available at the place for hand washing? *If there is a tap or pump at the specific place for hand washing, open the tap or operate the pump to see if water is coming out. If there is a bucket, basin or other type of water container, examine to see whether water is present in the container. Record observation.*	Water available ..... 1 Water not available 2	
HW3. Soap or detergent present at the specific place for hand washing? *Record observation. Circle all that apply.*	Bar soap ..... A Detergent (powder/liquid/paste) ..... B Liquid soap ..... C None ..... Y	A—►NEXT MODULE B—►NEXT MODULE C—►NEXT MODULE D—►NEXT MODULE
HW5. DO YOU HAVE ANY SOAP OR DETERGENT IN YOUR HOUSEHOLD FOR WASHING HANDS?	Yes ..... 1 No 2	 2—►NEXT MODULE
HW6. CAN YOU PLEASE SHOW IT TO ME? *Record observation. Circle all that apply*	Bar soap ..... A Detergent (powder/liquid/paste) ..... B Liquid soap ..... C Not able/Does not want to show ..... Y	

SALT IODIZATION		SI
SI1. WE WOULD LIKE TO CHECK WHETHER THE SALT USED IN YOUR HOUSEHOLD IS IODIZED. MAY I SEE A SAMPLE OF THE SALT USED TO COOK THE MAIN MEAL EATEN BY MEMBERS OF YOUR HOUSEHOLD LAST NIGHT? MAY I TEST A SAMPLE OF THIS SALT? *Once you have examined the salt, circle number that corresponds to test outcome.*	Not iodized 0 PPM ..... 1 Less than 15 PPM ..... 2 15 PPM or more ..... 3 No salt in home ..... 6 Salt not tested 7	

SI1A. Record the time.	Hour and minutes	__ __ : __ __

SI2. *Does any eligible woman age 15-49 reside in the household?*
Check household listing, column HL6.You should have a questionnaire with the Information Panel filled in for each eligible woman.

[ ] *Yes. —► Go to women's Questionnaire*
to administer the questionnaire to the first eligible woman.. If this woman has a child under age 5, continue to interview her on her under-5 child(ren)

[ ] *No. —► Continue.*

SI3. *Does any child under the age of 5 reside in the household?*
Check household listing, column HL8. You should have a questionnaire with the Information Panel filled in for each eligible child.

[ ] *Yes. —► Go to Under-5 Questionnaire*
to administer the questionnaire to mother or caretaker of the first eligible child.

[ ] *No. —► End the interview by thanking the respondent for his/her cooperation.*
Gather together all questionnaires for this household and tally the number of interviews completed on the cover page.

REMARKS AND OBSERVATIONS

SUPERVISOR
FIELD EDITOR
FIELD MONITORS/CO-ORDINATORS
OFFICE EDITOR

WOMEN QUESTIONNAIRE

WOMEN'S INFORMATION PANEL	WM
This module is to be administered to all women age 15 through 49 (see column HL6 of HH listing). *Fill in one form for each eligible woman* *Fill in the cluster and household number, and the name and line number of the woman in the space below. Fill in your name, number and the date.*	
WM-A. Province Name & Code: _____	WM-B. County Name & Code: _____
WM-C. District Name & Code: _____	
WM1. Cluster number:___ ___ ___ ___	WM2. Household number: ___ ___ ___
WM3. Woman's Name: _____	WM4. Woman's Line Number: ____ ____ ____
WM5.Interviewer name and number: _____	WM6. Day/Month/Year of interview: ____ ____ / ____ ____ / ____ ____ ____ ____

Repeat greeting if not already read to this woman:
WE ARE FROM 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 30-35 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?

If permission is given, begin the interview. If the woman does not agree to continue, thank her, complete WM7, and go to the next interview. Discuss this result with your supervisor for a future re-visit.

WM7. Result of women's interview	Completed.....1 Not at home.....2 Refused .....3 Partly completed .....4 Incapacitated.....5 Other (*specify*) 6

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.*

WM71. Supervisor: Name_____	WM72. Field edited by (name and number): Name_____
WM73. Data Entry: Name and Number Name_____	

ENGLISH

1. The child is reading a book.
2. The rains came late this year.
3. Parents must care for their children.
4. Farming is hard work.

KISWAHILI

1. Mtoto anasoma kitabu.
2. Mvua ilichelewa mwaka huu.
3. Nilazima wazazi watunze watoto wao.
4. Ukulima ni kazi ngumu.

WOMEN'S INFORMATION PANEL		WM
WM7A. *Record the time.*	Hour and minutes ..... __ __ : __ __	
WM8. IN WHAT MONTH AND YEAR WERE YOU BORN?	Date of birth: Month ..... __ __ DK month ..... 98 Year ..... __ __ __ __ DK year 9998	
WM9. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	Age (in completed years) ..... __ __	
WM10. HAVE YOU EVER ATTENDED SCHOOL, PRESCHOOL OR ANY NON-FORMAL EDUCATION?	Yes ..... 1 No 2	 2—►WM14
WM11. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Preschool ..... 0 Primary ..... 1 Post-Primary/Vocational ..... 2 Secondary ..... 3 Higher ..... 4 Non-formal education 6	0—►WM14 6—►WM14
WM12. WHAT IS THE HIGHEST GRADE (STANDARD/FORM/ CLASS) YOU COMPLETED AT THAT LEVEL? *If less than 1 grade, enter 00*	Grade ..... __ __	
WM13*. Check WM11:* [ ] *Secondary or higher. —► Go to Next Module* [ ] *Preschool, primary or non-formal education. —► Continue with WM14*		
WM14. NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME. *Show sentences to respondent. If respondent cannot read whole sentence, probe:* CAN YOU READ PART OF THE SENTENCE TO ME? *Example sentences for literacy test:* *1. The child is reading a book.* *2. The rains came late this year.* *3. Parents must care for their children.* *4. Farming is hard work.*	Cannot read at all ..... 1 Able to read only parts of sentence ..... 2 Able to read whole sentence ..... 3 No sentence in required language ..... 4 (*specify language*) Blind/mute, visually/speech impaired 5	

CHILD MORTALITY		CM
All questions refer only to LIVE births.		
CM1. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH? *If "No" probe by asking:* I MEAN, TO A CHILD WHO EVER BREATHED OR CRIED OR SHOWED OTHER SIGNS OF LIFE – EVEN IF HE OR SHE LIVED ONLY A FEW MINUTES OR HOURS?	Yes ..... 1 No 2	2—► MARRIAGE/ UNION MODULE
CM3. DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE NOW LIVING WITH YOU?	Yes ..... 1 No 2	2—►CM5
CM4. HOW MANY SONS LIVE WITH YOU? HOW MANY DAUGHTERS LIVE WITH YOU?	Sons at home ..... __ __ Daughters at home ..... __ __	
CM5. DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE ALIVE BUT DO NOT LIVE WITH YOU?	Yes ..... 1 No 2	2—►CM7
CM6. HOW MANY SONS ARE ALIVE BUT DO NOT LIVE WITH YOU? HOW MANY DAUGHTERS ARE ALIVE BUT DO NOT LIVE WITH YOU?	Sons elsewhere ..... __ __ Daughters elsewhere ..... __ __	
CM7. HAVE YOU EVER GIVEN BIRTH TO A BOY OR GIRL WHO WAS BORN ALIVE BUT LATER DIED?	Yes ..... 1 No 2	2—►CM9
CM8. HOW MANY BOYS HAVE DIED? HOW MANY GIRLS HAVE DIED?	Boys dead ..... __ __ Girls dead ..... __ __	
CM9. Sum answers to CM4, CM6, and CM8.	Sum ..... __ __	
CM10. JUST TO MAKE SURE THAT I HAVE THIS RIGHT, YOU HAVE HAD IN TOTAL (*number in CM9*) BIRTHS DURING YOUR LIFE. IS THIS CORRECT? [ ] *Yes.* —► *Go to BH1* [ ] *No.* —► *Check responses and make corrections before proceeding to BH1*		

BIRTH HISTORY **BH**

NOW I WOULD LIKE TO RECORD THE NAMES OF ALL YOUR BIRTHS, WHETHER STILL ALIVE OR NOT, STARTING WITH THE FIRST ONE YOU HAD.
Record names of all the births in BH1. Record twins and triplets on separate lines.

#	BH1 WHAT NAME WAS GIVEN TO YOUR (*first/ next*) BABY?	BH2 WERE ANY OF THESE BIRTHS TWINS?		BH3 IS (*name*) A BOY OR GIRL?		BH4 IN WHAT MONTH AND YEAR WAS (name) BORN? *Probe:* WHAT IS HIS/HER BIRTHDAY?	BH5 IS (*name*) STILL ALIVE?		BH6 HOW OLD WAS (*name*) AT HIS/ HER LAST BIRTHDAY? *Record age in completed years*	BH7 IS (*name*) LIVING WITH YOU?		BH8 *Record HH line number of child* *Record '00' if child not listed in HH*	BH9 *If dead:* HOW OLD WAS (*name*) WHEN HE/ SHE DIED? HOW MANY MONTHS OLD WAS (name)? *Record days if less than 1 month; months if less than 2 years; or years*	BH10 WERE THERE ANY OTHER LIVE BIRTHS BETWEEN (*name of previous birth*) AND (*name*)?	
		SIN	MUL	B	G	MONTH/YEAR	Y	N		Y	N			Y	N
01		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸next line	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
02		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *A* *dd*	2 *Next*
03		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
04		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
05		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
06		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
07		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*

#	BH1 WHAT NAME WAS GIVEN TO YOUR (*first/ next*) BABY?	BH2 WERE ANY OF THESE BIRTHS TWINS?		BH3 IS (*name*) A BOY OR GIRL?		BH4 IN WHAT MONTH AND YEAR WAS (name) BORN? *Probe:* WHAT IS HIS/HER BIRTHDAY?	BH5 IS (*name*) STILL ALIVE?		BH6 HOW OLD WAS (*name*) AT HIS/ HER LAST BIRTHDAY? *Record age in completed years*	BH7 IS (*name*) LIVING WITH YOU?		BH8 *Record HH line number of child* *Record '00' if child not listed in HH*	BH9 *If dead:* HOW OLD WAS (*name*) WHEN HE/ SHE DIED? HOW MANY MONTHS OLD WAS (name)? *Record days if less than 1 month; months if less than 2 years; or years*	BH10 WERE THERE ANY OTHER LIVE BIRTHS BETWEEN (*name of previous birth*) AND (*name*)?	
		SIN	MUL	B	G	MONTH/YEAR	Y	N		Y	N			Y	N
08		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
09		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
10		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
11		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
12		1	2	1	2	___ /___ /_____	1	2 —▸BH9		1	2	_____ —▸BH10	Days .....1 Month .....2 Year.....3	1 *Add*	2 *Next*
BH11	HAVE YOU HAD ANY LIVE BIRTHS SINCE THE BIRTH OF (*name of last birth*)? If yes, record birth(s)								Yes .....1 No 2						
BH12	*Compare CM9 with number of births in history above and mark:* [ ] *Numbers are different —▸ Probe and reconcile* [ ] *Numbers are same —▸*								Check: *For all births: Year of birth is recorded* ..... [ ] *For each living child: Current age is recorded* ..... [ ] *For each dead child: Age at death is recorded* ..... [ ] *For age at death 12 months or 1 year: Probe to determine exact number of months* ..... [ ]						

BIRTH HISTORY		BH
BH13. *Check BH4: Did the woman's last birth occur within the last 2 years, that is, since (day and month of interview) in 2011?* *If child has died, take special care when referring to this child by name in the following modules.* [ ] *No live birth in last 2 years. —► Go to MARRIAGE/UNION module.* [ ] *Yes, live birth in last 2 years. —► Record name of last born child and continue with BH14* *Name of child*_____		
BH14. AT THE TIME YOU BECAME PREGNANT WITH (*name*), DID YOU WANT TO BECOME PREGNANT THEN, DID YOU WANT TO WAIT UNTIL LATER, OR DID YOU WANT NO (MORE) CHILDREN AT ALL?	Then..... 1 Later ..... 2 No more..... 3	

TETANUS TOXOID (TT)		TT
This module is to be administered to all women with a live birth in the 2 years preceding date of interview.		
TT1. DO YOU HAVE A CARD OR OTHER DOCUMENT WITH YOUR OWN IMMUNIZATIONS LISTED? *If a card is presented, use it to assist with answers to the following questions.*	Yes (card seen) ..... 1 Yes (card not seen) ..... 2 No ..... 3 DK 8	
TT2. WHEN YOU WERE PREGNANT WITH (*name*), DID YOU RECEIVE ANY INJECTION TO PREVENT HIM OR HER FROM GETTING TETANUS, THAT IS CONVULSIONS AFTER BIRTH? *Probe:* AN ANTI-TETANUS SHOT, AN INJECTION AT THE TOP OF THE ARM OR SHOULDER?	Yes ..... 1 No ..... 2 DK 8	 2—►TT5 8—►TT5
TT3. HOW MANY TIMES DID YOU RECEIVE THIS ANTI-TETANUS INJECTION DURING YOUR PREGNANCY WITH (*name*)?	No. of times ..... __ __ DK 98	 98—►TT5
TT4. How many TT doses during last pregnancy were reported in TT3? [ ] *At least two TT injections during last pregnancy. —► Go to Next Module* [ ] *Fewer than two TT injections during last pregnancy. —► Continue with TT5*		
TT5. DID YOU RECEIVE ANY TETANUS TOXOID INJECTION AT ANY TIME BEFORE YOUR PREGNANCY WITH (*name*)?	Yes ..... 1 No ..... 2 DK 8	 2—► NEXT MODULE 8—► NEXT MODULE
TT6. HOW MANY TIMES DID YOU RECEIVE IT?	No. of times ..... __ __	
TT7. IN WHAT MONTH AND YEAR DID YOU RECEIVE THE LAST ANTI-TETANUS INJECTION BEFORE YOUR PREGNANCY WITH (*name*)? *Skip to next module only if year of injection is given. Otherwise, continue with TT8.*	Month ..... __ __ DK month ..... 98 Year ..... __ __ __ __ DK year 9998	 —► NEXT MODULE | TT8 ▼
TT8. HOW MANY YEARS AGO DID YOU RECEIVE THE LAST ANTI-TETANUS INJECTION BEFORE YOUR PREGNANCY WITH (*name*)?	Years ago ..... __ __	

MATERNAL AND NEWBORN HEALTH		MN
This module is to be administered to all women with a live birth in the 2 years preceding date of interview. Check the birth history module BH13 and record name of last-born child here _____. Use this child's name in the following questions, where indicated.		
MN1. IN THE FIRST TWO MONTHS AFTER THE BIRTH OF (*name*), DID YOU RECEIVE A VITAMIN A DOSE LIKE THIS? *Show 200,000 IU capsule or dispenser.*	Yes ..... 1 No ..... 2 DK 8	
MN2. DID YOU SEE ANYONE FOR ANTENATAL CARE FOR THIS PREGNANCY? *If yes:* WHOM DID YOU SEE? ANYONE ELSE? *Probe for the type of person seen and circle all answers given.*	Health professional Doctor ..... A Community nurse ..... B Clinical officer ..... C Nurse/Midwife ..... D Other person Traditional birth attendant ..... E Community health worker ..... F Relative/friend ..... G Other (specify) ..... X No one ..... Y	Y—►MN7
MN2A. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	No. of times ..... __ __ DK 98	
MN3. AS PART OF YOUR ANTENATAL CARE, WERE ANY OF THE FOLLOWING DONE AT LEAST ONCE?	Yes / No Weight ..... 1 / 2 Blood pressure ..... 1 / 2 Urine sample ..... 1 / 2 Blood sample ..... 1 / 2	
A. WERE YOU WEIGHED?		
B. WAS YOUR BLOOD PRESSURE MEASURED?		
C. DID YOU GIVE A URINE SAMPLE?		
D. DID YOU GIVE A BLOOD SAMPLE?		
MN4. DURING ANY OF THE ANTENATAL VISITS FOR THE PREGNANCY, WERE YOU GIVEN ANY INFORMATION OR COUNSELED ABOUT AIDS OR THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK 8	
MN5. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR HIV/AIDS AS PART OF YOUR ANTENATAL CARE?	Yes ..... 1 No ..... 2 DK 8	2—► MN6A 8—► MN6A
MN6. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes ..... 1 No ..... 2 DK 8	

MN6B. WHICH MEDICINES DID YOU TAKE TO PREVENT MALARIA?	SP/Fansidar ..... A Chloroquine ..... B Other (*specify*) ..... X DK ..... Z	
MN6C. *Check MN6B for medicine taken:* [ ] *SP/Fansidar taken.—► Continue with MN6D* [ ] *SP/Fansidar not taken.—►Go to MN7*		
MN6D. HOW MANY TIMES DID YOU TAKE SP/FANSIDAR?	Number of times ..... __ __	
MN7. WHO ASSISTED WITH THE DELIVERY OF (name)? *Probe:* ANYONE ELSE? *Probe for the type of person assisting and circle all answers given.*	Health professional Doctor ..... A Community nurse ..... B Clinical officer ..... C Nurse/Midwife ..... D Other person Traditional birth attendant ..... E Community health worker ..... F Relative/friend ..... G Other (*specify*) ..... X No one ..... Y	
MN8. WHERE DID YOU GIVE BIRTH TO (*name*)? *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.* _____ (*Name of place*)	Your home ..... 11 Other home ..... 12 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 Other private medical (*specify*) ..... 36 Other (*specify*) 96	98 —► MN8C
MN8A. HOW LONG AFTER (*name*) WAS DELIVERED DID YOU STAY THERE? *If less than one day, record hours.* *If less than one week, record days.*	Hours ..... 1 __ __ Days ..... 2 __ __ Weeks ..... 3 __ __ Don't know/remember 998	
MN8B. WAS (*name*) DELIVERED BY CAESEREAN SECTION?	Yes ..... 1 No 2	1—► MN8D 2—► MN8D

MN8C. WHY DIDN'T YOU DELIVER (name) IN A HEALTH FACILITY? *Probe:* ANY OTHER REASON? *Record all mentioned.*	Cost too much ..... A Facility not open ..... B Too far ..... C Don't trust facility ..... D No female provider at facility ..... E Husband/family did not allow ..... F Not necessary ..... G Not customary ..... H No transportation ..... I Poor quality service ..... J Other (*specify*) X	
MN8D. AFTER (*name*) WAS BORN, DID ANY HEALTH CARE PROVIDER OR A TRADITIONAL BIRTH ATTENDANT CHECK ON YOUR HEALTH?	Yes ..... 1 No 2	2 —► MN8I
MN8E. HOW LONG AFTER THE BIRTH OF (name) DID THIS FIRST CHECK TAKE PLACE? *If less than one day, record hours.* *If less than one week, record days.*	Hours ..... 1 __ __ Days ..... 2 __ __ Weeks ..... 3 __ __ Don't know/remember 998	
MN8F. WHO CHECKED ON YOUR HEALTH AT THAT TIME? *Probe for most qualified person*	Health professional Doctor ..... 11 Community nurse ..... 12 Clinical officer ..... 13 Nurse/Midwife ..... 14 Other person Traditional birth attendant ..... 21 Community health worker ..... 22 Other (*specify*) 96	
MN8G. WHERE DID THIS FIRST CHECK TAKE PLACE? *Probe to identify the type of source and circle the appropriate code.* *If unable to determine if a hospital, health centre, or clinic is public or private medical, write the name of the place* _____ (Name of place)	Your home ..... 11 Other home ..... 12 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 Other (*specify*) ..... 96 DK 98	
MN8H. WAS THE HEALTH OF (*name*) ALSO CHECKED AT THIS TIME?	Yes ..... 1 No 2	2 —► MN8I

MN8H2. WAS THIS ALSO THE FIRST TIME (*name's*) HEALTH WAS CHECKED?	Yes ..... 1 No 2	1 —►MN9 2 —►MN8J
MN8I. AFTER (*name*) WAS BORN, DID ANY HEALTH CARE PROVIDER OR A TRADITIONAL BIRTH ATTENDANT CHECK ON HIS/HER HEALTH?	Yes ..... 1 No ..... 2 DK 8	 2 —►MN9 8 —►MN9
MN8J. HOW LONG AFTER THE BIRTH OF (name) DID THIS FIRST CHECK TAKE PLACE? *If less than one day, record hours.* *If less than one week, record days.*	Hours ..... 1 __ __ Days ..... 2 __ __ Weeks ..... 3 __ __ Don't know/remember 998	
MN8K. WHO CHECKED ON (*name's*) HEALTH AT THAT TIME? *Probe for most qualified person*	Health professional Doctor ..... 11 Community nurse ..... 12 Clinical officer ..... 13 Nurse/Midwife ..... 14 Other person Traditional birth attendant ..... 21 Community health worker ..... 22 Other (*specify*) 96	
MN8L. WHERE DID THIS FIRST CHECK TAKE PLACE? *Probe to identify the type of source and circle the appropriate code.* *If unable to determine if a hospital, health centre, or clinic is public or private medical, write the name of the place* _____ (Name of place)	Your home ..... 11 Other home ..... 12 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 Other (*specify*) ..... 96 DK 98	
MN8M. WERE YOU PRESENT WHEN THIS FIRST CHECK TOOK PLACE?	Yes ..... 1 No 2	
MN9. WHEN YOUR LAST CHILD (*name*) WAS BORN, WAS HE/SHE VERY LARGE, LARGER THAN AVERAGE, AVERAGE, SMALLER THAN AVERAGE, OR VERY SMALL?	Very large ..... 1 Larger than average ..... 2 Average ..... 3 Smaller than average ..... 4 Very small ..... 5 DK 8	

MN10. WAS (*name*) WEIGHED AT BIRTH?	Yes ..... 1 No ..... 2 DK 8	 2—►MN12 8—►MN12
MN11. HOW MUCH DID (name) WEIGH? *Record weight from health card, if available.*	From card ..... 1 (kilograms) __ . __ __ __ From recall ..... 2 (kilograms) __ . __ __ __ DK 99998	
MN12. DID YOU EVER BREASTFEED (*name*)?	Yes ..... 1 No 2	 2—►NEXT MODULE
MN13. HOW LONG AFTER BIRTH DID YOU FIRST PUT (*name*) TO THE BREAST? *If less than 1 hour, record '00' hours.* *If less than 24 hours, record hours.* *Otherwise, record days.*	Immediately ..... 000 Hours ..... 1 __ __ Days ..... 2 __ __ Don't know/remember 998	

MARRIAGE/UNION		MA
MA1. ARE YOU CURRENTLY MARRIED OR LIVING TOGETHER WITH A MAN AS IF MARRIED?	Yes, currently married ..... 1 Yes, living with a man ..... 2 No, not in union 3	3—►MA3
MA2. HOW OLD WAS YOUR HUSBAND/PARTNER ON HIS LAST BIRTHDAY?	Age in years ..... __ __ DK 98	
MA2A. DOES YOUR HUSBAND/PARTNER HAVE ANY OTHER WIVES?	Yes ..... 1 No 2	2—►MA5
MA2B. BESIDES YOURSELF, HOW MANY OTHER WIVES DOES HE HAVE?	Number ..... __ __ DK 98	—►MA5 98—►MA5
MA3. HAVE YOU EVER BEEN MARRIED OR LIVED TOGETHER WITH A MAN?	Yes, formerly married ..... 1 Yes, formerly lived with a man ..... 2 No 3	—►NEXT MODULE
MA4. WHAT IS YOUR MARITAL STATUS NOW: ARE YOU WIDOWED, DIVORCED OR SEPARATED?	Widowed ..... 1 Divorced ..... 2 Separated 3	
MA5. HAVE YOU BEEN MARRIED OR LIVED WITH A MAN ONLY ONCE OR MORE THAN ONCE?	Only once ..... 1 More than once 2	
MA6. IN WHAT MONTH AND YEAR DID YOU FIRST MARRY OR START LIVING WITH A MAN AS IF MARRIED?	Month ..... __ __ DK month ..... 98 Year ..... __ __ __ __ DK year 9998	
MA7. *Check MA6:* [ ] *Both month and year of marriage/union known? —► Go to Next Module* [ ] *Either month or year of marriage/union not known? —► Continue with MA8*		
MA8. HOW OLD WERE YOU WHEN YOU STARTED LIVING WITH YOUR FIRST HUSBAND/PARTNER?	Age in years ..... __ __	

CONTRACEPTION		CP
CP1. I WOULD LIKE TO TALK WITH YOU ABOUT ANOTHER SUBJECT – FAMILY PLANNING – AND YOUR REPRODUCTIVE HEALTH. ARE YOU PREGNANT NOW?	Yes, currently pregnant ..... 1 No ..... 2 Unsure or DK 8	 2—►CP2 8—►CP2
CP1A. AT THE TIME YOU BECAME PREGNANT DID YOU WANT TO BECOME PREGNANT THEN, DID YOU WANT TO WAIT UNTIL LATER, OR DID YOU NOT WANT TO HAVE ANY MORE CHILDREN?	Then ..... 1 Later ..... 2 Not want more children 3	1—►CP4B 2—►CP4B 3—►CP4B
CP2. SOME PEOPLE USE VARIOUS WAYS OR METHODS TO DELAY OR AVOID A PREGNANCY. ARE YOU CURRENTLY DOING SOMETHING OR USING ANY METHOD TO DELAY OR AVOID GETTING PREGNANT?	Yes ..... 1 No 2	 2—►CP4A
CP3. WHICH METHOD ARE YOU USING? *Do not prompt.* *If more than one method is mentioned, circle each one.*	Female sterilization ..... A Male sterilization ..... B Pill C IUD ..... D Injections ..... E Implants ..... F Condom ..... G Female condom ..... H Diaphragm ..... I Foam/jelly ..... J Lactational amenorrhea method (LAM) ..... K Periodic abstinence ..... L Withdrawal ..... M Other (*specify*) X	
CP3B. *Check CP3:* [ ] *Currently using "Female sterilization"? —► Go to Next Module* [ ] *Not currently using "Female sterilization" —► Continue with CP4A*		

CP4A. NOW I WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE FUTURE. WOULD YOU LIKE TO HAVE (A/ANOTHER) CHILD, OR WOULD YOU PREFER NOT TO HAVE ANY (MORE) CHILDREN? CP4B. *If currently pregnant:* NOW I WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE FUTURE. AFTER THE CHILD YOU ARE NOW EXPECTING, WOULD YOU LIKE TO HAVE ANOTHER CHILD, OR WOULD YOU PREFER NOT TO HAVE ANY (MORE) CHILDREN?	Have (a/another) child ..... 1 No more/none ..... 2 Says she cannot get pregnant ..... 3 Undecided/don't know 8	 2—►CP4D 3—►CP4F 8—►CP4D
CP4C. HOW LONG WOULD YOU LIKE TO WAIT BEFORE THE BIRTH OF (A/ANOTHER) CHILD?	Months ..... 1 __ __ Years ..... 2 __ __ Soon/now ..... 993 Says she cannot get pregnant ..... 994 After marriage ..... 995 Other ..... 996 Don't know 998	 994—►CP4F
CP4D. *Check CP1:* [ ] *Currently pregnant? —► Go to Next Module* [ ] *Not currently pregnant or unsure? —► Continue with CP4D2*		
CP4D2. *Check CP3.* [ ] *Currently using a method? —► Go to Next Module* [ ] *Not using a method (CP3 Blank)? —► Continue with CP4E*		
CP4E. DO YOU THINK YOU ARE PHYSICALLY ABLE TO GET PREGNANT AT THIS TIME?	Yes ..... 1 No ..... 2 DK 8	1—►NEXT MODULE 8—►NEXT MODULE
CP4F. WHAT IS THE REASON YOU THINK YOU CANNOT GET PREGNANT?	Infrequent sex/No sex ..... 01 Menopausal ..... 02 Hysterectomy ..... 03 Subfecund / Infecund ..... 04 Postpartum amenorrheic ..... 05 Breastfeeding ..... 06 Too old ..... 07 Fatalistic ..... 08 Other (*specify*) ..... 96 DK 98	

FEMALE GENITAL MUTILATION/CUTTING		FG
FG1. HAVE YOU EVER HEARD OF FEMALE CIRCUMCISION?	Yes ..... 1 No 2	1—►FG3
FG2. IN A NUMBER OF COUNTRIES, THERE IS A PRACTICE IN WHICH A GIRL MAY HAVE PART OF HER GENITALS CUT. HAVE YOU EVER HEARD ABOUT THIS PRACTICE?	Yes ..... 1 No 2	2—►NEXT MODULE
FG3. HAVE YOU YOURSELF EVER BEEN CIRCUMCISED?	Yes ..... 1 No 2	2—►FG8
FG4. NOW I WOULD LIKE TO ASK YOU WHAT WAS DONE TO YOU AT THIS TIME. WAS ANY FLESH REMOVED FROM THE GENITAL AREA?	Yes ..... 1 No ..... 2 DK 8	1—►FG6
FG5. WAS THE GENITAL AREA JUST NICKED WITHOUT REMOVING ANY FLESH?	Yes ..... 1 No ..... 2 DK 8	
FG6. WAS THE GENITAL AREA SEWN CLOSED (OR 'SEALED')?	Yes ..... 1 No ..... 2 DK 8	
FG7. WHO CIRCUMCISED YOU?	Traditional persons Traditional 'circumciser' ..... 11 Traditional birth attendant ..... 12 Other traditional (*specify*) ..... 16 Health professional Doctor ..... 21 Nurse/midwife ..... 22 Other health professional (*specify*) ..... 26 DK 98	
FG8. *The following questions apply only to women who have at least one living daughter. Check CM4 and CM6, Child Mortality Module: Woman has living daughter?* [ ] *Yes.* —► *Continue with FG9* [ ] *No.* —► *Go to FG16*		
FG9. HAVE (ANY OF) YOUR DAUGHTER(S) BEEN CIRCUMCISED? IF YES, HOW MANY?	Number of daughters circumcised: ..... __ __ No daughters circumcised 00	00—►FG16
FG10. TO WHICH OF YOUR DAUGHTERS DID THIS HAPPEN MOST RECENTLY? *Record the daughter's name.*	Name of daughter:	

FG11. NOW I WOULD LIKE TO ASK YOU WHAT WAS DONE TO (*name*) AT THAT TIME. WAS ANY FLESH REMOVED FROM THE GENITAL AREA?	Yes ..... 1 No ..... 2 DK 8	1 —►FG13
FG12. WAS THE GENITAL AREA JUST NICKED WITHOUT REMOVING ANY FLESH?	Yes ..... 1 No ..... 2 DK 8	
FG13. WAS THE GENITAL AREA SEWN CLOSED? *If necessary, Probe:* WAS IT SEALED?	Yes ..... 1 No ..... 2 DK 8	
FG14. HOW OLD WAS (*name*) WHEN THIS OCCURRED? *If the respondent does not know the age, probe to get an estimate.*	Daughter's age at circumcision ..... __ __ DK 98	
FG15. WHO DID THE CIRCUMCISION?	Traditional persons Traditional 'circumciser' ..... 11 Traditional birth attendant ..... 12 Other traditional (*specify*) ..... 16 Health professional Doctor ..... 21 Nurse/midwife ..... 22 Other health professional (*specify*) ..... 26 DK 98	
FG16. DO YOU THINK THIS PRACTICE SHOULD BE CONTINUED OR SHOULD IT BE DISCONTINUED?	Continued ..... 1 Discontinued ..... 2 Depends ..... 3 DK 8	

ATTITUDES TOWARD DOMESTIC VIOLENCE					FG
DV1. SOMETIMES A HUSBAND IS ANNOYED OR ANGERED BY THINGS THAT HIS WIFE DOES. IN YOUR OPINION, IS A HUSBAND JUSTIFIED IN HITTING OR BEATING HIS WIFE IN THE FOLLOWING SITUATIONS:		Yes	No	DK	
A. IF SHE LEAVES THE HOUSE WITHOUT TELLING HIM?	Leaves without telling	1	2	8	
B. IF SHE NEGLECTS THE CHILDREN?	Neglects children	1	2	8	
C. IF SHE ARGUES WITH HIM?	Argues	1	2	8	
D. IF SHE REFUSES SEX WITH HIM?	Refuses sex	1	2	8	
E. IF SHE BURNS THE FOOD?	Burns food	1	2	8	

SEXUAL BEHAVIOUR		SB
Check for the presence of others. Before continuing, ensure privacy.		
SB1. NOW I NEED TO ASK YOU SOME QUESTIONS ABOUT SEXUAL ACTIVITY IN ORDER TO GAIN A BETTER UNDERSTANDING OF SOME FAMILY LIFE ISSUES. THE INFORMATION YOU SUPPLY WILL REMAIN STRICTLY CONFIDENTIAL. HOW OLD WERE YOU WHEN YOU FIRST HAD SEXUAL INTERCOURSE (IF EVER)?	Never had intercourse ..... 00 Age in years ..... __ __ First time when started living with (first) husband/partner 95	00—▸NEXT MODULE
SB2. WHEN WAS THE LAST TIME YOU HAD SEXUAL INTERCOURSE? *Record 'years ago' only if last intercourse was one or more years ago. If 12 months or more the answer must be recorded in years.*	Days ago ..... 1 __ __ Weeks ago ..... 2 __ __ Months ago ..... 3 __ __ Years ago ..... 4 __ __	4—▸NEXT MODULE
SB3. THE LAST TIME YOU HAD SEXUAL INTERCOURSE WAS A CONDOM USED?	Yes ..... 1 No 2	
SB4. WHAT IS YOUR RELATIONSHIP TO THE MAN WITH WHOM YOU LAST HAD SEXUAL INTERCOURSE? *If man is 'boyfriend' or 'fiancée', ask:* WAS YOUR BOYFRIEND/ FIANCÉE LIVING WITH YOU WHEN YOU LAST HAD SEX? *If 'yes', circle 1.* *If 'no', circle 2.*	Spouse / cohabiting partner ..... 1 Man is boyfriend / fiancée ..... 2 Other friend ..... 3 Casual acquaintance ..... 4 Other (*specify*) 6	1—▸SB6
SB5. HOW OLD IS THIS PERSON? *If response is DK, probe:* ABOUT HOW OLD IS THIS PERSON?	Age of sexual partner ..... __ __ DK 98	
SB6. HAVE YOU HAD SEX WITH ANY OTHER MAN IN THE LAST 12 MONTHS?	Yes ..... 1 No 2	2—▸NEXT MODULE
SB7. THE LAST TIME YOU HAD SEXUAL INTERCOURSE WITH THIS OTHER MAN, WAS A CONDOM USED?	Yes ..... 1 No 2	

SB8. WHAT IS YOUR RELATIONSHIP TO THIS MAN? *If man is 'boyfriend' or 'fiancée', ask:* WAS YOUR BOYFRIEND/ FIANCÉE LIVING WITH YOU WHEN YOU LAST HAD SEX? *If 'yes', circle 1.* *If 'no', circle 2.*	Spouse / cohabiting partner ..... 1 Man is boyfriend / fiancée ..... 2 Other friend ..... 3 Casual acquaintance ..... 4 Other (*specify*) 6	1—▸SB10
SB9. HOW OLD IS THIS PERSON? *If response is DK, probe:* ABOUT HOW OLD IS THIS PERSON?	Age of sexual partner ..... __ __ DK 98	
SB10. OTHER THAN THESE TWO MEN, HAVE YOU HAD SEX WITH ANY OTHER MAN IN THE LAST 12 MONTHS?	Yes ..... 1 No 2	2—▸NEXT MODULE
SB11. IN TOTAL, WITH HOW MANY DIFFERENT MEN HAVE YOU HAD SEX IN THE LAST 12 MONTHS?	No. of partners ..... __ __	

HIV/AIDS		HA
HA1. NOW I WOULD LIKE TO TALK WITH YOU ABOUT SOMETHING ELSE. HAVE YOU EVER HEARD OF THE VIRUS HIV OR AN ILLNESS CALLED AIDS?	Yes ..... 1 No 2	2—►NEXT MODULE
HA2. CAN PEOPLE PROTECT THEMSELVES FROM GETTING INFECTED WITH THE AIDS VIRUS BY HAVING ONE SEX PARTNER WHO IS NOT INFECTED AND ALSO HAS NO OTHER PARTNERS?	Yes ..... 1 No ..... 2 DK 8	
HA3. CAN PEOPLE GET INFECTED WITH THE AIDS VIRUS BECAUSE OF WITCHCRAFT OR OTHER SUPERNATURAL MEANS?	Yes ..... 1 No ..... 2 DK 8	
HA4. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY USING A CONDOM EVERY TIME THEY HAVE SEX?	Yes ..... 1 No ..... 2 DK 8	
HA5. CAN PEOPLE GET THE AIDS VIRUS FROM MOSQUITO BITES?	Yes ..... 1 No ..... 2 DK 8	
HA6. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING INFECTED WITH THE AIDS VIRUS BY NOT HAVING SEX AT ALL?	Yes ..... 1 No ..... 2 DK 8	
HA7. CAN PEOPLE GET THE AIDS VIRUS BY SHARING FOOD WITH A PERSON WHO HAS AIDS?	Yes ..... 1 No ..... 2 DK 8	
HA7A. CAN PEOPLE GET THE AIDS VIRUS BY GETTING INJECTIONS WITH A NEEDLE THAT WAS ALREADY USED BY SOMEONE ELSE?	Yes ..... 1 No ..... 2 DK 8	
HA8. IS IT POSSIBLE FOR A HEALTHY-LOOKING PERSON TO HAVE THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK 8	
HA9. CAN THE AIDS VIRUS BE TRANSMITTED FROM A MOTHER TO A BABY? A. DURING PREGNANCY? B. DURING DELIVERY? C. BY BREASTFEEDING?	Yes No DK During pregnancy ..... 1 2 8 During delivery ..... 1 2 8 By breastfeeding 1 2 8	

HA10. IF A FEMALE TEACHER HAS THE AIDS VIRUS BUT IS NOT SICK, SHOULD SHE BE ALLOWED TO CONTINUE TEACHING IN SCHOOL?	Yes ..... 1 No ..... 2 DK /not sure/depends 8	
HA11. WOULD YOU BUY FRESH VEGETABLES FROM A SHOPKEEPER OR VENDOR IF YOU KNEW THAT THIS PERSON HAD THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK /not sure/depends 8	
HA12. IF A MEMBER OF YOUR FAMILY BECAME INFECTED WITH THE AIDS VIRUS, WOULD YOU WANT IT TO REMAIN A SECRET?	Yes, keep secret ..... 1 No ..... 2 DK /not sure/depends 8	
HA13. IF A MEMBER OF YOUR FAMILY BECAME SICK WITH THE AIDS VIRUS, WOULD YOU BE WILLING TO CARE FOR HIM OR HER IN YOUR HOUSEHOLD?	Yes ..... 1 No ..... 2 DK /not sure/depends 8	
HA14. *Check MN5: Tested for HIV during antenatal care?* [ ] *Yes. —► Go to HA18A* [ ] *No. —► Continue with HA15*		
HA15. I DO NOT WANT TO KNOW THE RESULTS, BUT HAVE YOU EVER BEEN TESTED TO SEE IF YOU HAVE HIV, THE VIRUS THAT CAUSES AIDS?	Yes ..... 1 No 2	2—►HA18
HA16. I DO NOT WANT YOU TO TELL ME THE RESULTS OF THE TEST, BUT HAVE YOU BEEN TOLD THE RESULTS?	Yes ..... 1 No 2	
HA17. DID YOU, YOURSELF, ASK FOR THE TEST, WAS IT OFFERED TO YOU AND YOU ACCEPTED, OR WAS IT REQUIRED?	Asked for the test ..... 1 Offered and accepted ..... 2 Required 3	1—►NEXT MODULE 2—►NEXT MODULE 3—►NEXT MODULE
HA18. AT THIS TIME, DO YOU KNOW OF A PLACE WHERE YOU CAN GO TO GET SUCH A TEST TO SEE IF YOU HAVE THE AIDS VIRUS? HA18A. If tested for HIV during antenatal care: OTHER THAN AT THE ANTENATAL CLINIC, DO YOU KNOW OF A PLACE WHERE YOU CAN GO TO GET A TEST TO SEE IF YOU HAVE THE AIDS VIRUS?	Yes ..... 1 No 2	

WT2. Record the time.	Hour and minutes __ __ : __ __

REMARKS AND OBSERVATIONS

SUPERVISOR
FIELD EDITOR
FIELD MONITORS/CO-ORDINATORS
OFFICE EDITOR

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

UNDER-FIVE CHILD INFORMATION PANEL	UF
This questionnaire is to be administered to all mothers or caretakers (see household listing, column 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.* *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.*	
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: ___ ___ /___ ___ / ___ ___ ___ ___

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?

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.

UF9. Result of interview for children under 5 (*Codes refer to mother/caretaker*.)	Completed.....1 Not at home.....2 Refused .....3 Partly completed .....4 Incapacitated.....5 Other (*specify*) 6

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.*

UF91. Supervisor (name and number): Name_____	UF92. Field edited by (name and number): Name_____
UUF93. Data Entry (name and number): Name_____	

UF9A. *Record the time.*	Hour and minutes.....__ __ : __ __	
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? *Probe:* WHAT IS HIS/HER BIRTHDAY? *If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day* *MONTH AND YEAR MUST BE RECORDED.*	Date of birth: Day ..... __ __ DK day ..... 98 Month..... __ __ Year.....__ __ __ __	
UF11. HOW OLD WAS (*name*) AT HIS/HER LAST BIRTHDAY? *Record age in completed years.*	Age in completed years.....__	

BIRTH REGISTRATION AND EARLY LEARNING		BR
BR1. DOES (*name*) HAVE A BIRTH CERTIFICATE? MAY I SEE IT?	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 ..... 2 DK 8	1—►BR5 8—►BR4
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 ..... __ __	

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*): *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)? *Circle all that apply.* BR8A. READ BOOKS, LOOK AT PICTURE BOOKS, OR TELL STORIES TO/WITH (*name*)? BR8D. TAKE (*name*) OUTSIDE THE HOME, COMPOUND, YARD OR ENCLOSURE? BR8E. PLAY WITH (*name*)? BR8F. NAME, COUNT, OR DRAW THINGS TO/WITH (*name*)?		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
CE2. HOW MANY CHILDREN'S BOOKS OR PICTURE BOOKS DO YOU HAVE FOR (*name*)? If 'none' enter 0	Number of children's books .....0 __ Ten or more books 10	1—►BR5
CE3. I AM INTERESTED IN LEARNING ABOUT THE THINGS THAT (*name*) PLAYS WITH WHEN HE/SHE IS AT HOME. WHAT DOES (*name*) PLAY WITH? DOES HE/SHE PLAY WITH? HOUSEHOLD OBJECTS OR OBJECTS FOUND OUTSIDE (SUCH AS BOWLS OR POTS, STICKS, ROCKS, ANIMAL SHELLS OR LEAVES)? HOMEMADE TOYS (SUCH AS DOLLS, CARS, OR OTHER TOYS MADE AT HOME)? TOYS THAT CAME FROM A SHOP? *If the respondent says "YES" to the categories above, then probe to learn specifically what the child plays with to ascertain the response*	Y N DK Household objects or outside objects 1 2 8 Homemade toys 1 2 8 Toys that came from a shop 1 2 8	
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. ON HOW MANY DAYS IN THE PAST WEEK WAS (*name*): LEFT ALONE? LEFT IN THE CARE OF ANOTHER CHILD (THAT IS, SOMEONE LESS THAN 10 YEARS OLD)? *If 'none' enter 0*	Number of days left alone .....__ Number of days left with other child .....__	
CE5. *Check UF11: Age of child 3 or 4?* [ ] *Age 0, 1 or 2 —► Go to Next Module* [ ] *Age 3 or 4 —► Continue with CE6*		

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. CAN (*name*) IDENTIFY/NAME AT LEAST TEN LETTERS OF THE ALPHABET?	Yes ..... 1 No ..... 2 DK 8	
CE7. CAN (*name*) ATTACH SOUNDS TO MOST OR MORE THAN HALF OF THE LETTERS?	Yes ..... 1 No ..... 2 DK 8	
CE8. CAN (*name*) READ AT LEAST FOUR SIMPLE, ONE-SYLLABLE, POPULAR WORDS?	Yes ..... 1 No ..... 2 DK 8	
CE9. IS (*name*) INTERESTED IN NUMBERS, COUNTING, SORTING OR ADDING?	Yes ..... 1 No ..... 2 DK 8	
CE10. DOES (*name*) KNOW THE NAME AND RECOGNIZE THE SYMBOL OF ALL NUMBERS FROM 1 TO 10 MOST OF THE TIME?	Yes ..... 1 No ..... 2 DK 8	
CE11. WHEN YOU COMPARE TWO NUMBERS UP TO 10, DOES (*name*) KNOW WHICH ONE IS BIGGER MOST OF THE TIME?	Yes ..... 1 No ..... 2 DK 8	
CE12. IS (*name*) ABLE TO USE AND MANIPULATE SMALL OBJECTS AND TOYS?	Yes ..... 1 No ..... 2 DK 8	
CE13. IS (*name*) SOMETIMES TOO TIRED, SLEEPY OR SICK TO PLAY?	Yes ..... 1 No ..... 2 DK 8	
CE14. IS (*name*) SOMETIMES TOO HUNGRY TO PLAY?	Yes ..... 1 No ..... 2 DK 8	

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

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

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	

BREASTFEEDING		BF
BF1. HAS (*name*) EVER BEEN BREASTFED?	Yes ..... 1 No ..... 2 DK 8	 2 —►BF3 8 —►BF3
BF2. IS HE/SHE STILL BEING BREASTFED?	Yes ..... 1 No ..... 2 DK 8	
BF3. I WOULD LIKE TO ASK YOU ABOUT LIQUIDS THAT (*name*) MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. I AM INTERESTED IN WHETHER (name) HAD THE ITEM EVEN IF IT WAS COMBINED WITH OTHER FOODS. DID (*name*) DRINK OR EAT ANY (*item from list*): YESTERDAY, DURING THE DAY OR NIGHT? *Read each item aloud and record response before proceeding to the next item. Ask the number of times the child had infant formula, milk, yogurt and solid, semi-solid foods.*	Y N DK Vitamin supplements ..... 1 2 8 ORS 1 ..... 2 8 Plain water ..... 1 2 8 Infant formula ..... 1 2 8 Number of times ..... __ __ Milk ..... 1 2 8 Number of times ..... __ __ Juice ..... 1 2 8 Soup ..... 1 2 8 Any other liquid ..... 1 2 8 Yogurt ..... 1 2 8 Number of times ..... __ __ Porridge ..... 1 2 8 Solid or semi-solid food .... 1 2 8 Number of times ..... __ __	 2 OR 8 —►BF3E 2 OR 8 —►BF3F 2 OR 8 —►BF3J 2 OR 8 —►BF3L
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? CA2B. HOMEMADE SUGAR AND SALT SOLUTION? CA2C. A PRE-PACKAGED ORS FLUID FOR DIARRHOEA?	Yes No DK A. Fluid from ORS packet ..... 1 2 8 B. Sugar and salt solution ..... 1 2 8 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 Antimotility ..... B Zinc ..... C Other (Not antibiotic, antimotility or zinc) ..... D Unknown pill or syrup ..... E Injection Antibiotic ..... F Non-antibiotic ..... G Unknown injection ..... H Intravenous ..... I Home remedy/herbal medicine ..... J 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	
CA4B. WHERE DID YOU GET THE ORS PACKET FROM? _____ (Name of place)	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
CA7. WERE THE SYMPTOMS DUE TO A PROBLEM IN THE CHEST OR A BLOCKED NOSE?	Problem in chest ..... 1 Blocked nose ..... 2 Both ..... 3 Other (*specify*) ..... 6 DK 8	 2—▸CA12 6—▸CA12
CA8. DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS OUTSIDE THE HOME?	Yes ..... 1 No ..... 2 DK 8	 2—▸CA12 8—▸CA12
CA9. FROM WHERE DID YOU SEEK CARE? *Probe:* ANYWHERE ELSE? *Circle all providers mentioned, but do NOT prompt with any suggestions.* *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.* _____ (Name of place)	Public Sector Government hospital ..... C Government health center ..... D Government dispensary ..... E Other public (*specify*) ..... F Private medical sector Mission hospital/clinic ..... G Private hospital/clinic ..... H Nursing/maternity home ..... I Pharmacy ..... J Other private medical (*specify*) ..... K Mobile clinic ..... L Community health worker ..... M Other source Shop ..... O Traditional practitioner ..... P Relative/friend ..... Q Other (*specify*) X	
CA10. WAS (*name*) GIVEN MEDICINE TO TREAT THIS ILLNESS?	Yes ..... 1 No ..... 2 DK 8	 2—▸CA12 8—▸CA12
CA11. WHAT MEDICINE WAS (*name*) GIVEN? *Probe:* ANYTHING ELSE? *Circle all medicines given.*	Antibiotic ..... A Paracetamol/Panadol/Acetaminophen ..... P Aspirin ..... Q Ibupropfen ..... R Other (*specify*) ..... X DK ..... Z	

CA11A. *Check CA11: Antibiotic given?* [ ] *Yes.*—► *Continue with CA11B* [ ] *No.*—► *Go to CA12*		
CA11B. WHERE DID YOU GET THE ANTIBIOTIC? _____ (*Name of place*)	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	
CA11C. HOW MUCH DID YOU PAY FOR THE ANTIBIOTIC?	Shillings ..... __ __ __ __ Free ..... 9995 DK 9998	
CA12. *Check UF11: Child aged under 3?* [ ] *Yes.* —► *Continue with CA13* [ ] *No.*—► *Go to Next Module*		
CA13. THE LAST TIME (*name*) PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?	Child used toilet/latrine ..... 01 Put/rinsed into toilet or latrine ..... 02 Put/rinsed into drain or ditch ..... 03 Thrown into garbage (solid waste) ..... 04 Buried ..... 05 Left in the open ..... 06 Other (*specify*) ..... 96 DK 98	

MALARIA		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)?* [ ] *Yes.* —► *Continue with ML9* [ ] *No.* —► *Go to Next Module*		
ML9. HOW LONG AFTER THE FEVER STARTED DID (*name*) FIRST TAKE (*name of anti-malarial from ML4 or ML7*)? *If multiple anti-malarials mentioned in ML4 or ML7, name all anti-malarial medicines mentioned.* *Record the code for the day on which the first anti-malarial was given.*	Same day ..... 0 Next day ..... 1 2 days after the fever ..... 2 3 days after the fever ..... 3 4 or more days after the fever ..... 4 DK 8	
ML9A. WHERE DID YOU GET THE (name of anti-malarial from ML4 or ML7)? 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). _____ (*Name of place*)	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	
ML9B. HOW MUCH DID YOU PAY FOR THE (*name of anti-malarial from ML4 or ML7*)? *Refer to the same anti-malarial as in ML9A above*	Shillings ..... __ __ __ __ Free ..... 9996 DK 9998	

IMMUNIZATION										IM
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.										
IM1. IS THERE A VACCINATION CARD FOR (*name*)?	Yes, seen ... 1 Yes, not seen ... 2 No ... 3									2—►IM10 3—►IM10
(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.	Date of Immunization									
	DAY		MONTH		YEAR					
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 (Pentavalent-1) DPT1										
IM4B. DPT1–HepB + Hib: 2 (Pentavalent-2) DPT2										
IM4C. DPT1–HepB + Hib: 3 (Pentavalent-3) DPT3										
IM6. MEASLES MEASLES										
IM7. YELLOW FEVER YF										
IM8A. VITAMIN A (1) (*Last but one*) VITA1										
IM8B. VITAMIN A (2) (*Most recent*) VITA2										
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*	Yes ... 1 *(Probe for vaccinations and write '66' in the corresponding day column on IM2 to IM8B.)* No ... 2 DK ... 8									1—►IM19 2—►IM19 8—►IM19
IM10. HAS (*name*) EVER RECEIVED ANY VACCINATIONS TO PREVENT HIM/HER FROM GETTING DISEASES, INCLUDING VACCINATIONS RECEIVED IN A CAMPAIGN OR IMMUNIZATION DAY?	Yes ... 1 No ... 2 DK ... 8									2—►IM19 8—►IM19

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 No ..... 2 DK 8	2—►IM15 8—►M15
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—►IM17 8—►IM17
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	

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:		Y	N	DK	
IM19A. National Immunization Day in 2010?	National Imm Day 2010	1	2	8	
IM19B. Malezibora, in May 2010?	Malezibora May 2010	1	2	8	
IM19C. Malezibora, in November 2010?	Malezibora Nov 2010	1	2	8	

UT2. Record the time.	Hour and minutes __ __ : __ __

IM20. *Does another eligible child reside in the household for whom this respondent is mother/caretaker? Check household listing, column HL8.*

[ ] *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. If this is the last eligible child in the household, go on to ANTHROPOMETRY MODULE.*

ANTHROPOMETRY MODULE		**NA**
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.		
AN0A. Measurer's identification code.	Measurer code ..... __ __	
AN0B. Result of measurement	Measured..... 1 Not present..... 2 Refused ..... 3 Other (*specify*) 6	 2—►ANS5 3—►ANS5 6—►ANS5
AN1. Child's weight	Kilograms (kg) .....[ ] [ ] . [ ]	
AN2. Child's length or height. 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).	Length (cm) Lying down .....1 [ ] [ ] [ ] . [ ] Height (cm) Standing up .....2 [ ] [ ] [ ] . [ ]	
AN3. WHETHER THE CHILD IS HAVING OEDEMA? (OBSERVE AND RECORD)	Checked Oedema present ..... 1 Oedema not present ..... 2 Unsure ..... 3 Not checked (*specify reason*) 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

Kenya, Nyanza Province
Multiple Indicator Cluster Survey
2011