

Kenya, Kisumu County



Monitoring the situation of children and women



Multiple Indicator Cluster Survey 2011

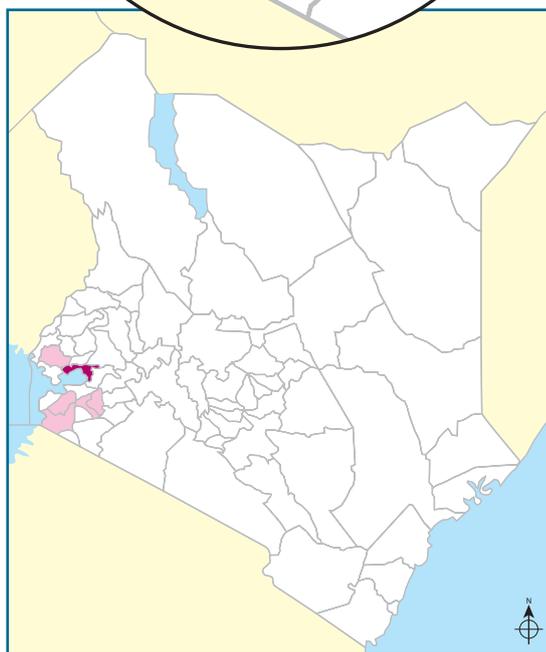
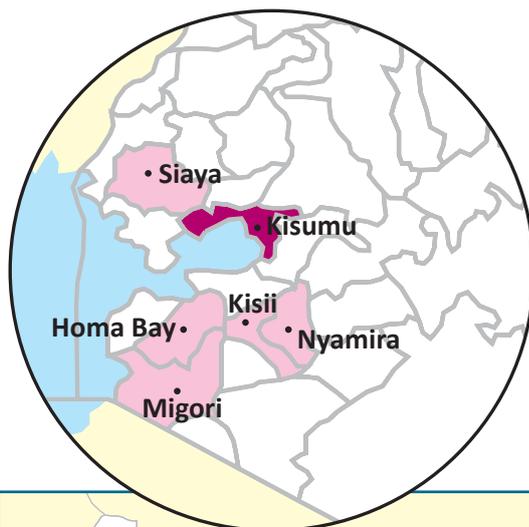


Kenya National Bureau
of Statistics



Kisumu County

Multiple Indicator Cluster Survey 2011



July, 2013



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

MICS is an international household survey programme developed by UNICEF. The Kisumu County MICS was conducted as part of the fourth global round of MICS surveys (MICS4). MICS provides up-to-date information on the situation of children and women and measures key indicators that allow countries to monitor progress towards the Millennium Development Goals (MDGs) and other internationally agreed upon commitments. Additional information on the global MICS project may be obtained from www.childinfo.org. In Kenya, this information is important to guide the planning and implementation of new development plans targeting the new administrative county-levels of governance.

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Multiple Indicator Cluster Survey
2011

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June, 2013

Table of Contents

List of Tables.....	v
List of Figures	viii
List of Abbreviations	ix
Foreword	x
Executive Summary.....	xi
Summary Table of Findings	xv
I. Introduction	1
Background	1
Survey Objectives	2
II. Sample and Survey Methodology	3
Sample Design	3
Questionnaires	3
Training and Fieldwork	4
Data Processing	5
III. Sample Coverage and the Characteristics of Households and Respondents.....	6
Sample Coverage.....	6
Characteristics of Households	6
Characteristics of Female Respondents 15-49 Years of Age and Children Under-5	9
IV. Child Mortality.....	12
V. Nutrition	13
Nutritional Status.....	13
Breastfeeding and Infant and Young Child Feeding.....	16
Salt Iodization.....	23
Children’s Vitamin A Supplementation	25
Low Birth Weight	26
VI. Child Health	29
Vaccinations	29
Neonatal Tetanus Protection	33
Oral Rehydration Treatment	34
Care Seeking and Antibiotic Treatment of Pneumonia.....	40
Solid Fuel Use	42
Malaria.....	44
VII. Water and Sanitation	51
Use of Improved Water Sources	51
Use of Improved Sanitation Facilities.....	57
Handwashing.....	65
VIII. Reproductive Health.....	69
Fertility.....	69
Contraception.....	73
Antenatal Care.....	75
Assistance at Delivery	78
Place of Delivery.....	81

IX. Child Development	82
Early Childhood Education and Learning.....	82
Early Childhood Development.....	87
X. Literacy and Education	89
Literacy among Young Women	89
School Readiness.....	89
Primary and Secondary School Participation	90
XI. Child Protection	97
Birth Registration.....	97
Child Labour	98
Child Discipline.....	101
Early Marriage and Polygyny.....	104
Female Genital Mutilation/Cutting.....	109
Attitudes toward Domestic Violence	111
XII. HIV/AIDS, Sexual Behaviour, and Orphans.....	113
Knowledge about HIV Transmission and Misconceptions about HIV/AIDS.....	113
Attitudes toward People Living with HIV/AIDS	118
Knowledge of a Place for HIV Testing, Counselling and Testing during Antenatal Care	119
Sexual Behaviour Related to HIV Transmission	122
Orphans.....	127
List of References	130
Appendix A. Sample Design	131
Appendix B. List of Personnel Involved in the Survey	135
Appendix C. Estimates of Sampling Errors.....	138
Appendix D. Data Quality Tables.....	142
Appendix E. MICS4 Indicators: Numerators and Denominators.....	154
Appendix F. Questionnaires.....	162

List of Tables

Table HH.1:	Results of household, women’s and under-5 interviews	6
Table HH.2:	Household age distribution by sex	7
Table HH.3:	Household composition	9
Table HH.4:	Women’s background characteristics.....	10
Table HH.5:	Under-5’s background characteristics.....	11
Table CM.1:	Children ever born, children surviving and proportion dead.....	12
Table NU.1:	Nutritional status of children	14
Table NU.2:	Initial breastfeeding.....	17
Table NU.3:	Breastfeeding.....	19
Table NU.4:	Duration of breastfeeding	20
Table NU.5:	Age-appropriate breastfeeding.....	21
Table NU.7:	Minimum meal frequency.....	22
Table NU.8:	Bottle feeding.....	23
Table NU.9:	Iodized salt consumption.....	24
Table NU.10:	Children’s vitamin A supplementation.....	26
Table NU.11:	Low birth weight infants.....	27
Table CH.1:	Vaccinations in first year of life	30
Table CH.2:	Vaccinations by background characteristics	32
Table CH.3:	Neonatal tetanus protection.....	33
Table CH.4:	Oral rehydration solutions and recommended homemade fluids.....	35
Table CH.5:	Feeding practices during diarrhoea	37
Table CH.6:	Oral rehydration therapy with continued feeding and other treatments	39
Table CH.7:	Care seeking for suspected pneumonia and antibiotic use during suspected pneumonia.....	41
Table CH.9:	Solid fuel use.....	43
Table CH.10:	Solid fuel use by place of cooking	44
Table CH.11:	Household availability of insecticide treated nets and protection by a vector control method	45
Table CH.12:	Children sleeping under mosquito nets	46
Table CH.13:	Pregnant women sleeping under mosquito nets	47
Table CH.14:	Anti-malarial treatment of children with anti-malarial drugs	48
Table CH.16:	Intermittent preventive treatment for malaria.....	50
Table WS.1:	Use of improved water sources	52
Table WS.2:	Household water treatment	54
Table WS.3:	Time to source of drinking water	55
Table WS.4:	Person collecting water	56
Table WS.5:	Types of sanitation facilities	58
Table WS.6:	Use and sharing of sanitation facilities	60
Table WS.7:	Disposal of child’s faeces	62
Table WS.8:	Drinking water and sanitation ladders	64
Table WS.9:	Water and soap at place for handwashing	69
Table WS.10:	Availability of soap	68

Table RH.1:	Current fertility.....	69
Table RH.1a:	Children ever born and children surviving	70
Table RH.2:	Early childbearing.....	71
Table RH.3:	Trends in early childbearing	72
Table RH.4:	Use of contraception	74
Table RH.6:	Antenatal care coverage	76
Table RH.7:	Number of antenatal care visits	77
Table RH.8:	Content of antenatal care	78
Table RH.9:	Assistance during delivery	80
Table RH.10:	Place of delivery.....	81
Table CD.1:	Early childhood education	82
Table CD.2:	Support for learning.....	84
Table CD.3:	Learning materials.....	85
Table CD.4:	Inadequate care	86
Table CD.5:	Early child development index.....	88
Table ED.1:	Literacy among young women.....	89
Table ED.2:	School readiness.....	90
Table ED.3:	Primary school entry	91
Table ED.4:	Primary school attendance	92
Table ED.5:	Secondary school attendance	93
Table ED.6:	Children reaching last grade of primary school	94
Table ED.7:	Primary school completion and transition to secondary school.....	95
Table ED.8:	Education gender parity.....	96
Table CP.1:	Birth registration.....	98
Table CP.2:	Child labour.....	100
Table CP.3:	Child labour and school attendance	101
Table CP.4:	Child discipline.....	103
Table CP.5:	Early marriage and polygyny.....	106
Table CP.6:	Trends in early marriage.....	107
Table CP.7:	Spousal age difference	108
Table CP.8:	Female genital mutilation/cutting (FGM/C) among women	109
Table CP.10:	Approval of female genital mutilation/cutting (FGM/C).....	110
Table CP.11:	Attitudes toward domestic violence.....	111

Table HA.1:	Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission.....	114
Table HA.2:	Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission among young people.....	115
Table HA.3:	Knowledge of mother-to-child HIV transmission	118
Table HA.4:	Accepting attitudes toward people living with HIV/AIDS.....	119
Table HA.5:	Knowledge of a place for HIV testing	120
Table HA.6:	Knowledge of a place for HIV testing among sexually active young women	121
Table HA.7:	HIV counselling and testing during antenatal care	122
Table HA.8:	Sexual behaviour that increases the risk of HIV infection.....	123
Table HA.9:	Sex with multiple partners	125
Table HA.10:	Sex with multiple partners among young women.....	126
Table HA.11:	Sex with non-regular partners.....	127
Table HA.12:	Children’s living arrangements and orphanhood	128
Table HA.13:	School attendance of orphans and non-orphans	129

List of Figures

Figure HH.1: Age and sex distribution of household population	8
Figure NU.1: Percentage of children under age 5 who are underweight, stunted and wasted	15
Figure NU.2: Percentage of mothers who started breastfeeding within one hour and within one day of birth.....	18
Figure NU.3: Percentage of households consuming adequately iodized salt	24
Figure NU.5: Percentage of infants weighing less than 2500 grams at birth.....	28
Figure CH.1: Percentage of children aged 12-23 months who received the recommended vaccinations by 12 months	31
Figure CH.3: Percentage of children under age 5 with diarrhoea who received oral rehydration treatment.....	36
Figure CH.4: Percentage of children under age 5 with diarrhoea who received ORT or increased fluids and continued feeding	40
Figure WS.1: Percentage distribution of household members by source of drinking water	53
Figure HA.1: Percentage of women who have comprehensive knowledge of HIV/AIDS transmission	117
Figure HA.2: Sexual behaviour that increases risk of HIV infection.....	124

List of Abbreviations

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

Foreword

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

The Multiple Indicator Cluster Survey (MICS) 2011 was conducted to provide comprehensive and disaggregated data to fill the existing gap, particularly at the county level. The survey, which was the first of its kind to be conducted at the devolved level, was a follow-up to the MICS 2008 conducted in 13 districts in Eastern Province and the 2009 Mombasa Informal Settlement Survey. The objective of Kisumu 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 Kisumu 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 Kisumu County Multiple Indicator Survey (MICS) is a representative sample survey conducted in 2011 and was drawn using the 2009 Kenya Population and Housing Census. The urban and rural areas within Kisumu County were identified as the main sampling strata and the sample was selected in two stages. The primary sampling units (PSUs) were the enumeration areas (EAs) while the households were the ultimate units. A total of 50 EAs were sampled using the Probability Proportional to Size (PPS) sampling methodology. After a household listing was carried out, a systematic sample of 25 households was drawn in each sample enumeration area. Information from a total of 1,119 households was collected from 5,260 household members, 2,607 males and 2,653 females. About 46 per cent of the sampled households' population is below 15 years, 49 per cent are aged between 15-64 years and 5 per cent are aged above 65 years.

The survey was implemented by the Kenya National Bureau of Statistics (KNBS) with technical support from UNICEF Kenya. The survey provides valuable information on the situation of children and women in Kisumu County, and was largely based on the need for high quality and sufficiently disaggregated county level MICS data as Kenya transitions from a central to a devolved governance structure in 2013.

The summary of the findings from the survey are presented below.

Child Mortality

For the ten year period preceding the survey, the neonatal, infant and under-five mortality rates are 23, 75 and 105 deaths per 1000 live births respectively. The estimated child mortality rate is 33 deaths per 1000 children surviving to the first birthday in the same period.

Nutritional Status, Breastfeeding and Low Birth weight

Based on WHO standards, approximately 15 per cent of children under age five in Kisumu County are moderately or severely underweight

whilst 2 per cent are classified as severely underweight. About 24 per cent are moderately or severely stunted or too short for their age whilst about 9 per cent are severely stunted. Additionally, 4 per cent are moderately or severely wasted or too thin for their height. Four per cent of the children are classified as overweight.

Only 43 per cent of children in Kisumu County are promptly breastfed for the first time (within one hour of birth), and only 39 per cent of children aged less than six months are being exclusively breastfed. Overall, 42 per cent of children aged less than 2 years are appropriately fed for their age. It is noteworthy that despite the risk of contamination, bottle feeding is still occurring in Kisumu County, with 12 per cent of children aged 0-23 months reported to have been bottle fed.

Seventy two per cent of children in Kisumu County are weighed at birth and it is estimated that 6 per cent are born with low birth weight.

Iodization and Vitamin A supplementation

The majority (90 per cent) of all households in Kisumu County consume salt containing the recommended levels of iodine (15 ppm).

Within the six months prior to the MICS, 44 per cent of children aged 6-59 months received a high dose Vitamin A supplement.

Immunization

Sixty four (64) per cent of children in Kisumu County receive the recommended vaccinations by their first birthday. The majority (99 per cent) of children in Kisumu County receive the BCG vaccine by their first birthday whilst 77 per cent and 87 per cent receive the 3rd doses of Polio and DPT vaccination by their first birthday respectively. Ninety (90) per cent of children have received their measles vaccine, and 83 per cent have been immunised against yellow fever. Sixty five (65) per cent of women who have had a live birth in the last 2 years are protected against tetanus.

Care of illness

Eighteen (18) per cent of under five children had diarrhoea in the two weeks preceding the survey. Two out of every five (40 per cent) of children with diarrhoea receive oral rehydration solutions (ORS) or other recommended homemade fluids. About 38 per cent of children receive oral rehydration therapy with continued feeding.

Six (6) per cent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Only a little more than half (52 per cent) of children with suspected pneumonia are taken to an appropriate provider. Only 63 per cent of children under five years of age with suspected pneumonia received an antibiotic during the two weeks prior to the survey.

Malaria prevention

The level of net ownership in Kisumu County is high with 89 per cent of households having at least one insecticide treated net and 92 per cent having at least one mosquito net. About 84 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. Similarly, 90 per cent of pregnant women slept under any mosquito net the night prior to the survey and 83 per cent slept under an insecticide treated net.

About one in every four (26 per cent) of under five children were ill with malarial fever in the two weeks prior to the survey. About 2 out of every 5 (39 per cent) of children who had fever in the last two weeks were treated with artemisinin combination drugs (the recommended first line anti-malarials and 52 per cent received any anti-malarial drugs. Thirty seven (37) per cent of children receive anti-malarial drugs within 24 hours on or on the next day after onset of symptoms.

Only 19 per cent of pregnant women who gave birth in the two years preceding the survey received the recommended IPTp dose (2 or more times).

Solid fuel use

The majority (91 per cent) of households in Kisumu County used solid fuels for cooking with the most common fuel being charcoal and wood.

Water and sanitation

Almost half (48 per cent) of the Kisumu household population uses drinking water from an improved source. The main improved source of drinking water is public tap/stand pipe while surface water is the most common source of unimproved drinking water. About 7 out of 10 (71 per cent) of those who use unimproved drinking water sources use an appropriate water treatment method, the most common method being the addition of bleach/chlorine (54 per cent).

A quarter of the households use non-shared improved sanitation facilities. Of households using improved sanitation facilities, 33 per cent using a pit latrine with slab, 10 per cent using a flush system and 7 per cent using ventilated improved pit latrines. The pit latrine without a slab is the most commonly used unimproved sanitation facility (35 per cent). Less than 10 per cent of the household populations have no sanitation facilities.

In 78 per cent of cases, stool of children age 0-2 years are disposed of safely. Eleven per cent of households had designated handwashing places observed, and both soap and water were present in 69 per cent of these households. About 93 per cent of the households have soap somewhere in the dwelling.

Reproductive health

The Total Fertility Rate in Kisumu County during the 3 years preceding the MICS survey was 4.8 children per woman. The adolescent birth rate was 199 births per 1000 women during the same period. Interestingly, although fertility increased in the 15-19 and 20-24 age groups, it generally declined in the 25-29 and 30-34 age groups over the last decade before the MICS survey.

The proportion of women aged 15-19 years who have begun childbearing (teenage pregnancy) is 34 per cent. Eight per cent of women aged 15-49 years have had a live birth before age 15 while 39 per cent of women aged 20-49 years have had a live birth before age 18.

Forty-three per cent of women who are currently married or in union use a modern contraceptive method while 1 per cent use traditional methods. Injectable contraceptives are by far the most popular method and are used by one in four (25 per cent) married women.

Coverage of antenatal care by any skilled personnel is relatively high with 95 per cent of women who gave birth in the two years preceding the survey receiving antenatal care. Antenatal care was most frequently provided by a nurse or midwife (61 per cent). At least nine in ten mothers (92 per cent) received antenatal care more than once whilst more than half (52 per cent) of mothers received antenatal care at least four times.

In the two years preceding the survey, more than half (56 per cent) of births were delivered in a health facility and 58 per cent were delivered by skilled personnel.

Childhood development

In Kisumu County, 53 per cent of children aged 36-59 months are attending pre-school. About 31 per cent of under-five children engaged with an adult household member in more than four learning activities during the 3 days preceding the survey. Only 6 per cent of children are living in households where at least 3 children's books are present. About 42 per cent of children aged 36-59 months are developmentally on track. Also approximately 42 per cent of children were left with inadequate care in the week preceding the survey.

Literacy and Education

In Kisumu County, about 90 per cent of women aged 15-24 are literate. Only 74 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. The primary school completion rate is 88 per cent but transition to secondary school is

67.3 per cent. The net primary school attendance rate is 76 per cent, while that of secondary school stands at 18 per cent.

Child protection

In Kisumu County, 53 per cent of children aged 36-59 months are attending pre-school. About 30 per cent of under-five children engaged with an adult household member in more than four learning activities during the 3 days preceding the survey. Only 6 per cent of children are living in households where at least 3 children's books are present. About 42 per cent of children aged 36-59 months are developmentally on track.

Literacy and Education

In Kisumu County, about 90 per cent of women aged 15-24 are literate. Only 74 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. About a quarter of children who are of primary school age enter grade 1. The primary school completion rate is 91 per cent while the transition rate to secondary school is 67 per cent.

Child protection

Only 53 per cent of children under five years in Kisumu County have had their births registered. Amongst children whose births are not registered, only 14 per cent of mothers/caretakers reported knowing how to register birth.

Almost half (46 per cent) of children aged 5-14 years in Kisumu County are engaged in child labour. About 3 out of 5 (62 per cent) of the children age 2-14 years were subjected to at least one form of violent discipline method by their mothers/caretakers in the one month prior to the survey.

About 42 per cent of women aged 15-49 years are married before their 18th birthday, and almost a quarter (24 per cent) of the adolescent girls of aged 15-19 years in Kisumu County are currently married or in union. Among married women aged 15-19 years, 22 per cent have partners who are 10 or more years older.

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

About 78 per cent of women aged 15-49 years in Kisumu County have heard about FGM/C and slightly more than 2 per cent have undergone a form of FGM/C. About 1 in every 7 (14 per cent) of women aged 15-49 years believe that the practice of FGM/C should be continued.

Domestic violence

Almost half (49 per cent) the population of women age 15-49 years feel that a husband/partner is justified in beating his wife/partner in various circumstances including 'if she neglects the children' (39 per cent) or 'if she argues with him' (24 per cent).

HIV and AIDS

About all (100 per cent) women in Kisumu County have heard of AIDS but only 56 per cent have comprehensive knowledge of HIV prevention methods and transmission.

Knowledge of mother-to-child transmission of HIV is near universal (94 per cent). However, less than half (42 per cent) know of three main ways of HIV transmission.

Stigma and discrimination are still fairly high in Kisumu County as only 19 per cent of women expressed accepting attitudes towards people living with HIV according to all four indicators namely: would care for family member sick with AIDS; would buy fresh vegetables from a vendor who was HIV positive; thinks that a female teacher who is

HIV positive should be allowed to teach in school; and would not want to keep HIV status of a family member a secret.

Although knowledge of a place for HIV testing is nearly universal (95 per cent), only 55 per cent of women have ever been tested. Whilst 82 per cent of the women who gave birth in the last two years preceding the survey received HIV counselling during antenatal care, 81 per cent were offered a HIV test and tested for HIV.

Almost half (48 per cent) of young women aged 15-24 years who have never been married have had sex while almost one out of five (19 per cent) had sex before age 15. Eighteen per cent of young women aged 15-24 years had sex with a man 10 or more years older in the year preceding the survey.

About 2 per cent of women reported having sex with more than one partner in the year preceding the survey. Moreover, about 2 per cent of young women aged 15-24 years had sex with a non-marital, non-cohabiting partner during the same period.

Orphans and vulnerable children

Sixteen per cent of children aged below 18 years are not living with a biological parent. For about 1 in 5 (20 per cent) of children below age 18 in Kisumu County, one or both parents is dead. Seven per cent of children aged 10-14 years have lost both parents. Only 92 per cent of children aged 10-14 years who have lost both parents are currently attending school compared to 99 per cent of non-orphans (orphans to non-orphans school attendance ratio is 0.93).

Summary Table of Findings

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

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units
SAMPLE				
Households			Households interviewed	1119
Women			Number of women interview	926
Children			Number of children under-5 years with completed information	765
CHILD MORTALITY				
Child mortality	1.1	4.1	Under-five mortality rate	105 per thousand
	1.2	4.2	Infant mortality rate	75 per thousand
	1.3		Neonatal mortality rate	23 per thousand
	1.4		Post neonatal mortality rate	52 per thousand
	1.5		Child mortality rate	33 per thousand live births surviving up to 12 months of age
NUTRITION				
Nutritional status		1.8	Underweight prevalence	
	2.1a		Moderate and Severe (- 2 SD)	14.9 per cent
	2.1b		Severe (- 3 SD)	2.4 per cent
			Stunting prevalence	
	2.2a		Moderate and Severe (- 2 SD)	23.7 per cent
	2.2b		Severe (- 3 SD)	9.4 per cent
			Wasting prevalence	
	2.3a		Moderate and Severe (- 2 SD)	4.1 per cent
	2.3b		Severe (- 3 SD)	0.5 per cent
Breastfeeding and infant feeding	2.4		Children ever breastfed	97.1 per cent
	2.5		Early initiation of breastfeeding	43.1 per cent
	2.6		Exclusive breastfeeding under 6 months	38.5 per cent
	2.7		Continued breastfeeding at 1 year	83.1 per cent
	2.8		Continued breastfeeding at 2 years	(39.7) per cent
	2.9		Predominant breastfeeding under 6 months	58.1 per cent
	2.10		Duration of breastfeeding	21 months
	2.11		Bottle feeding	11.8 per cent
	2.12		Introduction of solid, semi-solid or soft foods	(20.5) per cent
	2.13		Minimum meal frequency	17.6 per cent
2.14		Age-appropriate breastfeeding	41.7 per cent	

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units
	2.15		Milk feeding frequency for non-breastfed children	13.5 per cent
Salt iodization	2.16		Iodized salt consumption	90.3 per cent
Vitamin A	2.17		Vitamin A supplementation (children under age 5)	43.6 per cent
Low birth weight	2.18		Low-birthweight infants	6.4 per cent
	2.19		Infants weighed at birth	71.5 per cent
CHILD HEALTH				
Vaccinations	3.1		Tuberculosis immunization coverage	99.3 per cent
	3.2		Polio immunization coverage	77.3 per cent
	3.3		Immunization coverage for diphtheria, pertussis and tetanus (DPT)	86.6per cent
	3.4	4.3	Measles immunization coverage	89.9 per cent
	3.6		Yellow fever immunization coverage	83.4 per cent
Tetanus toxoid	3.7		Neonatal tetanus protection	64.5 per cent
Care of illness	3.8		Oral rehydration therapy with continued feeding	37.8 per cent
	3.9		Care seeking for suspected pneumonia	51.5 per cent
	3.10		Antibiotic treatment of suspected pneumonia	63.0 per cent
Solid fuel use	3.11		Solid fuels	91.2 per cent
Malaria	3.12		Household availability of insecticide-treated nets (ITNs)	88.9 per cent
	3.13		Households protected by a vector control method	92.5 per cent
	3.14		Children under age 5 sleeping under any mosquito net	83.6 per cent
	3.15	6.7	Children under age 5 sleeping under insecticide-treated nets (ITNs)	77.8 per cent
	3.17		Antimalarial treatment of children under 5 the same or next day	36.7 per cent
	3.18	6.8	Antimalarial treatment of children under age 5	51.7 per cent
	3.19		Pregnant women sleeping under insecticide-treated nets (ITNs)	82.6 per cent
	3.20		Intermittent preventive treatment for malaria	18.5 per cent
WATER AND SANITATION				
Water and sanitation	4.1	7.8	Use of improved drinking water sources	48.4 per cent
	4.2		Water treatment	71.1 per cent
	4.3	7.9	Use of improved sanitation facilities	25.0 per cent
	4.4		Safe disposal of child's faeces	78.3 per cent
	4.5		Place for handwashing	68.5 per cent
	4.6		Availability of soap	93.4 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	199 per 1,000
	5.2		Early childbearing	39.9 per cent
	5.3	5.3	Contraceptive prevalence rate	44.4 Per cent
Maternal and new-born health		5.5	Antenatal care coverage	
	5.5a		At least once by skilled personnel	95.1 per cent
	5.5b		At least four times by any provider	52.3 per cent
	5.6		Content of antenatal care	75.1 per cent
	5.7	5.2	Skilled attendant at delivery	57.7 per cent
	5.8		Institutional deliveries	55.5 per cent
	5.9		Caesarean section	6.6 per cent
CHILD DEVELOPMENT				
Child development	6.1		Support for learning	30.9 per cent
	6.2		Father's support for learning	28.4 per cent
	6.3		Learning materials: children's books	6.4 per cent
	6.4		Learning materials: playthings	61.9 per cent
	6.5		Inadequate care	41.9 per cent
	6.6		Early child development index	41.6 per cent
	6.7		Attendance to early childhood education	53.0 per cent
EDUCATION				
Literacy and education	7.1	2.3	Literacy rate among young women	90.2 per cent
	7.2		School readiness	73.9 per cent
	7.3		Net intake rate in primary education	24.9 per cent
	7.4	2.1	Primary school net attendance ratio (adjusted)	80.8 per cent
	7.5		Secondary school net attendance ratio(adjusted)	27.1per cent
	7.6	2.2	Children reaching last grade of primary	91.3per cent
	7.7		Primary completion rate	87.9 per cent
	7.8		Transition rate to secondary school	67.3per cent
	7.9		Gender parity index (primary school)	1.09
	7.10		Gender parity index (secondary school)	0.90
CHILD PROTECTION				
Birth registration	8.1		Birth registration	53.4 per cent
Child labour	8.2		Child labour	45.4 per cent
	8.3		School attendance among child labourers	96.5per cent
	8.4		Child labour among students	45.7 per cent
Child discipline	8.5		Violent discipline	61.9 per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value and Units
Early marriage and polygyny	8.6		Marriage before age 15	12.3 per cent
	8.7		Marriage before age 18	41.6per cent
	8.8		Young women age 15-19 currently married or in union	23.6per cent
	8.9		Polygyny	0.0 per cent
			Spousal age difference	
	8.10b		Women age 20-24	24.7per cent
Female genital mutilation/cutting	8.11		Approval for female genital mutilation/cutting (FGM/C)	14.4per cent
	8.12		Prevalence of female genital mutilation/cutting (FGM/C) among women	2.2per cent
Domestic violence	8.14		Attitudes towards domestic violence	48.6 per cent
HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN				
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention	55.8 per cent
	9.2	6.3	Comprehensive knowledge about HIV prevention among young people	51.5 per cent
	9.3		Knowledge of mother-to-child transmission of HIV	41.9 per cent
	9.4		Accepting attitude towards people living with HIV	18.8 per cent
	9.5		Women who know where to be tested for HIV	95.5 per cent
	9.7		Sexually active young women who have been tested for HIV and know the results	37.8 per cent
	9.8		HIV counselling during antenatal care	83.2per cent
	9.9		HIV testing during antenatal care	81.1 per cent
Sexual behaviour	9.10		Young women who have never had sex	47.9 per cent
	9.11		Sex before age 15 among young women	18.9 per cent
	9.12		Age-mixing among sexual partners	18.0 per cent
	9.13		Sex with multiple partners	2.4 per cent
	9.15		Sex with non-regular partners	2.3 per cent
Orphaned children	9.17		Children's living arrangements	15.5 per cent
	9.18		Prevalence of children with at least one parent dead	19.8 per cent
	9.19	6.4	School attendance of orphans	91.5 per cent
	9.20	6.4	School attendance of non-orphans	98.8 per cent

I. Introduction

Background

This report is based on the Kisumu Multiple Indicator Cluster Survey, conducted in 2011 by the KNBS and UNICEF. The survey provides valuable information on the situation of children and women in Kisumu County, and was based on the need to monitor progress towards the goals and targets emanating from recent international agreements: the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000, and the Plan of Action of A World Fit For Children, adopted by 189 Member States at the United Nations Special Session on Children in May 2002. Both of these commitments build upon promises made by the international community at the 1990 World Summit for Children and are in line with Kenya's Vision 2030 blueprint which aims to transform the country into a middle income country by 2030.

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

A Commitment to Action: National and International Reporting Responsibilities

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

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

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

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

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

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

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

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

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

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

Survey Objectives

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

- To provide up-to-date information for assessing the situation of children and women in Kisumu County;
- To furnish data needed for monitoring progress toward goals established in the Millennium Declaration and other internationally agreed upon goals, as a basis for future action;
- To contribute to the improvement of data and monitoring systems in Kisumu County and to strengthen technical expertise in the design, implementation, and analysis of such systems.
- To generate data on the situation of children and women, including the identification of vulnerable groups and of disparities in order to inform policies and interventions

II. Sample and Survey Methodology

Sample Design

The sample for the Kisumu Multiple Indicator Cluster Survey (MICS) was designed to provide estimates for a large number of indicators on the situation of children and women at county level, for urban and rural area. The urban and rural areas within Kisumu were identified as the main sampling strata and the sample was selected in two stages. Therefore, to attain the desired sample size, a two-stage stratified sampling design was applied. The primary sampling units (PSUs) for the survey were the recently created enumeration areas (EAs) based on the 2009 Kenya Population and Housing Census while the households were the ultimate units. Within each stratum, a specified number of census enumeration areas were selected systematically according to the probability proportional to size (PPS) sampling method. After a household listing was carried out within the selected enumeration areas, a systematic sample of 25 households was drawn in each sample enumeration area. In total there were 50 enumeration areas (clusters). The sample was stratified by regional, urban and rural areas, and is not self-weighting. For reporting county level results, sample weights are used. A more detailed description of the sample design can be found in Appendix A.

Questionnaires

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

The Household Questionnaire included the following modules:

- Household Listing Form
- Education
- Water and Sanitation
- Household Characteristics
- Insecticide Treated Nets
- Indoor Residual Spraying
- Child Labour
- Child Discipline
- Handwashing
- Salt Iodization
- Orphaned and vulnerable children
- Disability

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
- Planning of the last pregnancy
- 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 age¹ living in the households. Normally, the questionnaire was administered to mothers of under-5 children; in cases where 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 questionnaire². From the MICS4 model English version, the questionnaires were translated into Swahili and Luo which are the commonly spoken languages in Kisumu County. A copy of the MICS questionnaires that were used 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. Details and findings of these measurements are provided in the respective sections of the report.

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.

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

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

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

Data Processing

Data were entered using the CPro software. The data were entered on 43 micro-computers and carried out 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 Kisumu County questionnaire were used throughout. Data processing began simultaneously with data collection in October 2011 and was completed in January 2012. Data were analysed using the Statistical Package for Social Sciences (SPSS) software program, Version 18, and the model syntax and tabulation plans developed by UNICEF were used for this purpose.

III. Sample Coverage and the Characteristics of Households and Respondents

Sample Coverage

Of the 1250 households selected for the sample, 1154 were found to be occupied. Of these, 1119 were successfully interviewed yielding a household response rate of 97 per cent. In the interviewed households, 1033 women (age 15-49 years) were eligible. Of these, 926 were successfully interviewed, yielding a response rate of 89.6 per cent within interviewed households. In addition, 771 children under age five were listed in the household questionnaire. Questionnaires were completed for 765 of these children, which corresponds to a response rate of 99.2 per cent within interviewed households. Overall response rates of 86.9 and 96.2 are calculated for the women's and under-5 children's interviews respectively (Table HH.1)

Table HH.1: Results of household and individual interviews

Number of households, women, and children under 5 by results of the interviews, and household, women's and under-5's response rates, Kisumu County, 2011	
Households	
Sampled	1250
Occupied	1154
Interviewed	1119
Household response rate	97.0
Women	
Eligible	1033
Interviewed	926
Women's response rate	89.6
Women's overall response rate	86.9
Children under 5	
Eligible	771
Mothers/caretakers interviewed	765
Under-5's response rate	99.2
Under-5's overall response rate	96.2

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 1154 households successfully interviewed in the survey, 5260 household members were listed. Of these, 2607 were males, and 2653 were females. The age distribution from Table HH.2 shows that 45 per cent of the population in the sampled households is below 15 years of age, 52 per cent are aged between 15-64 years and 3 per cent are aged above 65 years. The child population aged between 0-17 years is 52 per cent, highlighting a high dependency burden in Kisumu County.

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, Kisumu County, 2011							
		Males		Females		Total	
		Number	Per cent	Number	Per cent	Number	Per cent
Age	0-4	439	16.8	427	16.1	866	16.5
	5-9	372	14.3	397	15.0	770	14.6
	10-14	365	14.0	354	13.3	719	13.7
	15-19	314	12.0	264	10.0	578	11.0
	20-24	200	7.7	252	9.5	452	8.6
	25-29	208	8.0	227	8.6	434	8.3
	30-34	158	6.1	121	4.6	279	5.3
	35-39	142	5.4	120	4.5	262	5.0
	40-44	81	3.1	105	3.9	186	3.5
	45-49	76	2.9	87	3.3	162	3.1
	50-54	75	2.9	88	3.3	163	3.1
	55-59	60	2.3	73	2.8	133	2.5
	60-64	38	1.4	50	1.9	87	1.7
	65-69	27	1.0	20	0.7	46	0.9
	70-74	23	0.9	24	0.9	47	0.9
	75-79	13	0.5	21	0.8	33	0.6
	80-84	11	0.4	15	0.6	26	0.5
	85+	4	0.1	8	0.3	12	0.2
Missing/DK	3	0.1	1	0.0	4	0.1	
Dependency age groups	0-14	1177	45.2	1178	44.4	2355	44.8
	15-64	1349	51.8	1386	52.3	2735	52.0
	65+	77	3.0	88	3.3	165	3.1
	Missing/DK	3	0.1	1	0.0	4	0.1
Children and adult populations	Children age 0-17 years	1369	52.5	1342	50.6	2711	51.5
	Adults age 18+ years	1235	47.3	1310	49.4	2545	48.4
	Missing/DK	3	0.1	1	0.0	4	0.1
Total		2607	100.0	2653	100.0	5260	100.0

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

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

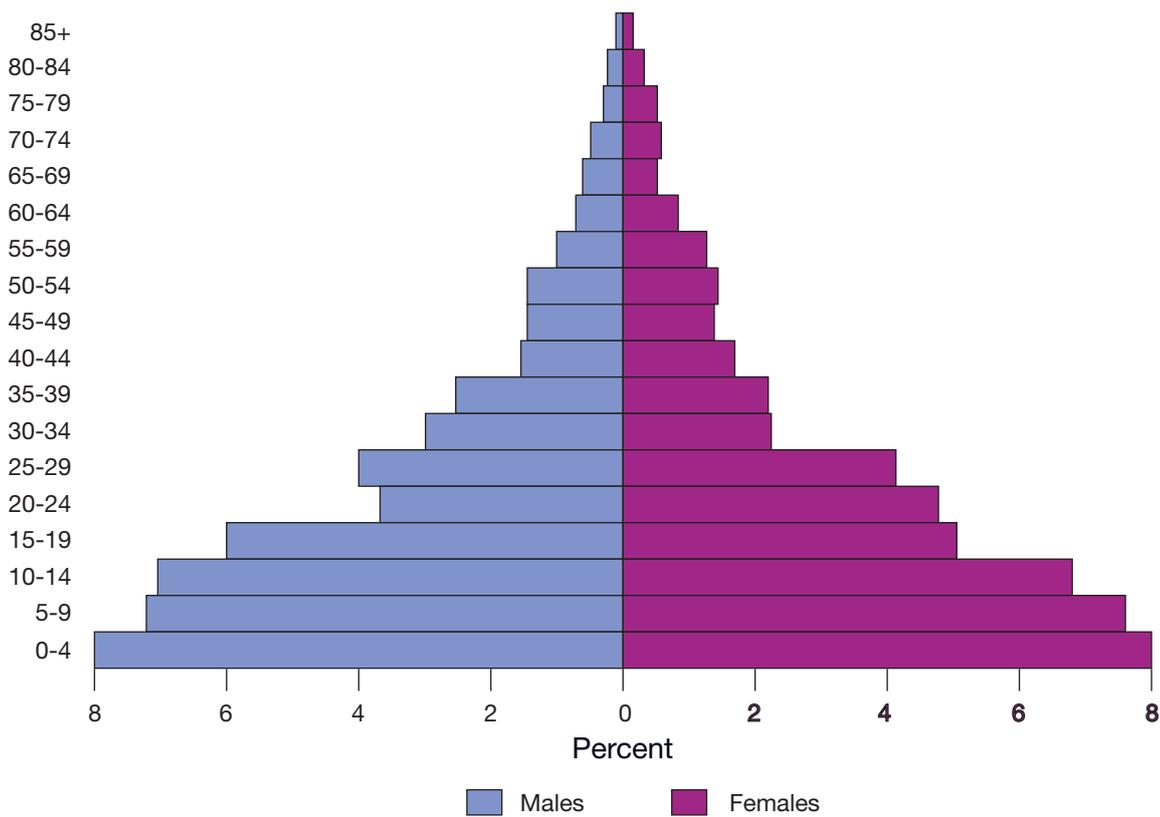


Table HH.3 - HH.5 provide basic information on the households, female respondents age 15-49, and children under-5 by presenting the un-weighted, as well as the weighted numbers. Information on the basic characteristics of households, women and children under-5 interviewed in the survey is essential for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

Table HH.3 provides basic background information on the households. Within households, the sex of the household head, residence, number of household members, and education of household head of the household head are shown in the table. These background characteristics are used in subsequent tables in this report; the figures in the table are also intended to show the numbers of observations by major categories of analysis in the report. The weighted and unweighted numbers of households are equal, since sample weights were normalized (See Appendix A). The table also shows the proportions of households with at least one child under 18, 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 Kisumu County, about 34 per cent of the residents live in the urban areas. The mean household size is 4.1 persons. About 32 per cent of the households are reportedly headed by females and approximately 46 per cent of the households have at least one child below 5 years of age. About 75 per cent of the households have at least one child below 18 years of age and 71 per cent have at least one female in the reproductive age group 15-49 years. About 25 per cent of the household heads have no education, 48 per cent have attained primary while 27 per cent have attained secondary level education.

Table HH.3: Household composition

Percentage and frequency distribution of households by selected characteristics, Kisumu County, 2011			
	Weighted per cent	Number of households	
		Weighted	Unweighted
Sex of household head			
Male	68.4	862	767
Female	31.6	398	352
Residence			
Rural	34.3	432	365
Urban	65.7	829	754
Number of household members			
1	14.6	184	164
2	11.1	140	123
3	15.0	189	168
4	18.2	229	203
5	15.8	199	178
6	10.0	127	111
7	7.3	92	83
8	3.7	47	41
9	1.8	23	21
10+	2.5	32	27
Education of household head			
None	24.5	308	268
Primary	48.3	609	547
Secondary+	26.7	336	298
Total	100	1261	1119
Households with at least			
One child age 0-4 years	46.4	1261	1119
One child age 0-17 years	74.7	1261	1119
One woman age 15-49 years	70.5	1261	1119
Mean household size	4.1	1261	1119

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

Table HH.4: Women's background characteristics

Percentage and frequency distribution of women age 15-49 years by selected background characteristics, Kisumu County, 2011				
		Weighted per cent	Number of women	
			Weighted	Unweighted
Area	Urban	36.5	386	323
	Rural	63.5	671	603
Age	15-19	18.9	199	175
	20-24	21.3	226	197
	25-29	20.6	218	193
	30-34	11.1	118	104
	35-39	10.6	112	99
	40-44	9.7	102	88
	45-49	7.8	82	70
Marital/Union status	Currently married/in union	65.6	694	608
	Widowed	7.8	83	72
	Divorced	0.7	8	7
	Separated	3.5	38	32
	Never married/in union	22.3	235	207
Motherhood status	Ever gave birth	81.1	858	752
	Never gave birth	18.9	200	174
Births in last two years	Had a birth in last two years	30.1	318	277
	Had no birth in last two years	69.9	740	649
Education	None	12.5	132	109
	Primary	59.5	630	555
	Secondary+	28.0	296	262
Wealth index quintiles	Poorest	8.7	92	80
	Second	12.0	127	111
	Middle	15.8	168	156
	Fourth	24.0	254	231
	Richest	39.4	417	348
Total		100	1057	926

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

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

4 Principal components analysis was performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth to assign weights (factor scores) to each of the household assets. Each household was then assigned a wealth score based on these weights and the assets owned by that household. The survey household population was then ranked according to the wealth score of the household they are living in, and was finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest). The assets used in these calculations were as follows: source of drinking water, type of sanitation, persons per sleeping room, type of floor, roof, wall, cooking fuel; possession of electricity, radio, black and white Tv, colorTv, mobile3 phone, non-mobile phone, fridge, blender, water heater, washing machine, computer, internet, watch, bicycle, car or truck, motorcycle, boat, boat with motor, ownership of dwelling unit, land, cattle, cows, goats, sheep, chicken, horse or donkey, sewing machine, air conditioner, VCR or DVD). The wealth index is assumed to capture the underlying long-term wealth through information on the household assets, and is intended to produce a ranking of households by wealth, from poorest to richest. The wealth index does not provide information on absolute poverty, current income or expenditure levels. The wealth scores calculated are applicable for only the particular data set they are based on. Further information on the construction of the wealth index can be found in Filmer, D. and Pritchett, L., 2001. "Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India". *Demography* 38(1): 115-132. Gwatkin, D.R., Rutstein, S., Johnson, K., Pande, R. and Wagstaff, A., 2000. *Socio-Economic Differences in Health, Nutrition, and Population*. HNP/Poverty Thematic Group, Washington, DC: World Bank. Rutstein, S.O. and Johnson, K., 2004. *The DHS Wealth Index*. DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro

In Kisumu County, the highest proportion of women aged 15-49 years was in the age category of 20 to 29 years (42 per cent). About 66 per cent of the women aged 15-49 years are currently married whilst 22 per cent reported never having been married or in a union. Eighty one per cent of the women reported having given birth, while 19 per cent had never given birth. Seventy per cent of women had not given birth in the two years preceding the survey. The majority of women had attained primary education (60 per cent) but only 28 per cent had attained secondary level education. About 39 per cent of the women were from households in the richest wealth quintile, while 9 per cent came from households in the poorest wealth index households.

Some background characteristics of children under 5 are presented in Table HH.5. These include the distribution of children by several attributes: sex, residence, age, mother's or caretaker's education, and wealth index. The results show that the proportion of male to female children aged 0-4 years is comparable with each accounting for 50 per cent. About 10 per cent of children aged below five years are in the 0-5 month age group, about an equal proportion of children are in the 6-11 month category. The largest proportion of the children was in the middle age categories of 12 to 47 months which corresponds to 57 per cent of the sample. Sixty seven per cent of children have mothers who have attained primary level education, while twenty two per cent have mothers who have attained at least secondary education. The distribution of children below five years by wealth index shows that 13 per cent come from households in the lowest income category while 31 per cent are from households in the highest income category.

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

Percentage and frequency distribution of children under five years of age by selected characteristics, Kisumu County, 2011				
		Weighted per cent	Number of children	
			Weighted	Unweighted
Sex	Male	50.3	433	382
	Female	49.7	427	383
Area	Urban	30.9	266	225
	Rural	69.1	595	540
Age	0-5 months	9.7	84	76
	6-11 months	10.3	89	72
	12-23 months	17.1	147	132
	24-35 months	21.2	182	163
	36-47 months	20.3	175	157
	48-59 months	21.3	184	165
Mother's education	None	10.8	93	78
	Primary	66.9	576	516
	Secondary+	22.3	192	171
Wealth index quintiles	Poorest	12.8	110	95
	Second	16.9	145	128
	Middle	17.4	150	144
	Fourth	22.3	192	178
	Richest	30.7	264	220
Total		100	861	765

* Mother's education refers to educational attainment of mothers and caretakers of children under 5.

IV. Child Mortality

One of the overarching goals of the Millennium Development Goals (MDGs) is the reduction of infant and under-five mortality. Specifically, the MDGs call for reduction in under-five mortality by two-thirds between 1990 and 2015. Monitoring progress towards this goal is an important but difficult objective. Measuring childhood mortality may seem easy, but attempts using direct questions, such as “Has anyone in this household died in the last year?” give inaccurate results.

The Kisumu County Multiple Indicator Cluster 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 the survey, information on age of the child at the time of death is also obtained. This method is being used by the Demographic and Health Surveys (DHS) worldwide including the Kenya Demographic and Health Survey (KDHS). This allows us to compare the mortality rates obtained by MICS with those of KDHS.

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

Table CM.1 provides estimates of early childhood mortality for the ten year periods preceding the MICS survey. For the ten years immediately preceding the survey, the infant mortality rate is estimated at 75 deaths per 1000 live births, while the probability of dying under age 5 (U5MR) is around 105 deaths per 1000 live births. This implies that about 1 in every 13 children born in Kisumu County dies before their first birthday, while about 1 in every 10 does not survive to age five. The estimated neonatal mortality rate is 23 per thousand live births while the post-neonatal mortality rate is 52 per thousand live births for the five years immediately preceding the MICS survey. This shows that almost a third of infant deaths in Kisumu County occur during the first month of life. The estimated child mortality rate is 33 deaths per 1000 children surviving to the first for the ten-year period preceding the survey. Table CM.1 also shows that over the past 20 years there has been a general decline in childhood mortality.

Table CM.1: Early childhood mortality rates

Neonatal, post-neonatal, Infant, child and under-five mortality rates for ten year periods preceding the survey, Kisumu County, 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]
0-9	22.8	51.8	74.6	33.4	105.4
10-19	30.3	69.6	99.9	69.8	162.7
[1] MICS indicator 1.3 [2] MICS indicator 1.4 [3] MICS indicator 1.2; MDG indicator 4.2 [4] MICS indicator 1.5 [5] MICS indicator 1.1; MDG indicator 4.1 Post-neonatal mortality rates are computed as the difference between the infant and neonatal mortality rates					

V. Nutrition

Nutritional Status

Children's nutritional status is a reflection of their overall health. When children have access to 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 those who survive have recurring sicknesses and faltering growth. Three-quarters of the children who die from causes related to malnutrition are only mildly or moderately malnourished – showing no outward sign of their vulnerability. The Millennium Development target is to reduce the proportion of people who suffer from hunger by half 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 standards⁵. Each of the three nutritional status indicators can be expressed in standard deviation units (z-scores) from the median of the reference population.

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

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

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

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

Table NU.1 shows percentages of children classified into each of these categories, based on the anthropometric measurements that were taken during fieldwork. Additionally, the table includes the percentage of children who are overweight, which takes into account those children whose weight for height is above 2 standard deviations from the median of the reference population, and the mean z-scores for all three anthropometric indicators.

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

Table NU.1: Nutritional status of children

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, Kisumu County, 2011

	Weight for age			Height for age			Weight for height		
	Underweight			Stunted			Overweight		
	per cent below	Mean Z-Score (SD)	Number of children under age 5	per cent below	Mean Z-Score (SD)	Number of children under age 5	per cent below	Mean Z-Score (SD)	Number of children under age 5
	- 2 SD [1]	- 3 SD [2]		- 2 SD [3]	- 3 SD [4]		- 2 SD [5]	- 3 SD [6]	
Sex									
Male	13.8	2.7	416	24.3	9.9	416	2.5	0.5	3.4
Female	16.0	2.1	408	23.1	8.8	408	5.7	0.5	4.5
Residence									
Urban	13.6	0.8	257	18.8	6.8	257	2.7	0.0	4.6
Rural	15.5	3.1	566	25.9	10.5	566	4.7	0.7	3.6
Age									
0-5 months	1.9	0.0	81	2.4	0.0	81	5.8	0.0	8.3
6-11 months	11.5	0.0	88	10.6	1.4	88	6.1	0.0	2.4
12-23 months	20.0	4.3	144	28.6	10.0	144	8.7	2.1	5.3
24-35 months	18.5	5.3	177	28.1	8.2	177	2.4	0.6	1.5
36-47 months	18.4	1.4	163	30.4	15.9	163	3.3	0.0	2.9
48-59 months	11.4	1.1	171	25.5	12.3	171	0.9	0.0	5.2
Mother's education									
None	2.1	0.0	87	6.2	2.1	87	0.8	0.0	7.2
Primary	17.5	2.7	550	26.4	10.7	550	4.6	0.7	2.7
Secondary	13.3	2.5	186	23.9	8.8	186	4.1	0.0	6.3
Wealth index quintile									
Poorest	21.0	6.6	105	33.3	15.5	105	5.5	1.9	4.0
Second	15.9	2.1	136	27.2	13.0	136	3.4	0.0	6.3
Middle	11.7	3.1	147	27.4	12.9	147	4.9	0.6	.7
Fourth	19.1	1.7	185	27.6	7.8	185	4.8	0.6	1.3
Richest	10.6	0.8	250	12.7	3.9	250	2.9	0.0	6.6
Total	14.9	2.4	823	23.7	9.4	823	4.1	0.5	4.0

[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

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

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

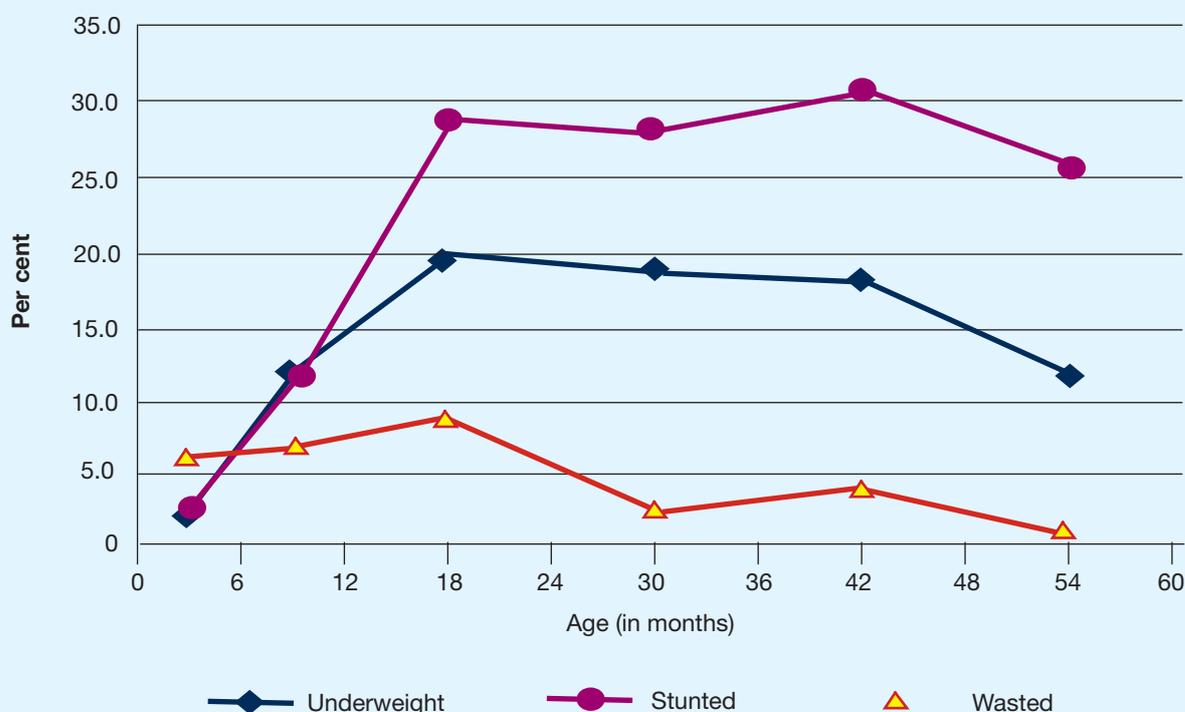
Indices used in this table are not comparable to those based on the NCHS/CDC/WHO reference. For the nutritional status table based on the NCHS/CDC/WHO, see the tables in the appendix.

Children whose full birth date (month and year) were not obtained (this should normally not exist in MICS surveys), 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 is 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 all children in Kisumu County had either their month or year of birth taken. About 98 per cent of children had their month of birth taken whilst an equal proportion had both their weights and heights measured (Table DQ.6). Table DQ.7 shows that due to incomplete dates of birth, implausible measurements, and missing weight and/or height, 2 per cent of children have been excluded from calculations of the weight-for-age indicator, while an equal proportion have been excluded from calculations of the height-for-age and the weight-for-height indicators.

Approximately one in seven (15 per cent) children under age five in Kisumu County are moderately or severely underweight (below -2SD from the WHO reference mean) whilst over 2 per cent are classified as severely underweight (below -3SD from the WHO reference mean) (Table NU.1). Almost one in four (24 per cent) is moderately or severely stunted or too short for their age whilst about 1 in 10 is severely stunted. About 1 in 25 (4 per cent) is moderately or severely wasted or too thin for their height, whilst an equal proportion are classified as overweight.

The proportions of underweight and stunted children in Kisumu County are generally comparable for males and females. In general, the proportion of children who are underweight is high among those whose mothers are less educated, and the same applies for stunted or wasted.

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



The age pattern shows that a higher percentage of children aged 12-23 months are undernourished according to all three indices when compared to children in other age groups (Figure NU.1). This pattern is expected and is related to the age at which many children cease to be breastfed and get exposed to contamination in water, food, and environment. On the other hand, overweight levels are highest for children aged less than 6 months and lowest for children aged 24-35 months.

Breastfeeding and Infant and Young Child Feeding

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

WHO/UNICEF have the following feeding recommendations:

- Exclusive breastfeeding for first six months
- Continued breastfeeding for two years or more
- Safe, 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.

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

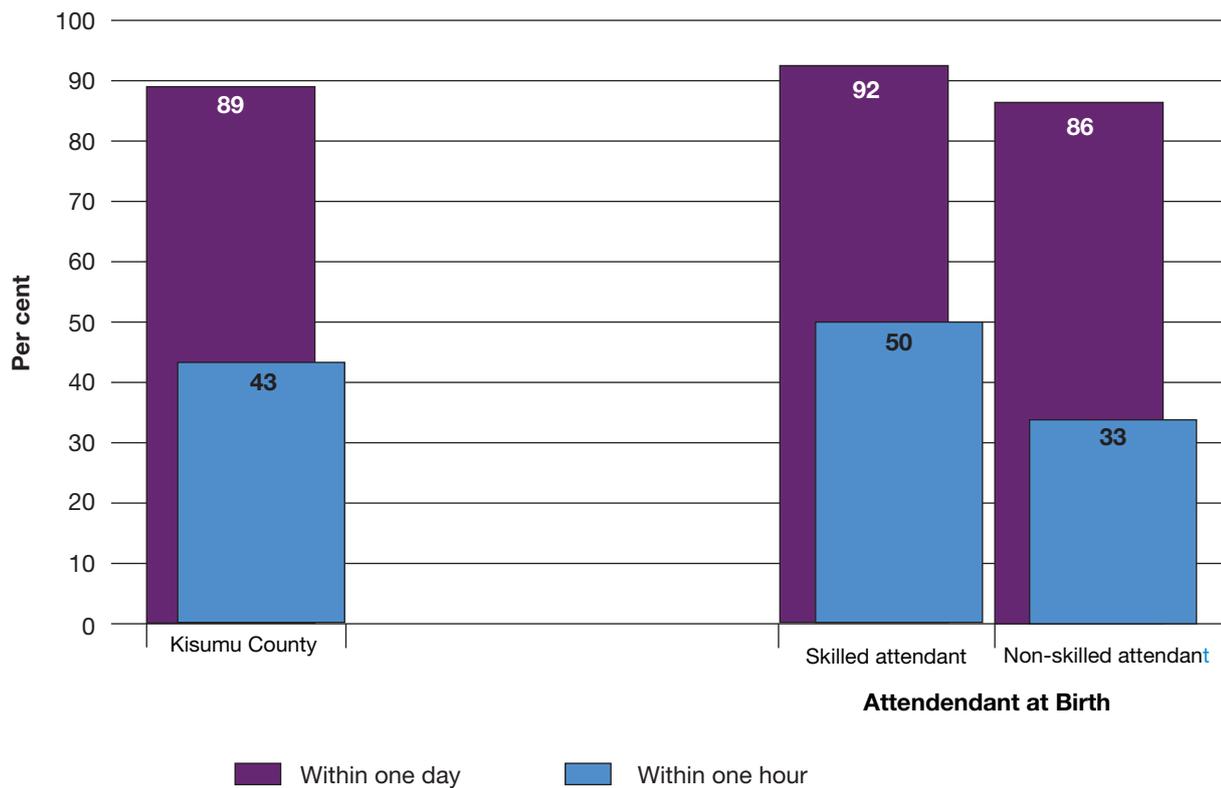
- Early initiation of breastfeeding (within 1 hour of birth)
- Exclusive breastfeeding rate (< 6 months)
- Predominant breastfeeding (< 6 months)
- Continued breastfeeding rate (at 1 year and at 2 years)
- Duration of breastfeeding
- Age-appropriate breastfeeding (0-23 months)
- Introduction of solid, 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, Kisumu County, 2011				
	Percentage who were ever breastfed [1]	Percentage who were first breastfed:		Number of last-born children in the two years preceding the survey
		Within one hour of birth [2]	Within one day of birth	
Residence				
Urban	98.6	46.2	90.8	111
Rural	96.2	41.4	87.9	207
Months since birth				
0-11 months	97.1	44.2	88.3	168
12-23 months	97.6	43.7	90.5	142
Assistance at delivery				
Skilled attendant	99.2	50.0	92.3	189
Traditional birth attendant	96.4	32.8	86.0	93
Place of delivery				
Public sector health facility	98.7	46.1	90.0	118
Private sector health facility	100.0	61.1	93.5	58
Home	96.6	32.9	90.4	130
Mother's education				
None	(96.1)	(27.0)	(90.6)	27
Primary	97.9	44.6	91.5	210
Secondary+	95.3	44.7	81.4	81
Wealth index quintile				
Poorest	(97.0)	(46.0)	(91.0)	38
Second	(95.2)	(34.3)	(82.6)	47
Middle	100.0	44.6	93.9	53
Fourth	98.3	45.9	89.7	71
Richest	95.7	43.3	87.8	109
Total	97.1	43.1	88.9	318
[1] MICS indicator 2.4				
[2] MICS indicator 2.5				
() Based on 25-49 unweighted cases				

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, less than half (43 per cent) of babies in Kisumu County are breastfed for the first time within one hour of birth. About 89 per cent of newborns start breastfeeding within one day of birth. The proportion breastfed within one hour of birth is 46 per cent in urban and 41 per cent in rural areas. The proportion breastfed within one hour of birth is also higher amongst children delivered in health facilities (above 45 per cent) than amongst those delivered at home (33 per cent), and amongst those delivered by a skilled attendant (50 per cent) than amongst those delivered by a traditional birth attendant (33 per cent).

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



In Table NU.3, breastfeeding status is presented based on the reports of mothers/caretakers of children’s consumption of food and fluids in the 24 hours prior to the survey. *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, Kisumu County, 2011							
	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Per cent exclusively breastfed [1]	Per cent predominantly breastfed [2]	Number of children	Per cent breastfed (Continued breastfeeding at 1 year) [3]	Number of children	Per cent breastfed (Continued breastfeeding at 2 years) [4]	Number of children
Sex							
Male	(42.0)	(51.2)	37	(89.7)	34	(*)	15
Female	(35.9)	(63.4)	47	(*)	16	(39.9)	31
Residence							
Urban	(48.3)	(63.1)	37	(*)	8	(*)	20
Rural	(31.0)	(54.2)	47	(85.4)	41	(38.6)	25
Mother's education							
None	(*)	(*)	16	(*)	2	(*)	4
Primary	(37.2)	(66.8)	40	(85.2)	37	(40.5)	30
Secondary	(33.6)	(45.5)	28	(*)	10	(*)	12
Wealth index quintile							
Poorest	(*)	(*)	4	(*)	4	(*)	4
Second	(*)	(*)	13	(*)	6	(*)	5
Middle	(*)	(*)	14	(*)	14	(*)	8
Fourth	(*)	(*)	16	(*)	13	(*)	11
Richest	(39.2)	(50.7)	37	(*)	12	(*)	17
Total	38.5	58.1	84	83.1	50	83.1	50
[1] MICS indicator 2.6 [2] MICS indicator 2.9 [3] MICS indicator 2.7 [4] MICS indicator 2.8 (*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases. <i>Titles of indicators on continued breastfeeding at 1 and 2 years reflect approximations of the age ranges covered.</i>							

Exclusive breastfeeding in Kisumu County is not common, with only 39 per cent of children aged less than six months being exclusively breastfed; this level is considerably lower than the recommended level of 100 per cent exclusive breastfeeding. By age 12-15 months, 83 per cent of children are still being breastfed.

Table NU.4 shows the median duration of breastfeeding by selected background characteristics. Among children under age 3, the median duration is approximately 21 months for any breastfeeding, 1 month for exclusive breastfeeding, and 3 months for predominant breastfeeding. The median duration of any breastfeeding is comparable in urban and rural areas, and across wealth quintiles.

Table NU.4: Duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Kisumu County, 2011				
	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding [1]	Exclusive breastfeeding	Predominant breastfeeding	
Sex				
Male	21.3	2.1	2.6	254
Female	20.8	0.7	3.7	248
Residence				
Urban	21.1	1.1	2.9	332
Rural	20.9	1.3	3.7	170
Mother's education				
None	(21.7)	(2.8)	(3.8)	48
Primary	21.3	1.6	3.5	335
Secondary+	20.2	0.6	2.2	119
Wealth index quintile				
Poorest	21.0	.	.	67
Second	21.4	1.5	2.4	74
Middle	19.6	0.7	3.7	79
Fourth	22.1	2.0	3.8	119
Richest	20.2	0.6	2.6	163
Median	21.0	1.1	3.2	502
[1] MICS indicator 2.10				
() Based on 25-49 unweighted cases				
a) Median duration of any breastfeeding is calculated as the age in months when 50 per cent of children age 0-35 months did not receive breast milk during the previous day. Median durations of exclusive and predominant breastfeeding are calculated the same way				
b) Median and mean durations are based on current status. The table is based only on living children at the time of survey.				
c) For definitions of exclusive and predominant breastfeeding, see footnotes below Table NU.3.				

The adequacy of infant feeding in children less than 24 months is provided in Table NU.5. Different criteria of adequate feeding are used depending on the age of the child. For infants aged 0-5 months, exclusive breastfeeding is considered as adequate feeding, while infants aged 6-23 months are considered to be adequately fed if they are receiving breast milk and solid, semi-solid or soft food. In Kisumu County, only 39 per cent of infants aged 0-5 months are exclusively breast fed, whilst about 43 per cent of those in the 6-23 months age group are adequately fed. Overall, about 42 per cent of children aged 0-23 months are appropriately fed.

In general, a higher proportion (45 per cent) of male children aged 0-23 months are appropriately fed than their female counterparts (39 per cent). The proportion of children aged 6-23 months who are adequately fed is 44 per cent in rural areas and 39 per cent in urban areas.

Amongst children aged 6-23 months, the proportion that is adequately fed is marginally higher amongst those whose mothers have attained secondary level education (49 per cent) than amongst those whose mothers have primary level education (around 41 per cent).

Table NU.5: Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Kisumu County, 2011						
	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Per cent exclusively breastfed [1]	Number of children	Per cent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Per cent appropriately breastfed [2]	Number of children
Sex						
Male	(42.0)	37	46.5	115	45.4	152
Female	(35.9)	47	39.4	121	38.4	168
Residence						
Urban	(48.3)	37	39.3	73	42.3	109
Rural	(31.0)	47	44.4	164	41.4	211
Mother's education						
None	(*)	16	(*)	12	(46.9)	27
Primary	(37.2)	40	41.2	171	40.5	211
Secondary+	(33.6)	28	48.4	54	43.3	82
Wealth index quintile						
Poorest	(*)	4	(36.0)	35	(34.6)	39
Second	(*)	13	(50.2)	33	(43.7)	47
Middle	(*)	14	(48.1)	41	47.8	55
Fourth	(*)	16	39.5	56	40.2	72
Richest	(39.2)	37	42.5	71	41.4	108
Total	38.5	84	42.9	237	41.7	320
[1] MICS indicator 2.6						
[2] MICS indicator 2.14						
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases						

Table NU.7 presents the proportion of children age 6-23 months who received semi-solid or soft foods the minimum number of times or more during the previous day according to breastfeeding status (see the note in Table NU.7 for a definition of minimum number of times for different age groups). Among currently breastfeeding children aged 6-23 months, only one in five (20 per cent) are receiving solid, semi-solid and soft foods the minimum number of times, whilst among non-breastfeeding children, only one in ten (10 per cent) are receiving solid, semi-solid and soft foods or milk feeds 4 times or more. Overall, the proportion of children aged 6-23 months receiving solid, semi-solid and soft foods the minimum number of times in Kisumu County is 18 per cent.

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, Kisumu County, 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
Sex	Male	19.8	94	(*)	(*)	21	18.2	115
	Female	19.9	87	(16.4)	(10.1)	35	17.1	121
Age	6-8 months	(16.4)	48	(*)	(*)	1	(16.1)	49
	9-11 months	(21.0)	36	(*)	(*)	3	(21.4)	40
	12-17 months	18.1	56	(*)	(*)	19	16.8	75
	18-23 months	(25.3)	40	(17.1)	(7.9)	33	17.5	73
Area	Urban	20.7	54	(*)	(*)	19	20.5	73
	Rural	19.5	127	(5.4)	(5.6)	37	16.3	164
Mother's education	None	(*)	9	(*)	(*)	3	*	12
	Primary	19.9	133	(8.2)	(2.8)	38	16.1	171
	Secondary	(22.2)	39	(*)	(*)	15	21.1	54
Wealth index quintiles	Poorest	(4.1)	28	(*)	(*)	7	(3.2)	35
	Second	(19.4)	27	(*)	(*)	7	(15.5)	33
	Middle	(34.9)	31	(*)	(*)	10	(29.0)	41
	Fourth	(19.3)	44	(*)	(*)	12	17.1	56
	Richest	20.1	51	(*)	(*)	20	19.6	71
Total		19.8	181	13.5	10.4	56	17.6	237
[1] MICS indicator 2.15								
[2] MICS indicator 2.13								
(*) Not shown, based on less than 25 unweighted cases. () Based on 25-49 unweighted cases.								
Note: Among currently breastfeeding children age 6-8 months, minimum meal frequency is defined as children who also received solid, semi-solid or soft foods 2 times or more. Among currently breastfeeding children age 9-23 months, receipt of solid, semi-solid or soft foods at least 3 times constitutes minimum meal frequency. For non-breastfeeding children age 6-23 months, minimum meal frequency is defined as children receiving solid, semi-solid or soft foods, and milk feeds, at least 4 times during the previous day.								

The continued practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and lack of hygiene in preparation. Table NU.8 shows that bottle-feeding is still occurring in Kisumu County with 12 per cent of children aged 0-23 months reported to have been fed using a bottle with a nipple. Bottle feeding with a nipple ranges from 14 per cent among children in urban areas to 11 per cent among those from rural areas. Similarly the proportion ranges from 15 per cent among children ages 0-5 months to 8 per cent among those aged 12-23 months.

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, Kisumu County, 2011			
		Percentage of children age 0-23 months fed with a bottle with a nipple [1]	Number of children age 0-23 months
Sex	Male	13.5	152
	Female	10.2	168
Age	0-5 months	15.4	84
	6-11 months	14.0	89
	12-23 months	8.3	147
Area	Urban	14.2	109
	Rural	10.5	211
Mother's education	None	(15.4)	27
	Primary	7.4	211
	Secondary	21.8	82
Wealth index quintiles	Poorest	(6.8)	39
	Second	(12.7)	47
	Middle	9.5	55
	Fourth	9.2	72
	Richest	16.0	108
Total		11.8	320
[1] MICS indicator 2.11			
() Based on 25-49 unweighted cases.			

Salt Iodization

Iodine Deficiency Disorders (IDD) is the world's leading cause of preventable mental retardation and impaired psychomotor development in young children. In its most extreme form, iodine deficiency causes cretinism. It also increases the risks of stillbirth and miscarriage in pregnant women. Iodine deficiency is most commonly and visibly associated with goitre. IDD takes its greatest toll in impaired mental growth and development, contributing in turn to poor school performance, reduced intellectual ability, and impaired work performance. The international goal is to achieve sustainable elimination of iodine deficiency by 2005. The WHO and UNICEF recommend universal salt iodization as a safe, cost-effective and sustainable strategy to ensure sufficient intake of iodine by all individuals. In line with international recommendations, The Kenya Ministry of Public Health & Sanitation (MOPHS) recommends that all salts meant for human consumption in Kenya be iodized. The indicator is the percentage of households consuming adequately iodized salt (>15 parts per million).

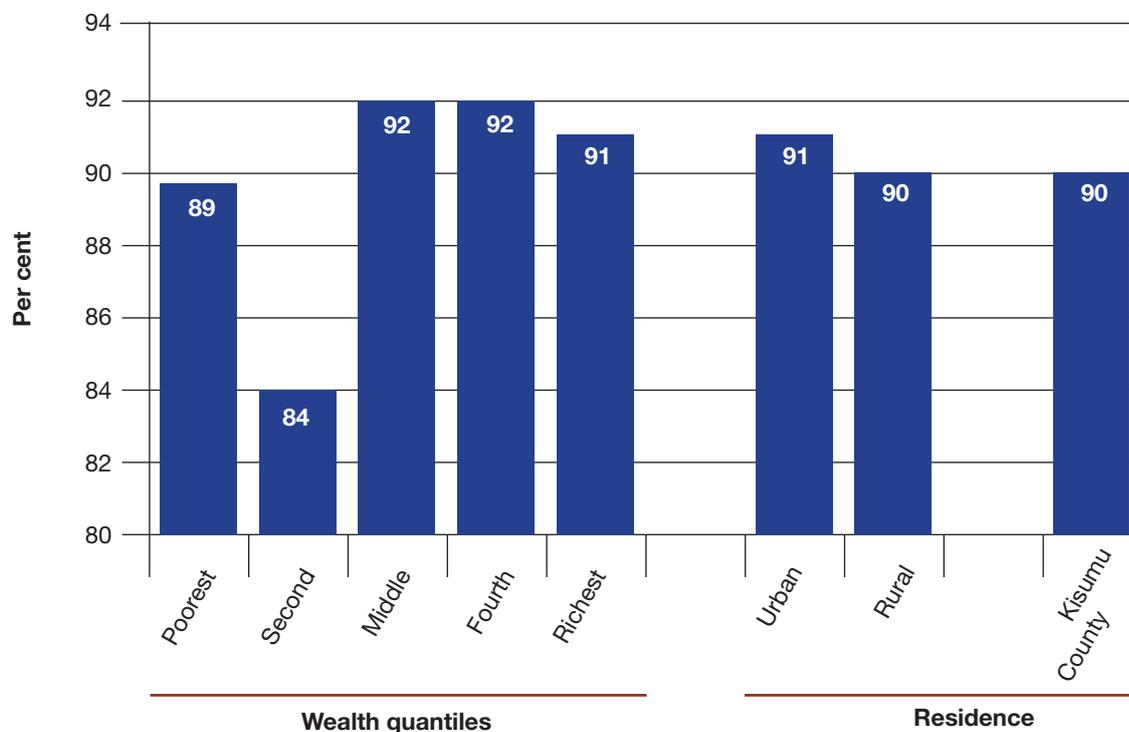
Table NU.9: Iodized salt consumption

Percentage distribution of households by consumption of iodized salt, Kisumu County, 2011								
	Percentage of households in which salt was tested	Number of households	Per cent of households with				Total	Number of households in which salt was tested or with no salt
			No salt	Salt test result				
				Not iodized 0 PPM	>0 and <15 PPM	15+ PPM [1]		
Residence								
Urban	89.7	432	7.6	0.0	1.3	91.1	100.0	420
Rural	88.5	829	9.1	0.3	0.9	89.8	100.0	806
Wealth index quintile								
Poorest	90.2	126	8.4	0.0	2.3	89.3	100.0	124
Second	84.2	173	13.2	0.0	2.6	84.1	100.0	167
Middle	90.2	215	8.1	0.0	0.0	91.9	100.0	211
Fourth	89.4	297	7.3	0.4	0.4	92.0	100.0	287
Richest	89.4	450	7.9	0.2	0.9	91.0	100.0	437
Total	88.9	1261	8.6	0.2	1.0	90.3	100.0	1226

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

In 89 per cent of households, salt used for cooking was analysed for the presence of potassium iodate using salt test kits. Table NU.9 shows that in a small proportion of households (9 per cent), there was no salt available. The proportion of households consuming adequate levels of iodine is high in Kisumu County (90 per cent). Consumption of adequate levels of iodine in salt does not differ greatly by rural and urban areas and across the wealth quintiles (Figure NU.4).

Figure NU.3: Percentage of households consuming adequately iodized salt, Kisumu County 2011



Children's Vitamin A Supplementation

Vitamin A is essential for eye health and proper functioning of the immune system. It is found in foods such as milk, liver, eggs, red and orange fruits, red palm oil and green leafy vegetables, although the amount of vitamin A readily available to the body from these sources varies widely. In developing areas of the world, where vitamin A is largely consumed in the form of fruits and vegetables, daily per capita intake is often insufficient to meet dietary requirements. Inadequate intakes are further compromised by increased requirements for the vitamin as children grow or during periods of illness, as well as by 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 the 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 to protect their children during the first months of life, and 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 percentage of children aged 6-59 months who are receiving at least one high dose vitamin A supplement in the last six months.

In line with UNICEF/ WHO guidelines, The Kenya Ministry of Public Health and Sanitation (MOPHS) recommends that children aged 6-11 months be given one high dose Vitamin A capsules and that children aged 12-59 months be given a vitamin A capsule every 6 months. In Kenya, Vitamin A capsules 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.

Within the six months prior to the MICS, 44 per cent of children aged 6-59 months received a high dose Vitamin A supplement (Table NU.10).

The proportion of children receiving vitamin A supplementation is 48 per cent in urban and 42 per cent in rural areas. The proportion of children receiving vitamin A supplementation increases as the education level of the mother increases. i.e. 29 per cent amongst children whose mothers are uneducated and 51 per cent amongst those whose mothers have attained secondary level education.

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, Kisumu County, 2011							
		Percentage who received Vitamin A according to:				Percentage of children who received Vitamin A during the last 6 months [1]	Number of children age 6-59 months
		Child health book/card/vaccination card in last 12 months	Child health book/card/vaccination card in last 6 months	Mother's report any time prior to 12 months	Mother's report less than 6 months		
Sex	Male	7.5	4.3	52.8	41.6	41.6	396
	Female	6.9	4.1	53.8	44.8	45.7	380
Area	Urban	9.1	5.9	53.6	47.1	47.7	229
	Rural	6.5	3.5	53.2	41.5	41.9	548
Age in months	6-11	12.7	12.7	77.7	73.1	73.1	89
	12-23	16.2	7.5	68.5	44.0	45.4	147
	24-35	7.0	3.8	50.4	42.6	43.3	182
	36-47	2.2	1.1	43.0	37.9	37.9	175
	48-59	2.4	0.8	42.1	33.6	33.6	184
Mother's education	None	7.4	4.9	39.7	28.6	28.6	77
	Primary	5.5	3.9	52.9	42.8	43.4	536
	Secondary	13.0	4.8	61.0	51.3	51.3	164
Wealth index quintiles	Poorest	3.6	1.8	55.1	43.6	44.5	106
	Second	4.7	3.3	47.5	44.2	44.2	132
	Middle	4.0	1.5	58.6	42.6	43.4	136
	Fourth	11.6	6.6	52.5	42.0	42.7	176
	Richest	9.0	5.6	53.4	43.6	43.6	227
Total		7.2	4.2	53.3	43.2	43.6	777

1 MICS indicator 2.17

The age pattern of Vitamin A supplementation shows that the proportion receiving supplementation in the last 6 months decreases with age; it is highest in the 6-11 months age group (73 per cent) and lowest in the 48-59 months age group (34 per cent). The proportion of children receiving Vitamin A supplementation is comparable across the levels of the wealth quintiles.

Low Birth Weight

Weight at birth is a good indicator not only of a mother's health and nutritional status but also the newborn's chances for survival, growth, long-term health and psychosocial development. Children with low birth weight (less than 2,500 grams) are at an increased health risk. 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 and to have reduced muscle strength throughout their lives, and suffer a higher incidence of diabetes and heart disease in later life. Children born underweight also tend to have a lower IQ and cognitive disabilities, affecting their performance in school and their job opportunities as adults.

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

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

One of the major challenges in measuring the incidence of low birth weight is the fact that more than half of infants in the developing world are not weighed. In the past, most estimates of low birth weight for developing countries were based on data compiled from health facilities. However, these estimates are biased 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 birth⁶.

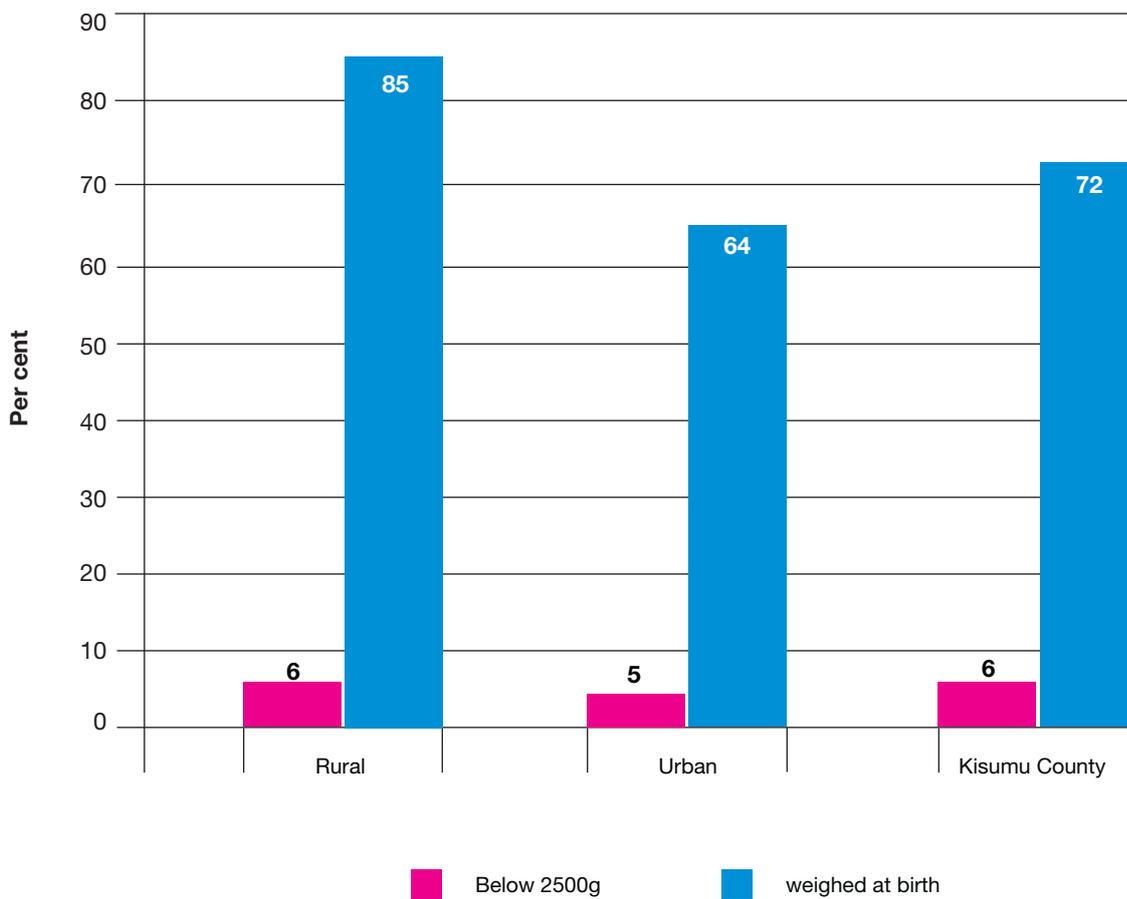
Table NU.11: Low birth weight infants

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, Kisumu County, 2011			
	Per cent of live births:		Number of live births in the last 2 years
	Below 2500 grams [1]	Weighed at birth [2]	
Residence			
Urban	5.8	85.4	111
Rural	6.8	64.1	207
Mother's education			
None	(4.6)	(90.5)	27
Primary	6.7	66.2	210
Secondary+	6.5	79.0	81
Wealth index quintile			
Poorest	(6.3)	(55.5)	38
Second	(4.5)	(59.9)	47
Middle	6.3	67.5	53
Fourth	5.9	71.5	71
Richest	7.8	84.0	109
Total	6.4	71.5	318
[1] MICS indicator 2.18			
[2] MICS indicator 2.19			
() Based on 25-49 unweighted cases.			

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

Overall, 72 per cent of births are weighed at birth and approximately 6 per cent of infants are estimated to have weighed less than 2500 grams at birth (Table NU.11 and Figure NU.5). It is noteworthy that the proportion of children weighed at birth is higher in urban (85 per cent) than rural areas (64per cent). There is no marked variation in the proportion of children born with low birth weight in rural and urban areas, or amongst children whose mothers have attained different levels of education. However, the proportion of children weighed at birth is higher among those from the richest households (84 per cent), compared to 72 and 68 per cent among those from the fourth and middle household wealth quintiles, respectively.

Figure NU.5: Percentage of infants below 2500g and those weighed at birth, Kisumu County, 2011



VI. Child Health

Vaccinations

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

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

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

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

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, therefore only children who were old enough to be fully vaccinated were counted. In the first and second columns, the numerator includes all children who were vaccinated at any time before the survey according to the vaccination card or the mother's report. In the last column, only those who were vaccinated before their first birthday, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given before the first birthday is assumed to be the same as for children with vaccination cards.

Overall, 74 per cent of children had health cards (Table CH.2). If the child did not have a card, the mother was asked to recall whether or not the child had received each of the vaccinations and, for DPT and Polio, how many times. The percentage of children age 12 to 23 months who received each of the vaccinations is shown in Table CH.1. The denominator of the table is comprised of children age 12-23 months so that only children who are old enough to be fully vaccinated are counted. In the first and second columns, the numerator includes all children who were vaccinated at any time before the survey according to the vaccination card or the mother's report. In the last column, only those who were vaccinated before their first birthday, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given before the first birthday is assumed to be the same as for children with vaccination cards.

Table CH.1: Vaccinations in first year of life

Percentage of children age 12-23 months immunized against childhood diseases at any time before the survey and before the first birthday, Kisumu County, 2011

	Vaccinated at any time before the survey according to			Vaccinated by 12 months of age
	Vaccination card	Mother's report	Either	
BCG [1]	73.7	25.6	99.3	99.3
Polio				
At birth	72.4	18.9	91.3	91.3
1	73.7	21.2	94.9	94.9
2	73.0	12.2	85.2	85.2
3 [2]	67.8	11.3	79.1	77.3
DPT				
1	74.3	23.4	97.7	94.8
2	74.3	20.1	94.4	94.4
3 [3]	74.3	13.2	87.5	86.6
Measles [4]	73.4	22.7	96.1	89.9
Yellow fever [5]	74.9	8.5	83.4	83.4
All vaccinations	74.0	0.0	74.0	63.8
No vaccinations	0.0	0.7	0.7	0.7
Number of children age 12-23 months	147	147	147	147

[1] MICS indicator 3.1;

[2] MICS indicator 3.2;

[3] MICS indicator 3.3

[4] MICS indicator 3.4; MDG indicator 4.3

[5] MICS indicator 3.6

Notes:

- For each antigen, the total number of 12-23 month old children vaccinated before 12 months is calculated, as validated by card or mother's recall. To estimate the number of children without a card who have received vaccine before the first birthday, the proportion of vaccinations given during the first year of life is assumed to be the same as for the proportion of children with a card that received the vaccine before first birthday.
- The use of the 12-23 months age group is based on the assumption that measles is given at 9 months of age. In countries where measles vaccination is given later, an older age group should be used.
- Children receiving all vaccinations (fully immunized children) needs to be determined at the country level, in accordance with the existing vaccination schedule and the vaccinations included in the table should be revised / adapted accordingly.

There is almost universal coverage of immunisation of BCG (99 per cent), followed by high coverage of the first doses of Polio and DPT amongst children aged 12-23 month by 12 month of age in Kisumu County. For example, while 99 per cent of children have received a BCG vaccination by 12 months of age, 90 per cent have received the measles vaccine, 95 per cent have received first dose of DPT and 91 per cent have received polio vaccine at birth. However, the proportion of children who have received the second and third doses of DPT and Polio drops as show in Table CH.1 and Figure CH.1. For instance, DPT vaccine coverage falls to 87 per cent by the third dose and the third dose of polio vaccine drops to 77 per cent. Due to the lower proportions of children who have received their second and third vaccines, the overall proportion of children who have received all recommended vaccinations by their first birthday is 64 per cent. It is noteworthy that the proportion of children who receive the yellow fever vaccine is lower than for all other vaccines, at 83 per cent of children. Less than 1 per cent of the children in Kisumu County have not received any vaccinations at all.

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

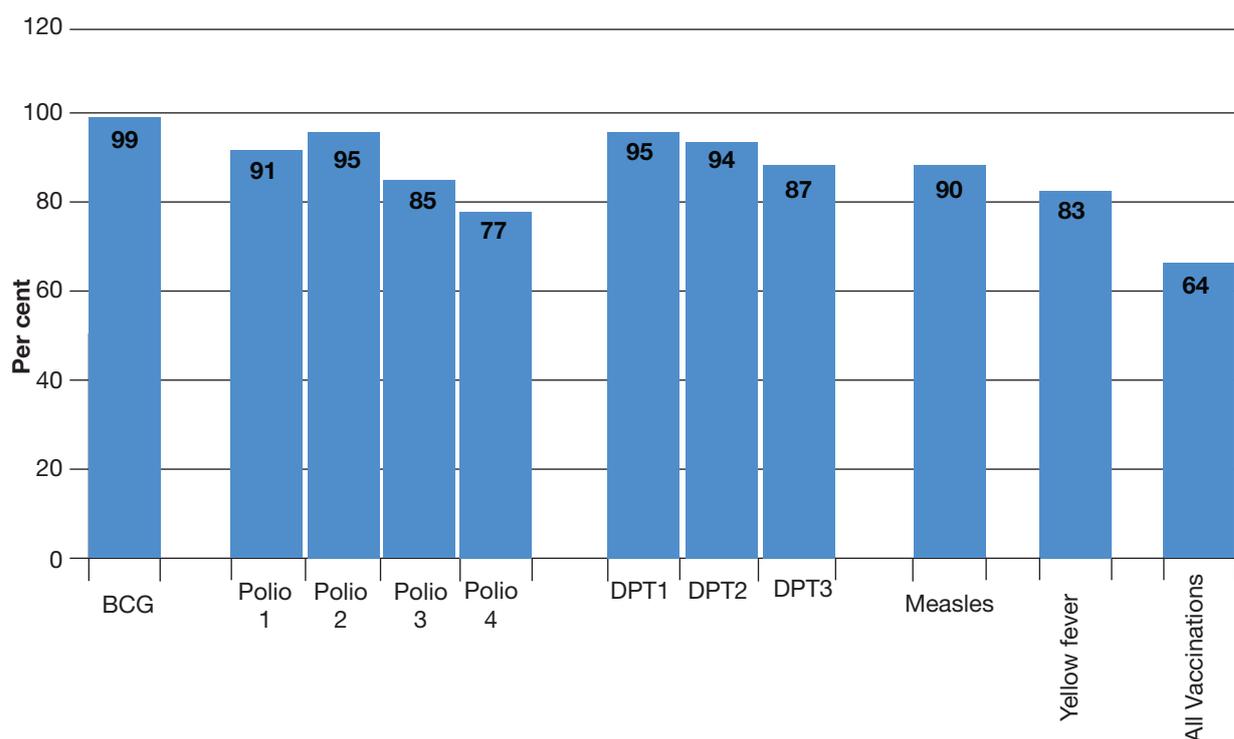


Table CH.2 shows vaccination coverage rates among children 12-23 months by background characteristics. The figures indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and mothers'/caretakers' reports. Overall, about three out of four (74 per cent) of children aged 12-23 months had received all the vaccinations by the time of the survey, with 74 per cent of the children possessing vaccination cards that were seen by an interviewer. The proportion of children who are vaccinated is comparable across male and females for all vaccine types.

Table CH.2: Vaccinations by background characteristics

Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, Kisumu County, 2011													
		Percentage of children who received:											
	BCG	Polio			DPT			Measles	Yellow fever	None	All	Percentage with vaccination card seen	Number of children age 12-23 months
		At birth	1	2	3	1	2							3
Sex													
Male	100.0	92.0	90.7	85.5	78.8	98.4	93.0	87.5	98.4	81.4	0.0	73.1	70
Female	98.6	90.6	98.6	84.9	79.3	97.1	95.6	87.5	94.1	85.3	1.4	74.9	77
Area													
Urban	(100.0)	(100.0)	(100.0)	(94.4)	(94.4)	(100.0)	(100.0)	(97.1)	(97.1)	(85.1)	(0.0)	(85.1)	41
Rural	99.0	87.9	92.9	81.6	73.1	96.9	92.2	83.8	95.8	82.7	1.0	69.8	106
Mother's education													
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	8
Primary	99.0	90.9	95.6	85.8	80.0	97.9	94.1	89.0	95.5	81.2	1.0	73.6	102
Secondary	(100.0)	(90.4)	(91.7)	(80.2)	(71.7)	(96.9)	(93.9)	(80.6)	(96.9)	(87.9)	(0.0)	(71.7)	37
Wealth index quintile													
Poorest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Second	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
Middle	(100.0)	(88.5)	(96.9)	(90.3)	(79.3)	(95.8)	(95.8)	(87.0)	(95.8)	(82.3)	(0.0)	(75.9)	27
Fourth	(100.0)	(96.7)	(93.7)	(84.3)	(84.3)	(100.0)	(100.0)	(90.9)	(96.9)	(93.4)	(0.0)	(84.3)	37
Richest	(100.0)	(97.6)	(97.6)	(97.6)	(91.8)	(100.0)	(96.6)	(96.6)	(100.0)	(84.2)	(0.0)	(81.8)	45
Total	99.3	91.3	94.9	85.2	79.1	97.7	94.4	87.5	96.1	83.4	0.7	74.0	147

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

Notes:

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

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

Neonatal Tetanus Protection

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

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

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

Table CH.3 shows the status of protection from tetanus for women who have had a live birth within the last 2 years. Overall, 65 per cent of women who have had a live birth in the last 2 years are protected against tetanus. The proportion of women who are protected is 69 per cent in urban areas and 62 per cent in rural areas. Seventy six (76) per cent of women who have attained secondary level education have protection against neonatal tetanus compared to 60 per cent of women with primary level education. Seventy per cent of women who reside in the richest quintile are vaccinated against neonatal tetanus.

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, Kisumu County, 2011							
	Percentage of women who received at least 2 doses during last pregnancy	Percentage of women who did not receive two or more doses during last pregnancy but received:				Protected against tetanus [1]	Number of women with a live birth in the last 2 years
		2 doses, the last within prior 3 years	3 doses, the last within prior 5 years	4 doses, the last within prior 10 years	5 or more doses during lifetime		
Area							
Urban	63.8	5.2	0.0	0.0	0.0	69.0	111
Rural	51.2	11.0	0.0	0.0	0.0	62.1	207
Education							
None	(46.8)	(19.3)	(0.0)	(0.0)	(0.0)	(66.1)	27
Primary	52.8	7.3	0.0	0.0	0.0	60.1	210
Secondary+	65.7	9.8	0.0	0.0	0.0	75.5	81
Wealth index quintile							
Poorest	(57.1)	(2.6)	(0.0)	(0.0)	(0.0)	(59.7)	38
Second	(56.4)	(9.4)	(0.0)	(0.0)	(0.0)	(65.9)	47
Middle	46.3	16.9	0.0	0.0	0.0	63.3	53
Fourth	49.0	9.9	0.0	0.0	0.0	58.8	71
Richest	63.4	6.6	0.0	0.0	0.0	70.0	109
Total	55.6	9.0	0.0	0.0	0.0	64.5	318
[1] MICS indicator 3.7 () Based on 25-49 un-weighted cases.							

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 arising from loss of large quantities of water and electrolytes from the body in liquid stools. Management of diarrhoea - either through oral rehydration salts (ORS) or a recommended home fluid (RHF) - can prevent many of these deaths. Preventing dehydration and malnutrition by increasing fluid intake and continuing to feed the child are also important strategies for managing diarrhoea.

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

The indicators are:

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

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

Overall, 18 per cent of children under five years of age had diarrhoea in the two weeks preceding the survey - 20 per cent in urban areas and 17 per cent in rural areas (Table CH.4). Diarrhoea prevalence varies by gender with 21 per cent of male children affected compared to 15 per cent of female children. The peak of diarrhoea prevalence (33 per cent) occurs in the 12-23 months age group. There are no major differences in proportion of children who have had diarrhoea by mother's level of education or across the wealth quintiles due to few observation points.

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, Kisumu County, 2011							
	Had diarrhoea in last two weeks	Number of children age 0-59 months	Children with diarrhoea who received:				Number of children aged 0-59 months with diarrhoea
			ORS (Fluid from ORS packet or pre-packaged ORS fluid)	Recommended homemade fluids		ORS or any recommended homemade fluid	
				Sugar and salt solution*	Any recommended homemade fluid		
Sex							
Male	20.9	433	29.3	13.0	13.0	42.3	90
Female	15.4	427	25.6	10.5	10.5	36.1	66
Area							
Urban	20.4	266	22.2	6.7	6.7	28.9	54
Rural	17.2	595	30.6	14.8	14.8	45.4	102
Age in months							
0-11	21.4	173	(26.4)	(12.2)	(12.2)	(38.5)	37
12-23	33.2	147	(25.9)	(17.2)	(17.2)	(43.1)	49
24-35	22.1	182	(39.2)	(6.2)	(6.2)	(45.3)	40
36-47	8.4	175	(*)	(*)	(*)	(*)	15
48-59	8.4	184	(*)	(*)	(*)	(*)	15
Mother's education							
None	5.1	93	(*)	(*)	(*)	(*)	5
Primary	20.6	576	26.6	8.4	8.4	35.1	118
Secondary	17.4	192	(28.8)	(22.4)	(22.4)	(51.2)	33
Wealth index quintile							
Poorest	22.2	110	(*)	(*)	(*)	(*)	24
Second	14.7	145	(*)	(*)	(*)	(*)	21
Middle	15.5	150	(*)	(*)	(*)	(*)	23
Fourth	22.4	192	(31.3)	(6.8)	(6.8)	(38.0)	43
Richest	16.8	264	(25.6)	(6.6)	(6.6)	(32.2)	44
Total	18.2	861	27.7	12.0	12.0	39.7	156
(*) Not shown, based on less than 25 unweighted cases. (.) Based on 25-49 unweighted cases							

Table CH.4 also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Since mothers were able to name more than one type of liquid, the percentages do not necessarily add to 100. Only about 2 out of 5 children with diarrhoea (40 per cent) receive oral rehydration therapy (ORS) or other recommended homemade fluids. The highest proportion (28 per cent) of children with diarrhoea received fluids from ORS packets or pre-packaged ORS fluids. The proportion of children who receive either sugar and salt solutions or other recommended home-made fluids is 12 per cent. The proportion receiving ORS or other recommended homemade fluids ranges from 42 per cent for boys to 36 per cent for girls, and 45 per cent for rural areas compared to 30 per cent in urban areas. Two out of every five (40 per cent) children who had had diarrhoea received ORS or any recommended homemade fluid (ORT). Figure CH.3 shows the differences between proportion of children who receive (ORT) by gender and area of residence.

Figure CH.3: Percentage of children under age 5 with diarrhoea who received oral rehydration treatment, Kisumu County, 2011

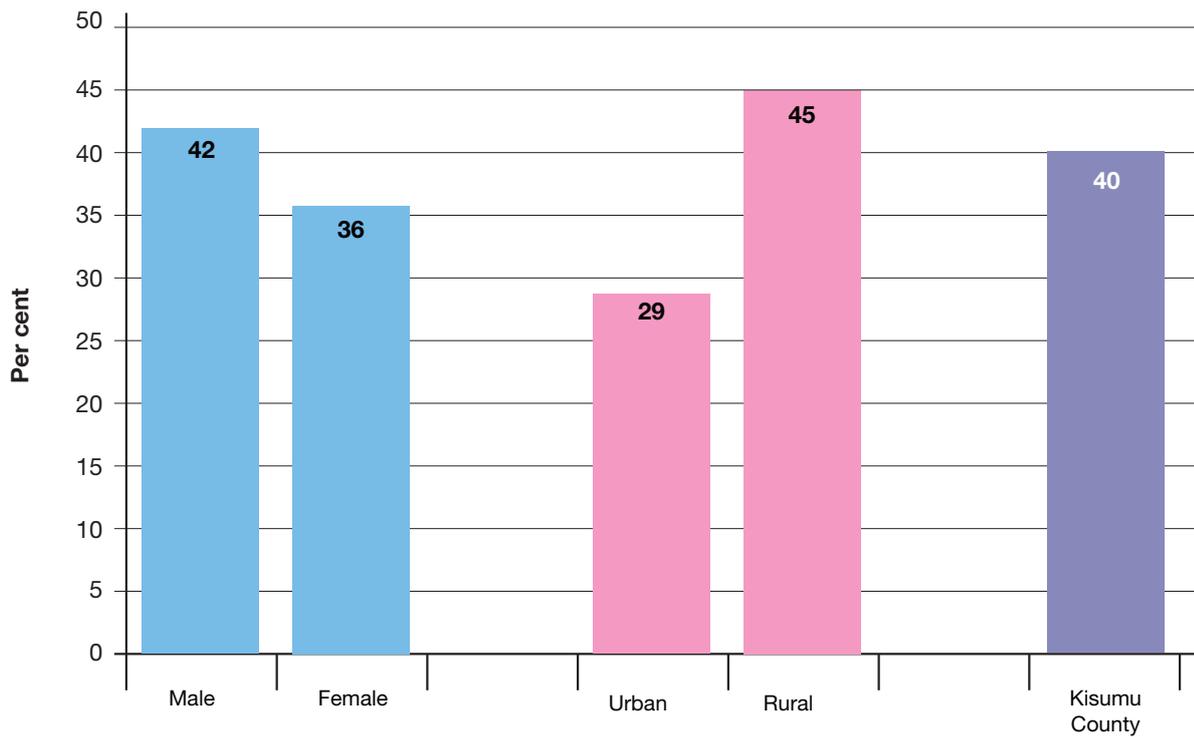


Table CH.5 outlines the percentage of children age 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during their episode of diarrhoea. About a quarter (24 per cent) of children who had diarrhoea were given more to drink and 38 per cent were given about the same or somewhat less to drink. In regards to the amount of food given to these children, 32 per cent were given about the same to eat with an additional (Table CH.5). This is in line with the strategies for managing diarrhoea to prevent dehydration and malnutrition by maintaining and/or increasing fluid and food intake. (Table CH.5). Worryingly, almost two out of every five (37 per cent) of the children are given much less to drink whilst 14 per cent of the children are given nothing to eat and 42 per cent are given much less to eat. For children who had diarrhoea, the decrease in food and fluid intake increases their chances of dehydration and malnutrition.

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, Kisumu County, 2011														
	Had diarrhoea in last two weeks	Number of children age 0-59 months	Drinking practices during diarrhoea:					Eating practices during diarrhoea:					Number of children aged 0-59 months with diarrhoea	
			Given much less to drink	Given about the same (or some-what less)	Given more to drink	Missing/DK	Total	Given nothing to eat	Given much less to eat	Given some-what less to eat	Given about the same to eat	Missing/DK		Total
Sex	Male	433	34.9	39.7	24.1	1.4	100.0	10.3	45.1	10.9	32.4	1.4	100.0	90
	Female	427	39.9	35.3	24.8	0.0	100.0	18.3	36.8	14.3	30.7	0.0	100.0	66
Area	Urban	266	34.3	36.3	29.4	0.0	100.0	13.4	43.2	20.0	23.4	0.0	100.0	54
	Rural	595	38.5	38.6	21.7	1.2	100.0	13.8	40.7	8.2	36.1	1.2	100.0	102
Age in months	0-11	173	(36.9)	(43.7)	(19.4)	(0.0)	(100.0)	(38.9)	(22.6)	(14.9)	(23.5)	(0.0)	(100.0)	37
	12-23	147	(36.2)	(36.1)	(25.2)	(2.5)	(100.0)	(3.5)	(47.9)	(7.8)	(38.3)	(2.5)	(100.0)	49
	24-35	182	(46.1)	(45.6)	(8.2)	(0.0)	(100.0)	(10.0)	(46.7)	(14.7)	(28.6)	(0.0)	(100.0)	40
	36-47	175	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
	48-59	184	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
Mother's education	None	93	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	5
	Primary	576	36.4	41.1	21.5	1.0	100.0	14.5	40.5	9.7	34.2	1.0	100.0	118
	Secondary	192	(44.5)	(24.0)	(31.5)	(0.0)	(100.0)	(12.4)	(44.7)	(15.7)	(27.2)	(0.0)	(100.0)	33
Wealth index quintiles	Poorest	110	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	24
	Second	145	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	21
	Middle	150	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
	Fourth	192	(27.5)	(40.0)	(29.7)	(2.8)	(100.0)	(8.4)	(32.0)	(19.5)	(37.3)	(2.8)	(100.0)	43
	Richest	264	(33.2)	(35.0)	(31.7)	(0.0)	(100.0)	(14.1)	(47.4)	(17.1)	(21.4)	(0.0)	(100.0)	44
Total		861	37.0	37.8	24.4	0.8	100.0	13.6	41.6	12.3	31.7	0.8	100.0	156

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

() 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 the percentage of children with diarrhoea who received other treatments. Overall, 38 per cent of children with diarrhoea receive ORS or increased fluids whilst 65 per cent receive ORT (ORS or recommended homemade fluids or increased fluids). Combining the information in Table CH.5 with that in Table CH.4 on oral rehydration therapy, it is observed that 38 per cent of children receive ORT with continued feeding as is the recommendation. Up to 35 per cent of children do not receive any treatment at all with only 22 per cent of the children with diarrhoea receiving antibiotics.

The proportion of children who receive ORT with continued feeding varies by gender and area of residence (Figure CH. 4). For example, more girls (44 per cent) than boys (33 per cent) receive ORT with continued feeding. Likewise, 41 per cent of children who are in urban areas receive ORT with continued feeding compared to 36 per cent among those from rural areas.

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

		Children with diarrhoea who received:										Number of children aged 0-59 months with diarrhoea					
		ORS or increased fluids		ORT (ORS or homemade fluids or increased fluids)		ORT with continued feeding [1]		Other treatment:									
		ORS or increased fluids	ORT (ORS or 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: Unknown	Intravenous	Home remedy/ Herbal medicine	Other	Not given any treatment or drug		
Sex	Male	41.1	63.2	33.4	18.6	1.5	0.0	1.3	4.9	1.4	0.0	0.0	8.5	2.7	36.8	90	
	Female	34.4	67.1	43.9	26.2	1.7	3.6	0.0	0.0	0.0	1.7	0.0	11.6	1.6	32.9	66	
Area	Urban	28.9	59.5	41.3	30.0	2.6	4.3	2.2	1.9	2.4	0.0	0.0	8.4	0.0	40.5	54	
	Rural	43.2	67.7	36.0	17.5	1.1	0.0	0.0	3.3	0.0	1.1	0.0	10.6	3.4	32.3	102	
Age in months	0-11	(38.5)	(61.4)	(33.3)	(9.8)	(3.8)	(3.2)	(0.0)	(5.9)	(0.0)	(0.0)	(0.0)	(9.6)	(2.8)	(38.6)	37	
	12-23	(43.1)	(63.3)	(35.7)	(26.0)	(0.0)	(0.0)	(0.0)	(0.0)	(2.6)	(0.0)	(0.0)	(9.5)	(0.0)	(36.7)	49	
	24-35	(42.6)	(65.9)	(32.8)	(23.6)	(0.0)	(2.9)	(2.9)	(2.8)	(0.0)	(2.7)	(0.0)	(3.8)	(1.7)	(34.1)	40	
	36-47	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
Mother's education	48-59	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
	None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	5
Wealth index quintiles	Primary	33.2	62.0	33.6	18.5	2.1	1.0	0.0	2.8	0.0	0.9	0.0	9.5	2.4	38.0	118	
	Secondary	(51.2)	(73.4)	(47.6)	(33.5)	(0.0)	(3.5)	(0.0)	(3.1)	(0.0)	(0.0)	(0.0)	(12.3)	(2.0)	(26.6)	33	
Total	Poorest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	24
	Second	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	21
	Middle	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
	Fourth	(35.4)	(68.9)	(50.4)	(35.4)	(68.9)	(50.4)	(2.7)	(2.6)	(0.0)	(0.0)	(0.0)	(4.2)	(3.2)	(31.1)	43	
	Richest	(32.2)	(63.1)	(40.9)	(32.2)	(63.1)	(40.9)	(0.0)	(2.3)	(2.9)	(0.0)	(0.0)	(13.7)	(0.0)	(36.9)	44	
Total		38.3	64.8	37.8	21.8	1.6	1.5	0.8	2.8	0.8	0.7	0.0	9.8	2.2	35.2	156	

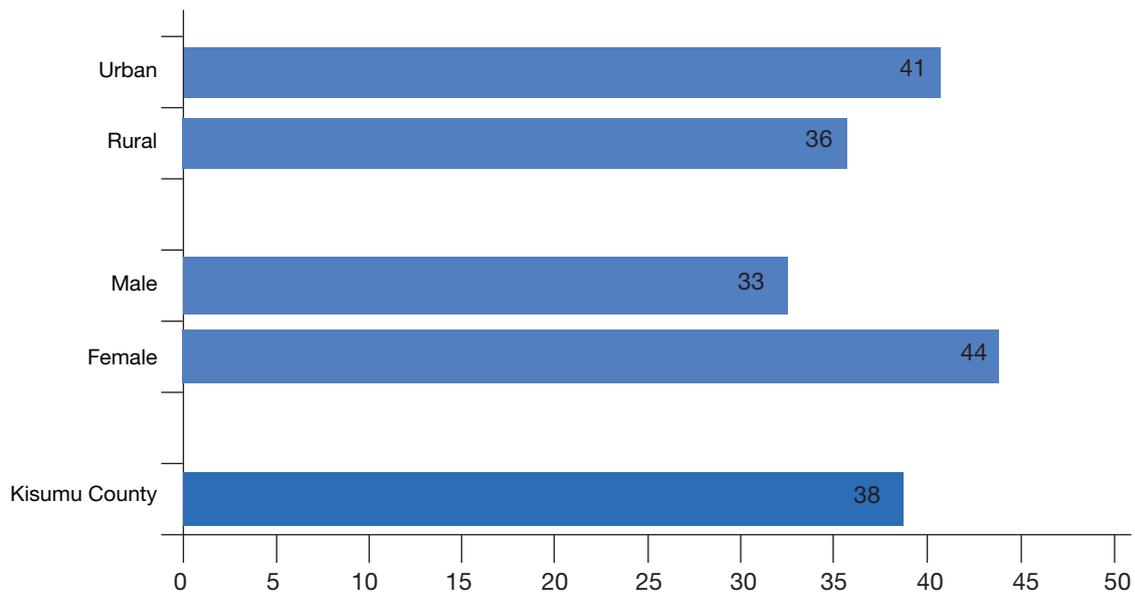
[1] MICS indicator 3.8

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

() Based on 25-49 unweighted cases

Note: In this table percentages will not add up to 100 as some children may have received more than one type of treatment.

Figure CH.4: Percentage of children under age 5 with diarrhoea who received ORT or increased fluids, AND continued feeding, Kisumu County, 2011



Care Seeking and Antibiotic Treatment of Pneumonia

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

Children 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. On average 6 per cent of children in Kisumu County aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey.

Of all children with suspected pneumonia, about half (52 per cent) were taken to an appropriate provider. Table CH.7 also presents the use of antibiotics for the treatment of suspected pneumonia in children under five years old. More than 2 out of three (63 per cent) of the suspected cases of pneumonia received antibiotics in the last two weeks prior to the survey.

Table CH.7: Care seeking for suspected pneumonia and antibiotic use during suspected pneumonia, Kisumu County, 2011

		Children with suspected pneumonia who were taken to:											Percent- age of children with suspected pneumo- nia who received antibiotics in the last two weeks [2]	Number of children age 0-59 months with suspected pneumo- nia in the last two weeks						
		Had sus- pected pneumo- nia in the last two weeks	Num- ber of children age 0-59 months	Public sector: Govern- ment hospital	Public sector: Govern- ment health centre	Public sector: Govern- ment dispen- sary	Other public	Private: Mission hospital	Private hospital / clinic	Nursing/ maternity home	Private phar- macy	Other private medi- cal			Mobile clinic	Com- munity health worker	Shop	Traditi- onal practi- tioner	Oth- er	Any appro- priate provider [1]
Sex	Male	7.1	433	(3.8)	(29.2)	(6.9)	(0.0)	(2.3)	(5.7)	(0.0)	(3.0)	(3.3)	(0.0)	(3.6)	(0.0)	(0.0)	(0.0)	(54.7)	(65.3)	31
	Female	5.2	427	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	22
Area	Urban	5.7	266	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
	Rural	6.4	595	(5.1)	(20.8)	(13.8)	(0.0)	(0.0)	(8.2)	(0.0)	(2.4)	(2.7)	(0.0)	(2.9)	(0.0)	(0.0)	(0.0)	(53.5)	(61.8)	38
Age in months	0-11	3.5	173	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	6
	12-23	5.1	147	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	8
	24-35	7.6	182	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	36-47	4.1	175	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
	48-59	10.0	184	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Mother's education	None	1.8	93	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	2
	Primary	6.6	576	(10.0)	(17.7)	(13.8)	(0.0)	(1.8)	(6.4)	(0.0)	(8.4)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(49.8)	(57.3)	38
	Secondary	7.0	192	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	13
Wealth index quintiles	Poorest	8.2	110	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	9
	Second	4.7	145	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
	Middle	7.3	150	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
	Fourth	7.4	192	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	Richest	4.5	264	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
Total		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

[1] MICS indicator 3.9

[2] MICS indicator 3.10

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

() Based on 25-49 unweighted cases

Note: In this table, percentages of children taken to various providers will not add to 100 since some children may have been taken to see more than one type of provider.

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, SO₂, and other toxic elements. The use of solid fuels increases the risks of acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, low birth weight, cataracts, asthma and possibly tuberculosis. The primary indicator is the proportion of the population using solid fuels as the primary source of domestic energy for cooking.

Table CH.9: Solid fuel use

Solid fuel use, Kisumu County, 2011													
Percentage of household members in households using:													
	Electricity	Liquid propane gas (LPG)	Natural gas	Biogas	Kerosene	Charcoal	Wood	Straw/ shrubs/ grass	Other	Missing	Total	Solid fuels for cooking [1]	Number of household members
Area													
Rural	0.5	11.1	0.3	0.2	9.9	60.5	17.0	0.0	0.4	0.2	100.0	77.5	1620
Urban	0.0	0.9	0.9	0.0	0.6	10.4	86.6	0.4	0.0	0.2	100.0	97.3	3640
Education of household head													
None	0.3	14.7	2.6	0.2	4.1	32.2	45.6	0.0	0.0	0.2	100.0	77.9	1135
Primary	0.2	0.1	0.0	0.0	2.8	18.8	77.4	0.4	0.0	0.3	100.0	96.6	2620
Secondary	0.0	2.7	0.5	0.0	4.3	34.1	57.7	0.3	0.4	0.0	100.0	92.1	1466
Missing/DK	(0.0)	(9.2)	(0.0)	(0.0)	(0.0)	(0.0)	(90.8)	(0.0)	(0.0)	(0.0)	(100.0)	(90.8)	39
Wealth index quintiles													
Poorest	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	549
Second	0.0	0.0	0.0	0.0	0.0	0.5	99.4	0.0	0.0	0.1	100.0	99.9	743
Middle	0.0	0.0	0.0	0.0	0.0	2.5	96.0	0.7	0.0	0.8	100.0	99.2	934
Fourth	0.0	0.0	0.0	0.0	2.3	27.1	70.3	0.2	0.0	0.1	100.0	97.7	1296
Richest	0.5	12.3	2.1	0.1	8.8	56.4	19.0	0.2	0.4	0.1	100.0	75.7	1737
Total	0.2	4.1	0.7	0.0	3.5	25.8	65.2	0.3	0.1	0.2	100.0	91.2	5260

[1] MICS indicator 3.11

() Based on 25-49 unweighted cases.

Overall, about 9 out of 10 (91 per cent) of household members in Kisumu County are using solid fuels for cooking. Use of solid fuels is lower in urban (78 per cent) than rural areas (97 per cent). More residents from households where the head has attained secondary level education or higher use solid fuels compared to households where the head is uneducated (92 per cent compared to 78 per cent respectively) in Kisumu County. The proportion of household members who use solid fuels is lower among those from the richest wealth quintile households, compared to other quintiles. For example, all resident from the poorest wealth index quintile use solid fuels compared to 75 per cent of those from the richest wealth index quintile. The most common sources of solid fuel are wood (65 per cent) and charcoal (26 per cent).

Solid fuel use alone is not the best 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 do not protect from the harmful effects of solid fuels. Solid fuel use by place of cooking is depicted in Table CH.10.

Thirty four (34) per cent of Kisumu residents use solid fuel for cooking in a room used for living or sleeping whilst the rest either use a separate room (38 per cent), a separate building (18 per cent) and outdoors (10 per cent).

The proportion cooking in a place used for living or sleeping ranges from 43 per cent among those in urban areas to 31 per cent in rural areas. Similarly, the proportion of household members cooking with solid fuels in a room used for living or sleeping ranges from 52 per cent among those from the poorest wealth index households, to 30 and 28 per cent among those from Richest and fourth household wealth index households.

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

Per cent distribution of household members in households using solid fuels by place of cooking, Kisumu County, 2011								
		Place of cooking:						Number of household members in households using solid fuels for cooking
		In a room used for living/sleeping	In a separate room used as kitchen	In a separate building used as kitchen	Outdoors	Missing	Total	
Area	Urban	42.8	44.7	3.9	8.6	0.0	100.0	1255
	Rural	31.0	35.5	23.2	9.9	0.4	100.0	3543
Education of household head	None	22.3	53.2	16.6	8.0	0.0	100.0	884
	Primary	39.1	30.6	20.0	9.7	0.5	100.0	2530
	Secondary +	31.5	42.1	16.1	10.3	0.0	100.0	1349
Wealth index quintiles	Poorest	52.4	23.7	11.8	9.6	2.5	100.0	549
	Second	38.2	30.4	18.1	13.3	0.0	100.0	742
	Middle	34.0	28.6	27.0	10.4	0.0	100.0	927
	Fourth	27.7	38.1	21.6	12.6	0.0	100.0	1266
	Richest	30.3	54.5	11.3	3.9	0.0	100.0	1314
Total		34.1	37.9	18.1	9.6	0.3	100.0	4798

() based on less than 25 -49 unweighted cases

Malaria

Malaria is a leading cause of death of children under age five in Kenya. It also contributes to anaemia in children and is a common cause of school absenteeism. Preventive measures, especially the use of mosquito nets treated with insecticide (ITNs), can dramatically reduce malaria mortality rates among

children. In Kenya, the Ministry of Public Health and Sanitation (MOPHS) and the Ministry of Medical Services (MOMS) recommend that, owing to widespread resistance to anti-malarial drugs chloroquine, Sulphadoxine –Pyrimethamine (SP/Fansidar) and amodiaquine, these have been replaced with artemisinin combinations therapy for first line treatment of malarial fevers in Kenya. All patients with fever or history of fever should be tested for malaria and only patients who test positive should be treated with artemisinin combination therapy.

Children with severe malaria symptoms, such as fever or convulsions, should be taken to a health facility. Also, children recovering from malaria should be given extra liquids and food and younger children should continue breastfeeding. To prevent malaria in pregnancy, Intermittent Preventive Treatment of malaria in Pregnancy (IPTp) with 3 doses of SP is recommended. To augment malaria control efforts, integrated vector control methods (such as the use of long lasting insecticide treated nets (LLINs) and indoor residual spraying (IRS) are recommended.

The MICS questionnaire incorporates questions on the availability and use of bed nets, both at household level and among children under five years of age and pregnant women, as well as anti-malarial treatment, IPTp, and IRS of households.

Table CH.11: Household availability of insecticide treated nets and protection by a vector control 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, Kisumu County, 2011						
		Percentage of households with at least one mosquito net	Percentage of households with at least one long-lasting treated net	Percentage of households with at least one ITN [1]	Percentage of households with at least one ITN or received IRS during the last 12 months [2]	Number of households
Area	Urban	90.2	81.1	87.5	87.9	432
	Rural	92.9	85.7	89.7	94.9	829
Education of household head	None	91.3	85.8	89.4	92.2	308
	Primary	90.8	82.2	86.8	91.5	609
	Secondary +	94.9	86.9	93.0	94.9	336
	Missing/DK	(*)	(*)	(*)	(*)	7
Wealth index quintiles	Poorest	91.3	85.3	87.7	97.1	126
	Second	93.8	83.7	88.6	93.5	173
	Middle	88.5	81.0	85.1	91.8	215
	Fourth	93.0	87.0	91.9	94.1	297
	Richest	92.4	83.5	89.3	90.2	450
Total		92.0	84.1	88.9	92.5	1261
[1] MICS indicator 3.12, 2 MICS indicator 3.13						
(*) Not shown, based on less than 25 unweighted cases.						

In Kisumu County, the survey results indicate a high level of net ownership with 89 per cent of households having at least one ITN, 92 per cent having at least one mosquito net and 84 per cent of households have LLIN (Table CH.11). An equally high proportion of households have at least one ITN or received IRS during the last 12 months (93 per cent). This fairly high proportion of net ownership in Kisumu County is attributable to the rapid scale up of ITNs distribution in the region in the months shortly before the survey. The availability of nets and vector control methods does not vary markedly by background characteristics.

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, Kisumu county, 2011								
		Percentage of children age 0-59 who stayed in the household the previous night	Number of children age 0-59 months	Percentage of children who: 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	433	83.2	76.6	433	83.5	397
	Female	100.0	427	83.9	79.1	427	84.8	399
Area	Urban	100.0	266	85.3	80.7	266	86.5	248
	Rural	100.0	595	82.8	76.5	595	83.1	548
Age in months	0-11	100.0	173	83.9	80.1	173	85.3	162
	12-23	100.0	147	91.4	88.7	147	91.8	143
	24-35	100.0	182	83.4	74.3	182	83.0	163
	36-47	100.0	175	79.7	75.7	175	80.3	164
	48-59	100.0	184	80.9	72.5	184	81.3	164
Mother's education	None	100.0	93	90.9	81.8	93	88.1	86
	Primary	100.0	576	81.9	77.1	576	82.8	536
	Secondary	100.0	192	85.1	78.1	192	86.2	174
Wealth index quintiles	Poorest	100.0	110	84.9	76.7	110	89.8	94
	Second	100.0	145	82.6	78.0	145	84.6	134
	Middle	100.0	150	83.2	76.4	150	82.2	139
	Fourth	100.0	192	78.9	73.6	192	78.5	180
	Richest	100.0	264	87.2	82.1	264	86.9	249
Total		100.0	861	83.6	77.8	861	84.1	796
[1] MICS indicator 3.14,								
[2] MICS indicator 3.15; MDG indicator 6.7								

Table CH.12 presents findings for children age 0-59 months who slept under a mosquito net during the previous night. The results show that 84 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). The proportion of children sleeping under either any type of mosquito nets or more specifically an ITN does not vary markedly by most background characteristics. For example, 77 per cent of male children slept under ITNs whereas the corresponding figure for females is 79 per cent.

Table CH.13 presents the proportion of pregnant women who slept under a mosquito net during the previous night. Nearly 9 out of 10 pregnant women slept under any nets in Kisumu County, with the proportion dropping down to 83 per cent for those who slept in an insecticide treated net.

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, Kisumu County, 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
Area	Urban	(*)	16	(*)	(*)	16	(*)	16
	Rural	100.0	52	87.3	77.3	52	(82.0)	49
Age in months	15-19	(*)	8	(*)	(*)	8	(*)	8
	20-24	(*)	23	(*)	(*)	23	(*)	21
	25-29	(*)	16	(*)	(*)	16	(*)	15
	30-34	(*)	12	(*)	(*)	12	(*)	12
	35-39	(*)	7	(*)	(*)	7	(*)	7
	40-44	(*)	2	(*)	(*)	2	(*)	2
Education	None	(*)	4	(*)	(*)	4	(*)	2
	Primary	(100.0)	44	(91.9)	(84.5)	44	(86.7)	43
	Secondary +	(*)	19	(*)	(*)	19	(*)	19
Wealth index quintiles	Poorest	(*)	11	(*)	(*)	11	(*)	9
	Second	(*)	11	(*)	(*)	11	(*)	11
	Middle	(*)	10	(*)	(*)	10	(*)	10
	Fourth	(*)	17	(*)	(*)	17	(*)	16
	Richest	(*)	18	(*)	(*)	18	(*)	18
Total		100.0	68	90.3	82.6	68	86.5	65
[1] MICS indicator 3.19								

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, Kisumu County, 2011

		Children with a fever in the last two weeks who were treated with:													Number of children with fever in last two weeks
		Anti-malarials: Fansidar	Anti-malarials: Chloroquine	Anti-malarials: Armodiaquine	Anti-malarials: Quinine	Anti-malarials: Artemisinin based combinations	Anti-malarials: Other Anti-malarial	Anti-malarials: Any anti-malarial drug [1]	Other medications: Paracetamol/Acetaminophan	Other medications: Aspirin	Other medications: Ibuprofen	Other medications: Other	Don't know	Percentage who took an anti-malarial drug same or next day [2]	
Sex	Male	2.9	0.0	2.6	2.6	37.2	6.5	50.9	59.3	0.9	4.0	13.3	4.6	39.2	118
	Female	7.0	1.2	0.0	2.5	40.0	4.6	52.7	46.8	3.6	1.9	9.5	4.2	33.8	102
Area	Urban	6.0	0.0	0.0	1.4	39.5	7.4	52.9	55.5	0.0	2.1	15.2	2.1	36.8	50
	Rural	4.4	0.7	1.8	2.9	38.2	5.1	51.4	53.0	2.8	3.3	10.5	5.2	36.7	170
Age in months	0-11	(3.9)	(0.0)	(0.0)	(4.0)	(26.2)	(7.8)	(41.8)	(66.5)	(0.0)	(0)	(15.8)	(5.9)	(31.1)	28
	12-23	(2.7)	(0.0)	(0.0)	(2.6)	(34.5)	(2.7)	(42.5)	(70.6)	(5.2)	(8.1)	(9.8)	(1.6)	(32.8)	42
	24-35	(4.4)	(0.0)	(2.5)	(1.8)	(47.4)	(4.7)	(58.8)	(43.5)	(0.0)	(0.0)	(12.1)	(2.3)	(46.9)	47
	36-47	(2.6)	(0.0)	(2.3)	(0.0)	(55.9)	(8.2)	(66.7)	(52.7)	(3.4)	(0.0)	(11.6)	(4.9)	(43.2)	44
	48-59	8.7	2.0	1.4	4.3	27.2	5.4	46.3	43.8	1.9	5.6	10.3	7.2	29.0	59
Mother's education	None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	Primary	4.7	0.0	2.0	1.7	38.6	5.9	51.1	50.3	1.4	2.4	12.5	5.6	37.1	156
	Secondary	6.4	2.4	0.0	5.9	27.1	2.2	42.2	62.9	5.3	5.9	11.8	0.0	21.5	50
Wealth index quintiles	Poorest	(7.8)	(0.0)	(0.0)	(2.9)	(45.0)	(0.0)	(55.6)	(39.5)	(0)	(8.2)	(0.0)	(7.2)	(36.6)	29
	Second	37.2	2.2	5.7	2.1	28.0	7.7	50.1	48.5	4.0	1.7	7.9	5.4	35.0	54
	Middle	(4.8)	(0.0)	(0.0)	(4.3)	(36.7)	(10.2)	(53.8)	(56.4)	(2.7)	(8.0)	(16.6)	(4.6)	(39.4)	42
	Fourth	26.2	0.0	0.0	2.2	36.2	4.4	42.8	61.0	3.0	0.0	15.4	5.7	29.3	50
	Richest	(4.2)	(0.0)	(0.0)	(1.6)	(51.5)	(3.7)	(59.3)	(57.8)	(0.0)	(0.0)	(14.6)	(0.0)	(44.7)	44
Total	25.6	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

[1] MICS indicator 3.18; MDG indicator 6.8

[2] MICS indicator 3.17

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

Questions on the prevalence and treatment of fever were asked for all children under age five. Twenty six per cent of children under five were ill with fever in the two weeks prior to the survey, with hardly any differences by gender (Table CH.14). Prevalence of fever amongst children ranges from 29 per cent among those living in rural areas to 19 per cent among those in urban areas. Thirty two per cent of children ages 48-59 months had fever compared to 17 per cent among those aged 0-11 months. The prevalence of fever across the wealth quintiles ranges from 37 per cent among those from the second household wealth quintile to 17 per cent among those from the richest households.

Mothers were asked to report all of the medicines given to a child to treat the fever, including both medicines given at home and medicines given or prescribed at a health facility. Slightly more than half (52 per cent) received any anti-malarial drug. The proportions of children who received anti-malarial drugs were comparable across gender and area of residence. Only 39 per cent of children received artemisinin combination therapy, the recommended first line treatment of malarial fevers. Some children treated with drugs which have been shown to be ineffective against malarial fevers due to drug resistance. For example, up to 5 per cent of children were given SP/Fansidar, 3 per cent were treated with quinine and up to 6 per cent received other types of anti-malaria drugs.

Besides antimalarial drugs, children with malarial fever are given other types of medicines with most children receiving anti-pyretics such as paracetamol (54 per cent).

Thirty seven per cent receive anti-malarial drugs within 24 hours or on the next day after onset of symptoms. The promptness of treatment with artemisinin combination treatments or any other kind of anti-malarials does not vary by gender or urban-rural classification.

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 with malaria, pregnant women are predisposed to 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 IPTp). In the Kisumu County 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 have received at least 2 doses of SP/Fansidar during the pregnancy.

Intermittent preventive treatment for malaria in pregnant women who gave birth in the two years preceding the survey is presented in Table CH.16. Overall, the majority (95 per cent) of women aged 15-49 who had a live birth in the 2 years preceding the survey receive antenatal care, with no major differences between urban and rural areas (99 per cent and 93 per cent respectively). Up to 72 per cent of pregnant women received any medicine to prevent malaria at any ANC visit during pregnancy whilst slightly more than a quarter (27 per cent) of pregnant women received at least 1 dose of SP/Fansidar. Only about one fifth (19 per cent) received the recommended IPTp dose (SP/Fansidar 2 or more times). The proportion of women who receive IPTp differs depending on area of residence. About 24 per cent Women from urban received IPTp versus 15 per cent for their rural counterparts.

Table CH.16: Intermittent preventive treatment for malaria

Percentage of women age 15-49 years who had a live birth during the two years preceding the survey and who received intermittent preventive treatment (IPTp) for malaria during pregnancy at any antenatal care visit, Kisumu county, 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]	
Area	Urban	99.1	111	72.5	33.6	24.3	110
	Rural	93.0	207	71.1	23.0	15.1	193
Education	None	(90.5)	27	(66.6)	(43.6)	(21.9)	25
	Primary	95.4	210	69.2	22.1	14.9	200
	Secondary	96.0	81	79.6	33.7	26.5	78
Wealth index quintiles	Poorest	(91.8)	38	(68.5)	(11.8)	(8.7)	35
	Second	(97.6)	47	(72.2)	(23.9)	(13.9)	46
	Middle	91.0	53	(68.4)	(20.0)	(5.8)	48
	Fourth	94.0	71	71.8	30.7	25.2	67
	Richest	98.0	109	73.8	33.7	25.1	107
Total		95.1	318	71.6	26.8	18.5	302
[1] MICS indicator 3.20							
() Based on 25-49 un-weighted cases.							

VII. Water and Sanitation

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

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

The list of indicators used in MICS is as follows:

Water

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

Sanitation

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

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

Use of Improved Water Sources

The distribution of the population by source of drinking water is shown in Table WS.1 and Figure WS.1. The population using *improved sources* of drinking water are those using any of the following types of supply: piped water (into dwelling, compound, yard or plot, public tap/standpipe), tube well/borehole, protected well, protected spring, and collected rainwater. Bottled water is considered as an improved water source only if the household is using an improved water source for other purposes, such as handwashing and cooking.

Table WS.1: Use of improved water sources

	Main source of drinking water													Percentage using improved sources of drinking water [1]	Number of household members					
	Improved sources						Unimproved sources						Total							
	Piped water			Tube-well/bore-hole	Protected well	Protected spring	Rain-water collection	Bottled water	Unprotected well	Unprotected spring	Tanker-truck	Cart with small tank/drum				Surface water	Other			
	Piped into dwelling	Piped into compound, yard or plot	Piped to neighbor															Piped to water kiosk	Public tap/standpipe	
Residence																				
Urban	18.7	9.6	13.7	16.2	22.0	0.2	1.7	0.0	3.5	0.4	3.7	0.5	0.7	3.9	5.0	0.3	100.0	64.1	1620	
Rural	0.8	2.9	9.5	2.5	10.1	3.9	10.2	1.9	9.7	0.1	14.2	1.5	0.0	0.5	32.3	0.0	100.0	41.5	3640	
Education of household head																				
None	19.7	5.4	7.2	5.8	11.0	1.3	4.8	1.2	7.3	0.6	6.4	1.2	0.9	2.6	24.0	0.4	100.0	53.4	1135	
Primary	0.6	3.0	11.1	7.3	13.3	3.4	9.8	1.3	5.8	0.1	14.8	1.5	0.0	1.0	27.0	0.0	100.0	42.4	2620	
Secondary+	6.1	7.4	13.4	6.5	16.6	2.5	5.7	0.9	11.9	0.0	7.8	0.8	0.0	1.7	18.8	0.0	100.0	54.4	1466	
Missing/DK	(9.2)	(32.5)	(0.0)	(0.0)	(17.5)	(14.0)	(10.4)	(16.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(82.5)	39	
Wealth index quintile																				
Poorest	0.0	0.0	4.5	0.0	9.9	0.4	10.1	0.0	0.0	0.0	18.5	1.8	0.0	0.0	54.8	0.0	100.0	15.0	549	
Second	0.0	0.0	9.1	1.0	13.5	4.5	13.9	0.0	3.9	0.0	13.8	0.5	0.0	0.0	39.6	0.0	100.0	32.5	743	
Middle	0.0	2.0	13.1	5.3	12.9	2.7	11.4	3.0	6.6	0.0	17.0	0.7	0.0	0.1	25.2	0.0	100.0	44.1	934	
Fourth	0.0	4.1	13.3	8.5	12.6	5.9	6.0	2.6	8.0	0.0	11.2	1.8	0.0	2.0	23.9	0.0	100.0	48.5	1296	
Richest	19.1	10.9	10.4	10.6	16.4	0.6	3.2	0.4	12.3	0.6	3.9	1.1	0.6	3.0	6.6	0.3	100.0	68.1	1737	
Total	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	0.1	100.0	48.4	5260	

[1] MICS indicator 4.1; MDG indicator 7.8

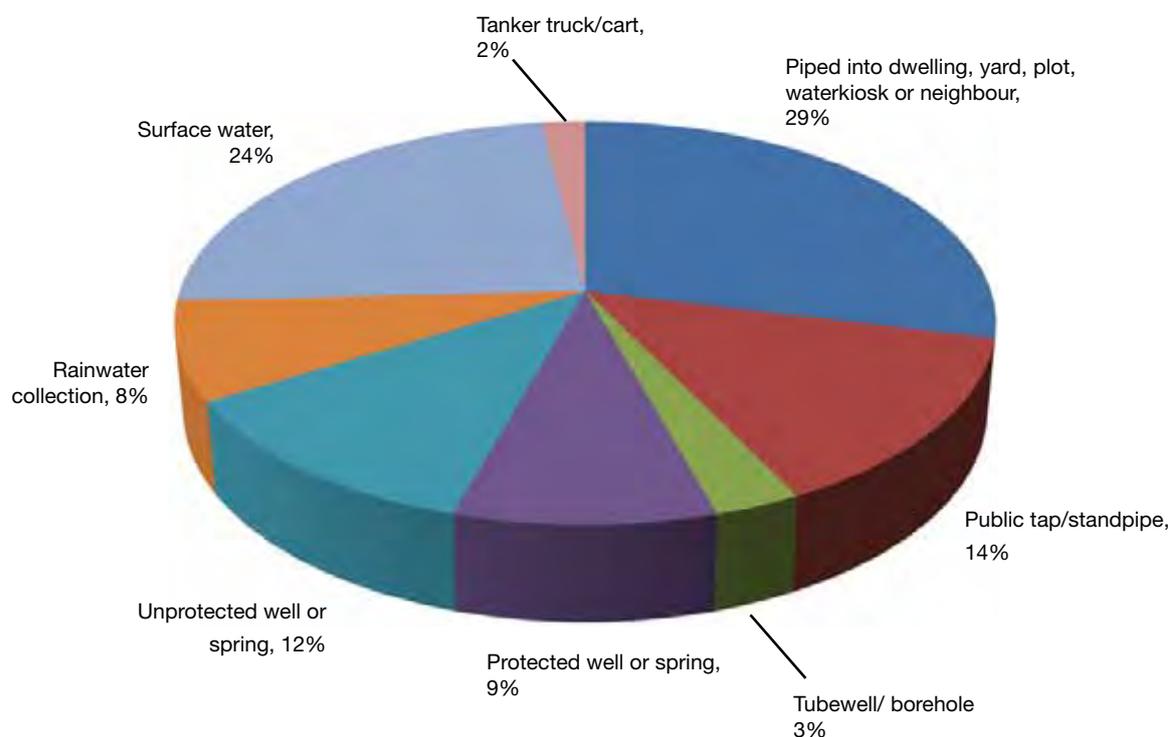
() Based on 25-49 unweighted cases.

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

Overall, less than half (48 per cent) of the population is using an improved source of drinking water in Kisumu County. The most frequently used improved drinking water source is public tap/standpipe (14 per cent) whilst the most commonly used unimproved source of drinking water is surface water (24 per cent).

The use of improved water sources differs by area of residence and household wealth status. Sixty four per cent of the household population in the urban regions has access to improved sources of drinking water compared to 42 per cent of their rural counterparts. The dominant source of drinking water in urban regions is public tap/standpipe (22 per cent), whereas in rural areas it is protected wells (10 per cent). In Kisumu county, the proportion of household population from the richest wealth quintile who use improved source of drinking water is about four times that those from the poorest wealth quintile (15 per cent for the poorest quintile compared to 68 per cent for the richest wealth quintile).

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



Use of Adequate Water Treatment Method

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

Overall, 71 per cent of household members in Kisumu County who use unimproved drinking water sources use an appropriate water treatment method. The water treatment methods commonly used are adding bleach/chlorine (54 per cent) and boiling water (23 per cent). However, more than a quarter of the households (27 per cent) whose drinking water sources are unimproved are not using any water treatment methods. The proportion of household members who treat their water is comparable in urban and rural areas (72 and 71 per cent respectively). The proportion of household members in households using unimproved drinking water sources who use an appropriate water treatment method ranges from 86 per cent among those from the richest households to 65 per cent among the poorest households.

Table WS.2: Household water treatment

	Water treatment method used in the household										Number of household members	Percentage of household members in unimproved drinking water sources and using an appropriate water treatment method [1]	Number of household members in unimproved drinking water sources
	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	Missing/DK				
Residence													
Urban	28.9	28.1	47.5	1.5	2.3	0.0	1.2	2.7	0.0	0.0	1620	72.1	226
Rural	26.4	21.3	57.2	3.3	0.4	0.0	2.3	3.6	0.0	0.0	3640	71.0	1764
Education of household head													
None	19.1	35.3	54.3	2.7	1.8	0.0	2.8	2.0	0.0	0.0	1135	77.2	404
Primary	32.9	18.3	51.5	3.3	0.5	0.0	1.6	3.5	0.0	0.0	2620	65.7	1159
Secondary+	22.6	23.9	59.2	2.0	1.4	0.0	2.1	4.0	0.0	0.0	1466	79.8	426
Wealth index quintile													
Poorest	29.6	12.6	57.7	0.0	0.0	0.0	0.6	3.4	0.0	0.0	549	65.3	412
Second	29.7	22.0	55.1	4.4	0.0	0.0	0.7	5.2	0.0	0.0	743	68.0	401
Middle	28.2	19.0	53.9	3.1	0.0	0.0	5.5	3.1	0.0	0.0	934	76.3	402
Fourth	30.0	20.8	55.1	3.7	1.2	0.0	1.3	3.9	0.0	0.0	1296	66.0	504
Richest	22.6	31.8	52.2	2.1	2.1	0.0	1.6	2.2	0.0	0.0	1737	86.2	269
Total	27.2	23.4	54.2	2.8	1.0	0.0	2.0	3.3	0.0	0.0	5260	71.1	1989

[1] MICS indicator 4.2

() Based on 25-49 unweighted cases.

Time to source drinking water

The amount of time it takes to obtain water is presented in Table WS.3 and the person who usually 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.

Overall, Table WS.3 shows that for 28 per cent of household population that use improved drinking water sources have the water source on the premises. The proportion of the population using improved drinking sources in the urban households and have water on the premises is 45 per cent compared to 21 per cent for those in rural areas. The proportion of household members having an improved water source on their premises is 51 per cent amongst those from the richest wealth quintile compared to 5 per cent for those from the poorest wealth quintile.

Table WS.3: Time to source of drinking water

Per cent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, Kisumu County, 2011										
	Time to source of drinking water								Total	Number of household members
	Users of improved drinking water sources				Users of unimproved drinking water sources					
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK		
Area										
Rural	20.8	18.0	12.1	0.7	1.6	27.2	19.2	0.4	100.0	3640
Urban	44.9	34.4	6.4	0.4	0.7	9.4	3.4	0.5	100.0	1620
Education of household head										
None	39.8	18.8	5.6	0.3	0.9	20.9	12.5	1.3	100.0	1135
Primary	19.2	22.3	13.5	0.6	1.6	24.8	17.9	0.1	100.0	2620
Secondary +	35.0	27.5	7.7	0.8	1.3	17.6	9.8	0.4	100.0	1466
Wealth index quintiles										
Poorest	4.5	13.4	7.1	0.0	3.2	32.0	39.8	0.0	100.0	549
Second	11.6	21.7	11.9	0.8	0.0	31.3	22.7	0.0	100.0	743
Middle	18.6	22.2	15.3	0.8	1.9	23.6	17.4	0.1	100.0	934
Fourth	24.2	22.0	14.0	0.8	1.0	26.2	10.7	1.1	100.0	1296
Richest	50.9	27.9	5.3	0.4	1.3	10.0	3.7	0.4	100.0	1737
Total	28.2	23.0	10.3	0.6	1.3	21.7	14.3	0.4	100.0	5260

() Based on 25-49 unweighted cases.

The time to source drinking water varies by place of residence, household wealth and type of drinking water source (improved or unimproved). Amongst users of improved water sources, 23 per cent take less than 30 minutes to fetch water from their improved drinking water source, whilst for 10 per cent, this task requires 30 minutes or more. In addition, the proportion taking less than 30 minutes or less to source water from their improved water source ranges from 13 per cent among those from the poorest wealth quintile to 28 per cent among those from the richest wealth quintile households.

Amongst users of improved drinking water sources, 34 per cent of those living in urban households take less than 30 minutes to source drinking water compared to 18 per cent for those from the rural areas. The proportion of household population using improved water sources who take 30 minutes or more to fetch water ranges from 6 per cent in urban areas to 12 per cent in rural areas. On the other hand, the proportion of the household population using unimproved water sources who take more than 30 minutes or more to collect water ranges from 40 per cent among the poorest households to less than 4 per cent among the richest households.

Person Collecting Water

Table WS.4 shows that for the majority of households where the source of drinking water is not on the premises (82 per cent), an adult female is the most likely person collecting the water (74 per cent), followed by an adult man (20 per cent). The proportion of an adult woman being responsible for water collection for use in the household is high in the rural areas (78 per cent) versus 64 per cent for urban areas. Similarly, the proportion of adult women collecting water ranges from 85 per cent among those from the poorest households to 64 per cent in the richest households.

Table WS.4: Person collecting water

Percentage of households without drinking water on premises, and per cent distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, Kisumu County, 2011									
	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water					Total	Number of households without drinking water on premises
			Adult woman	Adult man	Female child (under 15)	Male child (under 15)	Missing/DK		
Residence									
Urban	72.5	432.	64.1	31.9	3.3	0.7	0.0	100.0	327
Rural	86.2	829	78.3	15.2	4.4	2.0	0.1	100.0	795
Education of household head									
None	69.6	308	63.7	27.0	3.8	5.1	0.5	100.0	239
Primary	89.8	609	75.3	18.8	5.1	0.8	0.0	100.0	584
Secondary+	77.9	336	79.3	18.2	2.1	0.4	0.0	100.0	296
Wealth index quintile									
Poorest	97.5	126	84.7	7.5	6.2	1.6	0.0	100.0	126
Second	95.9	172	82.3	8.7	5.7	3.3	0.0	100.0	173
Middle	91.2	215	74.6	18.0	4.6	2.3	0.5	100.0	211
Fourth	87.7	297	74.5	20.0	4.4	1.1	0.0	100.0	284
Richest	62.8	449	63.5	34.5	1.4	0.5	0.0	100.0	329
Total	81.5	1260	74.0	20.3	4.1	1.6	0.1	100.0	1123

Only 1 in 5 households has an adult man responsible for collection of water (20 per cent), and the proportion is higher in urban (32 per cent) than rural areas (15 per cent). Men are more likely to be involved in water collection in households where the household head has no education (27 per cent) compared to those where the head has attained primary or secondary level education (18 per cent). Similarly, the proportion of men involved in water collection ranges from 8 per cent among those from the poorest households to 35 per cent for the richest households. Female or male children under age 15 engage in water collection activities in 6 per cent of the households.

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.

More than half (55 per cent) of the household population in Kisumu County are living in households using improved sanitation facilities (Table WS.5). Overall, of all improved sanitation facilities, pit latrines with slabs are the most frequently used (33 per cent) - 37 per cent in urban areas and 32 per cent in rural areas. Only 10 per cent use the flush system in their households. While 9 per cent have no sanitation facilities and therefore resort to open defecation.

The use of improved sanitation facilities is much higher in urban (77 per cent) than rural areas (45 per cent). The table also indicates that the proportion of the population using improved sanitation facilities increases from 18 per cent for those from households in the poorest wealth quintile to 88 per cent for those from richest wealth quintile households.

On the other hand, 45 per cent of the population in Kisumu County use unimproved sanitation facilities. The highest proportion of the population using unimproved sanitation facilities is found in rural areas (55 per cent). The most commonly used unimproved sanitation facility is a pit latrine without a slab (35 per cent) and open defecation (9 per cent). A higher proportion of household members in rural areas use pit latrines without slab/open pit (43 per cent) compared to their urban counterparts (19 per cent).

The proportion of household members using unimproved sanitation facilities is higher amongst those from the poorest wealth quintile (82 per cent) compared to those from the richest wealth quintile (12 per cent).

Table WS.5: Types of sanitation facilities

	Type of toilet facility used by household											Number of household members				
	Improved sanitation facility															
	Flush/pour flush to:			Ventilated improved pit latrine				Pit latrine with slab	Composting toilet	Pit latrine without slab/ open pit	Bucket		Other	Missing	Open defecation (no facility, bush, field)	Total
	Piped sewer system	Septic tank	Pit latrine	Unknown place/not sure/DK where	Ventilated improved pit latrine											
Area																
Urban	13.4	10.7	2.8	4.0	7.8	37.0	1.5	19.0	0.0	0.0	0.0	0.0	0.0	3.8	100.0	1620
Rural	0.1	0.6	0.6	0.0	6.1	31.7	5.9	42.7	0.1	0.1	0.1	0.1	0.1	11.8	100.0	3640
Education of household head																
None	14.8	10.8	0.5	3.2	10.7	25.1	4.5	25.3	0.0	0.0	0.0	0.0	0.0	5.2	100.0	1135
Primary	0.1	0.1	1.6	0.3	3.2	35.3	6.1	39.2	0.2	0.1	0.2	0.2	0.2	13.6	100.0	2620
Secondary +	3.6	4.5	1.5	1.4	9.8	37.1	1.8	35.4	0.0	0.0	0.0	0.0	0.0	4.8	100.0	1466
Wealth index quintile																
Poorest	0.0	0.0	0.0	0.0	0.0	1.3	16.4	62.8	0.0	0.0	0.0	0.0	0.0	19.6	100.0	549
Second	0.0	0.0	0.4	0.0	0.0	11.5	5.7	60.7	0.0	0.0	0.0	0.0	0.0	21.7	100.0	743
Middle	0.0	0.0	0.4	0.0	3.1	37.8	5.1	44.1	0.6	0.0	0.0	0.0	0.0	9.0	100.0	934
Fourth	0.0	0.0	1.5	0.0	4.6	43.7	4.5	37.0	0.0	0.2	0.0	0.0	0.0	8.5	100.0	1296
Richest	12.8	11.3	2.4	3.7	15.0	42.7	0.0	10.2	0.0	0.0	0.3	0.0	0.3	1.6	100.0	1737
Total	4.2	3.7	1.3	1.2	6.6	33.3	4.5	35.4	0.1	0.1	0.1	0.1	0.1	9.3	100.0	5260

Use and sharing of sanitation facilities

Access to safe drinking-water and to basic sanitation is measured by the proportion of population using an improved sanitation facility. MDGs and WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation classify households as using an unimproved sanitation facility if they are using otherwise acceptable sanitation facilities but sharing a facility between two or more households or using a public toilet facility.

As shown in Table WS.6, only 1 out of 4 household members in Kisumu County use private improved sanitation facilities that are not shared. While another 26 per cent use shared improved sanitation facilities. About 14 per cent use unimproved sanitation facilities that are not shared.

The proportion of not-shared improved sanitation facilities is higher in urban areas (34 per cent) than in rural areas (21 per cent). The proportion of the population who use open defecation is high in rural areas (12 per cent) versus urban areas (4 per cent). Across the wealth quintiles, the proportion of those using improved sanitation facilities that are not shared ranges from 13 and 10 per cent among the poorest and second poorest household members to 43 per cent among the richest. Similarly, the proportion of those using open defecation is high among the poorest household members (20 and 22 per cent among the poorest and second poorest members, respectively) and lower among members from the richest households (2 per cent).

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, Kisumu County, 2011

	Users of improved sanitation facilities				Users of unimproved sanitation facilities				Open defecation (no facility, bush field)		Number of household members
	Not shared [1]	Public facility	Shared by: 5 households or less	Shared by: More than 5 households	Not shared	Public facility	Shared by: 5 households or less	Shared by: More than 5 households	Missing/DK	Total	
Residence											
Urban	33.7	5.8	14.8	22.9	1.0	2.5	7.0	8.5	0.0	3.8	1620
Rural	21.0	3.3	18.4	2.4	20.0	1.7	19.8	1.4	0.2	11.8	3640
Education of household head											
None	43.4	3.3	17.9	4.9	9.6	2.6	10.8	1.8	0.5	5.2	1135
Primary	14.7	3.5	18.5	10.0	15.3	1.4	18.9	4.2	0.0	13.6	2620
Secondary +	29.4	5.6	15.0	9.8	14.1	2.5	14.9	3.9	0.0	4.8	1466
Wealth index quintile											
Poorest	12.6	0.0	5.0	0.0	25.5	4.0	28.4	5.0	0.0	19.6	549
Second	9.6	0.0	7.5	0.5	29.3	2.4	24.1	4.1	0.8	21.7	743
Middle	15.8	7.3	20.6	2.6	19.3	1.1	22.8	1.4	0.0	9.0	934
Fourth	21.6	5.2	18.0	9.4	13.6	1.2	18.0	4.4	0.0	8.5	1296
Richest	42.8	4.4	23.0	17.8	1.8	2.1	3.0	3.5	0.0	1.6	1737
Total	25.0	4.0	17.3	8.7	14.2	1.9	15.9	3.6	0.1	9.3	5260

[1] MICS indicator 4.3; MDG indicator 7.9

Disposal of child's faeces

Safe disposal of a child's faeces is disposing of the stool by the child using a toilet or by rinsing the stool waste into a toilet or latrine. The disposal of faeces of children 0-2 years of age is presented in Table WS.7. Overall in Kisumu County, stools were disposed safely for majority (78 per cent) of children aged 0-2 years. The most common method of disposing children's stools in households where there is a sanitation facility is to put/rinse into toilet or latrines (77 per cent).

The percentage of children whose stools is disposed of safely was marginally higher for households in which there was an improved sanitation facility (89 per cent) than in those in the sanitation facility was unimproved (80 per cent).

The place of stool disposal varies with the area of residence and wealth status. Toilets or latrines are more likely to be used in urban (83 per cent) than rural areas (76 per cent).

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, Kisumu County, 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	Total			
Type of sanitation\ facility in dwelling													
Improved	1.6	87.1	2.8	1.7	3.1	1.6	1.7	0.0	0.4	100.0	88.7	270	
Unimproved	0.0	79.9	9.2	5.4	2.9	0.6	1.3	0.6	0.0	100.0	79.9	186	
Open defecation	(0.0)	(6.6)	(20.8)	(21.5)	(30.7)	(11.7)	(8.7)	(0.0)	(0.0)	(100.0)	(6.6)	44	
Residence													
Urban	0.0	83.3	5.5	6.3	1.3	1.4	1.5	0.0	0.7	100.0	83.3	169	
Rural	1.3	74.3	7.4	4.0	7.6	2.5	2.5	0.3	0.0	100.0	75.7	331	
Mother's education													
None	(0.0)	(85.8)	(0.0)	(7.0)	(2.2)	(0.0)	(5.1)	(0.0)	(0.0)	(100.0)	(85.8)	48	
Primary	0.8	73.0	8.2	5.8	6.1	2.9	2.5	0.3	0.3	100.0	73.8	334	
Secondary+	1.6	86.2	5.3	1.0	4.8	1.0	0.0	0.0	0.0	100.0	87.8	118	
Wealth index quintile													
Poorest	2.8	69.1	9.4	9.7	6.2	0.0	2.8	0.0	0.0	100.0	72.0	67	
Second	0.0	57.5	11.8	9.4	9.9	5.6	5.8	0.0	0.0	100.0	57.5	74	
Middle	0.8	78.5	7.2	0.9	10.1	1.2	1.4	0.0	0.0	100.0	79.3	79	
Fourth	0.0	78.0	7.8	3.6	4.9	2.9	1.8	0.9	0.0	100.0	78.0	118	
Richest	1.2	88.9	2.4	3.5	1.2	1.4	0.8	0.0	0.7	100.0	90.1	161	
Total	0.9	77.4	6.8	4.8	5.4	2.1	2.2	0.2	0.2	100.0	78.3	499	

[1] MICS indicator 4.4

() Based on 25-49 unweighted cases.

Drinking water and sanitation ladders

In its 2008 report⁷, the JMP developed a new way of presenting the access figures, by disaggregating and refining the data on drinking-water and sanitation and reflecting them in “ladder” format. This ladder allows a disaggregated analysis of trends in a three rung ladder for drinking-water and a four-rung ladder for sanitation. For sanitation, this gives an understanding of the proportion of population with no sanitation facilities at all, of those reliant on technologies defined by JMP as “unimproved,” of those sharing sanitation facilities of otherwise acceptable technology, and those using “improved” sanitation facilities. Table WS.8 presents the percentages of household population by drinking water and sanitation ladders. The table also shows the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal.

In Kisumu County, 48 per cent of the population use improved drinking water, and only 25 per cent use improved sanitation facilities. The two proportions increase with increasing levels of household wealth index from 15 per cent for population in the poorest wealth quintile to 68 per cent for those in the richest quintile for improved drinking water sources, and from 13 per cent for the population in the poorest wealth quintile to 43 per cent for those in the richest quintile for improved sanitation facilities.

Only 16 per cent of the population have both improved drinking water sources and improved sanitation facilities. This differs by area of residence and the level of household wealth. Whilst only 11 per cent of the rural population has access to both, this proportion more than doubles in the urban areas (29 per cent). The proportion using both improved drinking water sources and improved sanitation facilities increases from 1 per cent in the poorest wealth quintile to 35 per cent in the richest quintile.

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

Table WS.8: Drinking water and sanitation ladders

Percentage of household population using:											
	Improved drinking water [1]		Unimproved drinking water	Total	Improved sanitation [2]	Unimproved sanitation			Total	Improved water sources and improved sanitation	Number of households
	Piped into dwelling, plot or yard	Other improved				Shared improved facilities	Unimproved facilities	Open defecation			
	Residence										
Urban	28.5	35.5	35.9	100.0	33.7	43.5	19.0	3.8	100.0	28.6	1620
Rural	3.7	37.8	58.5	100.0	21.0	24.1	43.1	11.8	100.0	10.8	3640
Education of household head											
None	25.4	28.0	46.6	100.0	43.4	26.1	25.3	5.2	100.0	31.3	1135
Primary	3.6	38.9	57.6	100.0	14.7	32.0	39.7	13.6	100.0	7.6	2620
Secondary +	13.6	40.8	45.6	100.0	29.4	30.4	35.4	4.8	100.0	20.5	1466
Wealth index quintile											
Poorest	0.0	15.0	85.0	100.0	12.6	5.0	62.8	19.6	100.0	0.5	549
Second	0.0	32.5	67.5	100.0	9.6	8.0	60.7	21.7	100.0	2.2	743
Middle	2.0	42.1	55.9	100.0	15.8	30.5	44.7	9.0	100.0	8.2	934
Fourth	4.1	44.4	51.5	100.0	21.6	32.7	37.2	8.5	100.0	11.6	1296
Richest	30.2	37.9	31.9	100.0	42.8	45.1	10.4	1.6	100.0	35.2	1737
Total	11.3	37.1	51.6	100.0	25.0	30.0	35.7	9.3	100.0	16.3	5260

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

Hand washing

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

In Kisumu County, a place of handwashing is observed in 11 per cent of the households. The place of handwashing is observed more frequently in urban households (19 per cent) than in rural households (7 per cent). For the households where the place of handwashing is not observed (89 per cent), the handwashing place is either not in the dwelling/plot/yard (88 per cent) or the interviewer had no permission to see it (1 per cent) (Table WS.9).

Of the 137 households where place of handwashing was observed, only 69 per cent have both water and soap present at the designated place whilst 6 per cent have no water or soap available. Sixteen per cent have only water available and 9 per cent have only soap available.

The proportion of households who have both water and soap at their designated handwashing areas is higher in urban (82 per cent) than in rural areas (49 per cent). The proportion having both water and soap available does not vary markedly by the education level of the household head or wealth index quintiles.

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

Percentage of households where place for handwashing was observed and per cent distribution of households by availability of water and soap at place for handwashing, Kisumu County, 2011											
Area	Percentage of households where place for handwashing was observed		Percentage of households where place for handwashing was not observed		Number of households	Per cent distribution of households where place for handwashing was observed, where:				Total	Number of households where place for handwashing was observed
	households where place for handwashing was observed	Not in dwelling/plot/yard	No permission to see	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	Total		
Urban	18.5	78.7	2.8	82.2	432	4.7	10.9	2.3	100.0	80	
Rural	6.9	92.9	0.2	49.4	829	32.3	7.5	10.8	100.0	57	
Education of household head											
None	25.0	71.7	3.3	72.7	308	9.6	12.4	5.2	100.0	77	
Primary	4.7	95.1	0.2	(39.5)	609	(38.3)	(8.4)	(13.8)	(100.0)	29	
Secondary+	8.9	90.2	0.9	(84.0)	336	(12.6)	(3.3)	(0.0)	(100.0)	30	
Wealth index quintiles											
Poorest	6.9	93.1	0.0	(*)	126	(*)	(*)	(*)	(*)	9	
Second	4.5	95.5	0.0	(*)	173	(*)	(*)	(*)	(*)	8	
Middle	5.9	93.6	0.5	(*)	215	(*)	(*)	(*)	(*)	13	
Fourth	4.8	95.2	0.0	(*)	297	(*)	(*)	(*)	(*)	14	
Richest	20.8	76.3	2.9	81.1	450	6.8	10.2	2.0	100.0	94	
Total	10.9	88.0	1.1	68.5	1261	16.2	9.4	5.8	100.0	137	

[1] MICS indicator 4.5

() Based on 25-49 unweighted cases.

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

Availability of soap

Overall, 93 per cent of the households in Kisumu County have soap anywhere in the dwelling. The availability of soap somewhere in the household does not vary markedly by the level of education of the household head. On the other hand, the proportion of households in which soap was seen increases from 86 per cent amongst households in the poorest wealth quintile to 96 per cent amongst households in the richest wealth quintile.

Of the households where the place of handwashing was observed, soap was observed at the designated handwashing place in 9 per cent of the households whilst it was shown to the interviewer in 2 per cent of the households. (Table WS.10).

Interestingly, handwashing soap was observed in 83 per cent of households where a place for handwashing was not available. The proportion showing soap was higher in rural (86 per cent) than urban areas (77 per cent).

Table WS.10: Availability of soap

Area	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	Total	Soap shown	No soap in household	Not able/Does not want to show soap	Total		
	Urban	17.2	1.3	0.0	18.5	76.7	4.5	0.3			81.5	95.2	432
Rural	3.9	2.8	0.2	6.9	85.8	7.3	0.0	93.1	92.4	829
Education of household head										
None	21.3	3.7	0.0	25.0	67.1	7.5	0.4	75.0	92.1	308
Primary	2.2	2.2	0.3	4.7	88.5	6.8	0.0	95.3	92.9	609
Secondary+	7.8	1.1	0.0	8.9	86.3	4.7	0.0	91.1	95.3	336
Wealth index quintile										
Poorest	1.5	5.3	0.0	6.9	79.3	13.8	0.0	93.1	86.2	126
Second	3.0	1.5	0.0	4.5	87.6	7.9	0.0	95.5	92.1	173
Middle	2.4	3.1	0.3	5.9	86.0	8.1	0.0	94.1	91.5	215
Fourth	3.0	1.4	0.4	4.8	89.8	5.4	0.0	95.2	94.2	297
Richest	19.0	1.8	0.0	20.8	75.4	3.5	0.3	79.2	96.3	450
Total	8.5	2.3	0.1	10.9	82.7	6.4	0.1	89.1	93.4	1261

[1] MICS indicator 4.6

VIII. Reproductive Health

Fertility

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

ASFRs are calculated by dividing the number of births to women in a specific age group by the number of women years lived during a given period, and is expressed per 1000 women. The Total Fertility Rate (TFR) is calculated by summing the age-specific fertility rates calculated for each of the 5-year age groups of women, from age 15 through to age 49. The TFR denotes the average number of children to which a woman will have given birth by the end of her reproductive years if current fertility rates prevailed

Table RH.1 shows age specific fertility rates and total fertility rate. For the three year period preceding the MICS survey, the Total Fertility Rate in Kisumu County was 4.8 children per woman. The adolescent birth rate (age-specific fertility rate for women age 15-19) during the same period was 199 births per 1000 women. ASFR is highest in the 20 to 24 age group. Interestingly, fertility seems to have increased in the 15-19 and 20-24 age groups over the last decade before the MICS survey.

Table RH.1: Current fertility

Age specific fertility rates (ASFR) and total fertility rate (TFR) for three year periods preceding the survey, Kisumu County, 2011					
	Age specific fertility rates (ASFR)				
	Number of years preceding the survey				
	0-2	3-5	6-8	9-11	12-14
Age					
15-19	1991	175	169	172	132
20-24	280	267	223	278	296
25-29	196	238	225	211	245
30-34	129	208	225	217	207
35-39	96	136	119	161	240
40-44	59	56	72	151	.
45-49	4	29	.	.	.
Total Fertility Rate	4.8	5.6	5.2	5.9	5.6

[1] MICS indicator 5.1; MDG indicator 5.4
Note: Age-specific fertility rates are per 1,000 women.

Children ever born and children surviving

Table RH.1a presents the distribution of children ever born and surviving for all women by age groups. The mean number of children ever born to all women aged 15-49 years is 3 and that of those surviving is 2.5. Women in Kisumu County attain a parity of 5.9 children per woman at the end of their childbearing period; this number is 1.1 children above the current total fertility rate (4.8 children per woman).

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

Mean and total numbers of children ever born and children surviving by age of women, Kisumu County, 2011					
	Children ever born		Children surviving		Number of women
	Mean	Total	Mean	Total	
Age					
15-19	0.4	75	0.4	70	175
20-24	1.7	332	1.5	305	197
25-29	2.7	529	2.4	464	193
30-34	3.5	368	3.1	323	104
35-39	5.2	511	4.3	424	99
40-44	5.9	518	4.9	427	88
45-49	5.9	411	4.6	320	70
Total	3.0	2744	2.5	2333	926

Early childbearing

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

As shown in Table RH.2, 33 per cent of women aged 15-19 have already had a birth, 1 per cent of these women are pregnant with their first child, 34 per cent have begun childbearing and 5 per cent have had a live birth before age 15. The proportion of women aged 15-19 years who have begun childbearing is 38 per cent among urban women and 32 per cent for rural women in Kisumu County.

Forty (40) per cent of women aged 20-24 years have had a live birth before age 18. The proportion of women aged 20-24 years who have had a live birth before age 18 ranges from 43 per cent in rural areas to 37 per cent in urban areas.

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, Kisumu County, 2011							
	Percentage of women age 15-19 who:				Number of women age 15-19	Percentage of women age 20-24 who have had a live birth before age 18 [1]	Number of women age 20-24
	Have had a live birth	Are pregnant with first child	Have begun childbearing	Have had a live birth before age 15			
Residence							
Urban	38.1	0.0	38.1	4.8	61	37.0	109
Rural	30.3	1.4	31.7	4.4	138	42.6	117
Education							
None	.	.	.	.	.	(21.1)	27
Primary	38.4	1.5	39.9	7.0	128	52.5	136
Secondary +	22.4	0.0	22.4	0.0	71	20.6	62
Wealth index quintile							
Poorest	(*)	(*)	(*)	(*)	23	(*)	19
Second	(*)	(*)	(*)	(*)	18	(39.5)	29
Middle	(33.6)	(0.0)	(33.6)	(7.5)	30	(60.1)	28
Fourth	33.6	3.1	36.7	7.2	62	(40.6)	36
Richest	28.6	0.0	28.6	1.0	67	28.1	114
Total	32.7	1.0	33.7	4.5	199	39.9	226
[1] MICS indicator 5.2							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

Trends in early childbearing

Overall, 8 per cent of women aged 15-49 years had a live birth before age 15 while 39 per cent of women aged 20-49 years have had a live birth before age 18 as shown in Table RH.3. About 10 per cent of women aged 15-49 years in rural areas had a live birth before age 15 compared to 6 per cent in urban areas. Similarly, 44 per cent of women aged 20-49 years in rural areas had a live birth before age 18 compared to 30 per cent in urban areas.

Table RH.3: Trends in early childbearing

Age	Urban				Rural				All			
	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years
15-19	4.8	61	na	0	4.4	138	na	0	4.5	199	na	0
20-24	5.2	109	37.0	109	5.8	117	42.6	117	5.5	226	39.9	226
25-29	5.0	82	24.2	82	10.1	136	46.8	136	8.2	218	38.3	218
30-34	4.0	56	25.7	56	10.8	61	40.6	61	7.6	118	33.5	118
35-39	(7.7)	36	(26.5)	36	22.2	76	45.1	76	17.5	112	39.1	112
40-44	(*)	22	(*)	22	10.4	80	43.9	80	9.8	102	40.4	102
45-49	(*)	19	(*)	19	8.0	63	41.2	63	9.7	82	40.4	82
Total	5.8	386	30.1	325	9.5	671	43.8	533	8.1	1057	38.6	858

na: not applicable
 (*) Not shown, based on less than 25 unweighted cases.
 () Based on 25-49 unweighted cases.
 Figures in the total row are based on women age 15-49 and 20-49 for live births before age 15 and age 18, respectively.

Contraception

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

Current use of contraception was reported by 44 per cent of women who are currently married or in union (Table RH.4). Modern methods of contraception are more commonly used (43 per cent) than traditional methods (1 per cent), with injectable contraceptives being the most popular method -used by one in four (25 per cent) married women in Kisumu County. The next most popular method is implants, accounting for 6 per cent of use among married women. Between one and four per cent of women reported use of the male condom, the pill, female sterilization, and intrauterine devices (IUDs). Less than 1 per cent use periodic abstinence, diaphragm or foam or jelly, lactational amenorrhea method (LAM) or withdrawal.

Contraceptive prevalence ranges from 49 per cent among women in the urban areas to 42 per cent for those in rural areas. The contraceptive prevalence rates for any method across household wealth index levels ranges from 27 per cent among the poorest to 52 per cent among those from the richest households.

Injectable contraceptives are the most commonly used contraceptives across all education levels with the highest prevalence (26 per cent) observed among women with secondary or higher education and lowest (19 per cent) among women with no education. Women with no education (5 per cent) are more likely to use IUDs than those with secondary or higher education (2 per cent).

Non use of contraceptives has important implications on fertility and hence child bearing and consequently population growth. The proportion of married women not using any form of contraceptives in Kisumu County is 56 per cent. Fifty nine per cent of the married rural women are not using any method while 51 per cent of the urban ones do not use any too. Similarly, 66 per cent of the women with one living child are not using any method.

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, Kisumu County, 2011																		
Per cent of women (currently married or in union) who are using:																		
	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm/Foam/Jelly	Lactational amenorrhoea method (LAM)	Periodic abstinence	Withdrawal	Other	Any modern method	Any traditional method	Any method [1]	Number of women currently married or in union
Residence																		
Urban	50.7	1.8	0.0	1.8	25.4	7.7	2.1	7.0	0.0	0.5	0.4	1.7	0.8	0.0	46.3	3.0	49.3	254
Rural	58.5	4.0	0.0	0.7	24.6	4.5	4.3	2.6	0.0	0.5	0.3	0.2	0.0	0.0	41.1	0.4	41.5	440
Age																		
15-19	(63.9)	(0.0)	(0.0)	(0.0)	(28.1)	(0.0)	(2.5)	(0.0)	(0.0)	(1.5)	(2.2)	(0.0)	(1.7)	(0.0)	(32.1)	(3.9)	(36.1)	47
20-24	49.2	0.0	0.0	0.0	31.2	7.2	2.4	6.0	0.0	0.7	0.8	1.8	0.8	0.0	47.4	3.4	50.8	155
25-29	50.8	0.7	0.0	1.0	29.8	7.3	6.8	2.6	0.0	1.0	0.0	0.0	0.0	0.0	49.2	0.0	49.2	173
30-34	50.0	1.0	0.0	1.9	32.0	9.5	2.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	88
35-39	53.4	5.1	0.0	2.6	17.3	7.2	2.7	9.8	0.0	0.0	0.0	1.9	0.0	0.0	44.7	1.9	46.6	88
40-44	66.4	10.2	0.0	2.2	13.8	1.0	1.3	4.3	0.0	0.0	0.0	0.8	0.0	0.0	32.8	0.8	33.6	84
45-49	76.6	12.3	0.0	0.0	7.4	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.4	0.0	23.4	58
Number of living children																		
0	(79.2)	(0.0)	(0.0)	(0.0)	(4.2)	(5.0)	(4.5)	(7.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(20.8)	(0.0)	(20.8)	31
1	66.1	0.0	0.0	3.4	15.9	2.4	2.2	6.6	0.0	0.0	0.8	2.0	0.6	0.0	30.5	3.4	33.9	134
2	49.2	0.9	0.0	0.0	30.2	9.7	2.8	5.0	0.0	1.2	0.0	0.0	0.9	0.0	49.9	0.9	50.8	141
3	47.7	0.5	0.0	0.8	33.4	7.0	5.4	2.7	0.0	0.5	0.9	1.2	0.0	0.0	50.2	2.1	52.3	140
4+	55.1	8.3	0.0	0.8	24.5	4.5	3.3	2.9	0.0	0.4	0.0	0.3	0.0	0.0	44.6	0.3	44.9	248
Education																		
None	50.0	3.2	0.0	5.3	19.4	7.4	5.0	4.4	0.0	0.0	0.0	3.8	1.5	0.0	44.7	5.3	50.0	85
Primary	58.2	3.3	0.0	0.0	25.4	5.7	2.8	3.8	0.0	0.6	0.3	0.0	0.0	0.0	41.5	0.3	41.8	440
Secondary	51.7	3.1	0.0	1.7	26.4	4.6	4.5	5.1	0.0	0.7	0.6	1.1	0.5	0.0	46.1	2.2	48.3	169
Wealth index quintile																		
Poorest	73.5	1.3	0.0	0.0	15.7	0.0	6.4	3.1	0.0	0.0	0.0	0.0	0.0	0.0	26.5	0.0	26.5	65
Second	59.9	2.6	0.0	0.0	26.9	2.4	2.6	5.7	0.0	0.0	0.0	0.0	0.0	0.0	40.1	0.0	40.1	86
Middle	56.0	5.5	0.0	0.0	26.3	6.6	2.6	1.9	0.0	0.0	1.1	0.0	0.0	0.0	42.9	1.1	44.0	114
Fourth	58.0	2.6	0.0	0.0	30.0	2.9	3.8	1.5	0.0	0.7	0.0	0.4	0.0	0.0	41.6	0.4	42.0	161
Richest	48.3	3.3	0.0	2.8	22.8	9.4	3.2	6.6	0.0	0.9	0.4	1.6	0.8	0.0	48.9	2.8	51.7	268
Total	55.6	3.2	0.0	1.1	24.9	5.7	3.5	4.2	0.0	0.5	0.3	0.7	0.3	0.0	43.0	1.4	44.4	694

[1] MICS indicator 5.3; MDG indicator 5.3

() Based on 25-49 unweighted cases.

Antenatal Care

The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well-being and that of their infants. Better understanding of foetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and 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 bacteriuria and proteinuria
- Blood testing to detect syphilis and severe anaemia
- Weight/height measurement (optional)

The type of personnel providing antenatal care to women aged 15-49 years who gave birth in the two years preceding the survey is presented in Table RH.6. Coverage of antenatal care (by a doctor, nurse, midwife, clinical officer or community nurse) is high in Kisumu County with 95 per cent of women receiving antenatal care at least once during the pregnancy. The high proportion received care from a nurse or midwife (61 per cent). Antenatal care coverage is 6 per cent more in urban areas than in rural areas. Less than 1 per cent of women received antenatal care from traditional birth attendants while 3 per cent did not receive any antenatal care.

Table RH.6: Antenatal care coverage

Per cent distribution of women age 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, Kisumu County, 2011										
	Person providing antenatal care									
	Medical doctor	Nurse/Midwife	Community nurse	Clinical officer	Traditional birth attendant	Community health worker	Relative/Friend	Other	No antenatal care received	Total
Residence										
Urban	24.9	60.5	8.1	5.5	0.0	0.0	0.0	0.0	0.9	100.0
Rural	22.3	61.0	5.1	4.6	0.6	1.4	1.0	0.5	3.4	100.0
Mother's age at birth										
< 20	33.2	49.2	6.4	3.6	0.0	2.9	1.6	0.0	3.1	100.0
20-34	20.1	64.2	6.0	5.5	0.5	0.4	0.5	0.5	2.2	100.0
35-49	(22.3)	(63.4)	(6.8)	(3.8)	(0.0)	(0.0)	(0.0)	(0.0)	(3.7)	(100.0)
Education										
None	(13.6)	(56.7)	(15.9)	(4.4)	(0.0)	(0.0)	(0.0)	(3.9)	(5.6)	(100.0)
Primary	24.6	61.7	4.0	5.1	0.0	1.0	1.0	0.0	2.6	100.0
Secondary +	22.9	59.9	8.5	4.7	1.4	1.1	0.0	0.0	1.4	100.0
Wealth index quintiles										
Poorest	(15.5)	(70.4)	(2.6)	(3.3)	(0.0)	(2.4)	(0.0)	(0.0)	(5.8)	(100.0)
Second	(17.9)	(60.4)	(10.8)	(8.4)	(0.0)	(0.0)	(0.0)	(0.0)	(2.4)	(100.0)
Middle	33.7	50.8	4.3	2.1	2.2	2.1	0.0	0.0	4.7	100.0
Fourth	18.5	66.1	5.0	4.5	0.0	1.3	1.5	0.0	3.2	100.0
Richest	26.2	59.1	7.1	5.6	0.0	0.0	1.0	1.0	0.0	100.0
Total	23.2	60.8	6.2	4.9	0.4	0.9	0.7	0.3	2.5	100.0
[1] MICS indicator 5.5a; MDG indicator 5.5.										
() Based on 25-49 unweighted cases.										

Number of antenatal care visits

UNICEF and WHO recommend a minimum of at least four antenatal care visits during pregnancy. Table RH.7 shows the number of antenatal care visits during the last pregnancy for the two years preceding the survey, regardless of provider by selected characteristics. At least nine in ten mothers (92 per cent) received antenatal care more than once whilst more than half (52 per cent) received antenatal care at least four times. Moreover, a higher proportion (59 per cent) of mothers from urban areas had more than four antenatal care visits than those from the rural areas (49 per cent).

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, Kisumu County, 2011								
	Per cent distribution of women who had:					Missing/ DK	Total	Number of women who had a live birth in the preceding two years
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits [1]			
Residence								
Urban	0.9	1.8	10.7	28.0	58.5	0.0	100.0	111
Rural	3.9	6.0	9.7	30.3	49.0	1.0	100.0	207
Mother's age at birth								
Less than 20	3.1	5.8	9.8	31.1	50.1	0.0	100.0	70
20-34	2.2	4.4	10.3	28.5	54.1	0.5	100.0	215
35-49	(7.0)	(2.8)	(9.1)	(32.7)	(45.2)	(3.2)	(100.0)	33
Education								
None	(5.6)	(0.0)	(4.4)	(7.2)	(78.9)	(3.9)	(100.0)	27
Primary	3.1	5.3	9.2	34.8	47.1	0.5	100.0	210
Secondary +	1.4	4.2	14.2	23.2	57.0	0.0	100.0	81
Wealth index quintile								
Poorest	(5.8)	(5.0)	(5.3)	(37.4)	(46.5)	(0.0)	(100.0)	38
Second	(2.4)	(6.8)	(13.5)	(28.4)	(49.0)	(0.0)	(100.0)	47
Middle	6.8	9.1	16.3	28.2	39.5	0.0	100.0	53
Fourth	3.2	4.4	7.5	32.9	52.0	0.0	100.0	71
Richest	0.0	1.4	8.9	25.5	62.2	2.0	100.0	109
Total	2.9	4.6	10.1	29.5	52.3	0.7	100.0	318
[1] MICS indicator 5.5b; MDG indicator 5.5 () Based on 25-49 unweighted cases.								

Content of antenatal care

The types of services pregnant women received are shown in table RH.8. Among those women who gave birth to a child during the two years preceding the survey, 77 per cent reported that a blood sample had been taken during an antenatal care visit, 95 per cent reported that their blood pressure had been checked whilst urine samples were taken for 91 per cent of cases. Generally, pregnant women from urban areas are more likely to receive services compared to their rural counterparts. For instance, a 89 per cent of women from urban areas received all three services compared to only 68 per cent of those from the rural areas. About 82 per cent women with secondary and higher education received all services compared to 72 per cent for those with primary education.

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, Kisumu County, 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]	
Residence					
Urban	97.2	98.0	88.8	88.8	111
Rural	94.1	87.4	71.3	67.8	207
Mother's age at birth					
Less than 20	94.7	88.4	77.6	70.7	70
20-34	96.3	93.1	79.8	79.2	215
35-49	(89.3)	(83.2)	(61.1)	(58.0)	33
Education					
None	(90.5)	(90.5)	(77.7)	(77.7)	27
Primary	95.4	89.3	75.0	72.1	210
Secondary +	96.3	95.8	83.5	82.1	81
Wealth index quintile					
Poorest	(91.3)	(85.9)	(78.2)	(75.5)	38
Second	(97.6)	(90.9)	(72.7)	(72.7)	47
Middle	91.0	84.1	67.9	63.3	53
Fourth	93.0	89.0	73.0	69.9	71
Richest	99.0	97.6	86.6	85.2	109
Total	95.2	91.1	77.4	75.1	318
[1] MICS indicator 5.6					
() Based on 25-49 unweighted cases.					

Assistance at Delivery

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

About 58 per cent of births in the two years preceding the MICS survey were delivered by skilled personnel (Table RH.9). Women in urban areas are more likely to have births delivered by a skilled attendant (78 per cent) than their rural counterparts (47 per cent).

In compliance with the recommendation that deliveries in health facilities be assisted by a skilled attendant, 95 per cent of births were assisted by a skilled attendant in public health facilities whilst in private facilities the corresponding figure is 97 per cent.

The highest proportion of births (38 per cent) was delivered with the assistance of a nurse or midwife in the two years preceding the MICS survey. Doctors assisted with the delivery of 17 per cent of births and clinical officers assisted with 2 per cent. Traditional birth attendants still play a substantial role and assisted with the delivery of 29 per cent of births. Four per cent (4) of births were assisted by a relative or friend while another 5 per cent of births had no attendant. About 11 per cent of births in urban areas are delivered by caesarean section compared to only 4 per cent in rural areas.

Table RH.9: Assistance during delivery

Per cent distribution of women age 15-49 who had a live birth in the two years preceding the survey by person assisting at delivery and percentage of births delivered by C-section, Kisumu County, 2011													
	Person assisting at delivery												
	Medical doctor	Nurse/Midwife	Community nurse	Clinical Officer	Traditional birth attendant	Community health worker	Relative/Friend	Other/Missing	No attendant	Total	Delivery assisted by any skilled attendant [1]	Per cent delivered by C-section [2]	Number of women who had a live birth in preceding two years
Residence													
Urban	29.5	44.0	4.2	3.6	16.0	0.0	1.0	0.7	1.0	100.0	77.7	11.4	111
Rural	10.5	35.0	1.5	0.8	36.2	2.0	5.5	1.9	6.5	100.0	47.0	4.0	207
Mother's age at birth													
Less than 20	16.1	30.9	1.6	2.0	36.1	1.6	7.4	2.7	1.4	100.0	48.7	12.7	70
20-34	16.5	41.9	3.1	2.0	27.1	1.4	2.9	0.5	4.6	100.0	61.6	5.6	215
35-49	(22.7)	(28.7)	(0.0)	(0.0)	(28.2)	(0.0)	(3.2)	(5.5)	(11.6)	(100.0)	(51.4)	(0.0)	33
Place of delivery													
Public sector health facility	33.0	58.8	3.0	2.8	0.0	0.8	0.0	1.6	0.0	100.0	94.8	13.0	118
Private sector health facility	24.5	67.0	5.3	1.2	0.0	1.9	0.0	0.0	0.0	100.0	96.8	9.4	58
Home	0.9	9.7	0.9	1.3	65.7	1.6	9.6	1.4	8.9	100.0	11.5	0.0	130
Other	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	8
Education													
None	(30.3)	(48.8)	(11.4)	(0.0)	(0.0)	(0.0)	(0.0)	(3.9)	(5.6)	(100.0)	(90.5)	(16.9)	27
Primary	16.2	32.4	1.5	2.2	35.5	1.5	4.5	0.7	5.4	100.0	50.2	5.4	210
Secondary +	15.0	49.2	1.9	1.3	22.6	1.1	3.8	2.7	2.3	100.0	66.1	6.2	81
Wealth index quintiles													
Poorest	(2.9)	(40.2)	(0.0)	(0.0)	(44.1)	(0.0)	(7.2)	(0.0)	(5.6)	(100.0)	(43.1)	(7.5)	38
Second	(8.7)	(31.0)	(2.0)	(0.0)	(34.9)	(0.0)	(11.6)	(1.6)	(10.3)	(100.0)	(41.7)	(0.0)	47
Middle	14.3	29.2	4.3	0.0	41.2	2.1	0.0	0.0	8.9	100.0	47.9	4.6	53
Fourth	13.6	37.8	0.0	2.4	33.3	2.8	3.1	4.2	2.7	100.0	51.4	4.1	71
Richest	29.3	45.0	4.3	3.7	12.9	0.9	2.0	1.0	1.0	100.0	78.6	11.6	109
Total	17.1	38.1	2.5	1.8	29.2	1.3	3.9	1.5	4.6	100.0	57.7	6.6	318

[1] MICS indicator 5.7; MDG indicator 5.2

[2] MICS indicator 5.9

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

() Based on 25-49 unweighted cases.

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 per cent distribution of women aged 15-49 years who had a live birth in the two years preceding the survey by place of delivery and the percentage of births delivered in a health facility, according to background characteristics.

Fifty six (56) per cent of births were delivered in a health facility in Kisumu County. More than a third (37 per cent) of deliveries occurred in public sector facilities whilst, 41 per cent and 18 per cent occurred in home and private sector facilities, respectively. The proportion of women who delivered in a health facility ranges from 79 per cent in urban areas to 43 per cent in rural Kisumu County. Among women who had more than 4 antenatal care visits, 65 per cent gave birth in health facility. The corresponding figure for those who had 1-3 ANC visits is 47 per cent. About one in two women in rural areas gives birth at home (53 per cent) compared to 18 per cent among those from urban areas.

Table RH.10: Place of delivery

Per cent distribution of women age 15-49 who had a live birth in two years preceding the survey by place of delivery, Kisumu County, 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			
Residence								
Urban	57.1	22.4	18.4	2.1	0.0	100.0	79.4	111
Rural	26.7	16.0	53.0	2.6	1.7	100.0	42.7	207
Mother's age at birth								
Less than 20	34.6	19.5	42.2	3.8	0.0	100.0	54.1	70
20-34	39.8	18.2	38.9	2.1	1.0	100.0	57.9	215
35-49	(26.6)	(15.9)	(51.6)	(2.1)	(3.70)	(100.0)	(42.6)	33
Number of antenatal care visits								
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	9
1-3 visits	35.2	11.6	50.6	2.7	0.0	100.0	46.8	140
4+ visits	41.5	23.9	32.1	2.5	0.0	100.0	65.4	166
Education								
None	(54.8)	(35.7)	(5.6)	(0.0)	(3.9)	(100.0)	(90.5)	27
Primary	32.2	15.2	50.1	2.0	0.6	100.0	47.4	210
Secondary +	44.4	20.3	29.2	4.6	1.4	100.0	64.8	81
Wealth index quintiles								
Poorest	(9.6)	(22.1)	(59.3)	(6.0)	(3.0)	(100.0)	(31.8)	38
Second	(23.5)	(8.9)	(67.5)	(0.0)	(0.0)	(100.0)	(32.5)	47
Middle	32.0	11.7	55.1	1.3	0.0	100.0	43.6	53
Fourth	32.7	21.1	39.8	4.7	1.7	100.0	53.8	71
Richest	58.4	22.1	17.0	1.4	1.0	100.0	80.6	109
Total	37.3	18.2	41.0	2.5	1.1	100.0	55.5	318
[1] MICS indicator 5.8								
(*) Not shown, based on less than 25 unweighted cases.								
() Based on 25-49 unweighted cases.								

IX. Child Development

Early Childhood Education and Learning

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

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

Table CD.1: Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Kisumu County, 2011		
	Percentage of children age 36-59 months currently attending early childhood education [1]	Number of children age 36-59 months
Sex		
Male	50.8	179
Female	55.3	179
Residence		
Urban	66.1	95
Rural	48.3	263
Age of child		
36-47 months	39.0	175
48-59 months	66.4	184
Mother's education		
None	(74.1)	45
Primary	48.0	240
Secondary+	56.6	73
Wealth index quintile		
Poorest	(36.2)	43
Second	44.7	71
Middle	40.0	70
Fourth	58.1	73
Richest	71.5	101
Total	53.0	358
[1] MICS indicator 6.7		
() Based on 25-49 unweighted cases.		

About 53 per cent of children aged 36-59 months are attending pre-school (Table CD.1). Pre-school attendance increases with improving levels of mother's education. Only 48 per cent of children born

to mothers with primary education attended pre-school compared to 57 per cent of children born to mother with at least secondary education. There are observable variations by area of residence – the proportion is higher in urban (66 per cent) than rural areas (48 per cent). Whilst there are slight variations by gender, the variations by socioeconomic status are much more notable. About 72 per cent of children living in richest households attend pre-school, while the figures in the poorer wealth quintiles are much lower. The proportions of children attending pre-school at ages 36-47 months and 48-59 months are 39 and 66 per cent respectively.

Findings on adult participation in childhood development are presented in Table CD.2. For about 31 per cent of children under five, an adult household member engaged in more than four activities that promote learning and school readiness during the 3 days preceding the survey. The proportion of children with whom an adult engaged in learning activities is comparable for male and female children. However, the involvement of an adult household member in childhood development activities varied with area of residence, parent's educational level and household wealth index. Adults were more engaged in four or more activities with children living in urban (40 per cent) than rural areas (28 per cent). Moreover, the proportion of children with whom adults engaged in four or more activities is highest among children from households in the richest wealth quintile (47 per cent) compared to those from households in the lower wealth quintiles.

The table also indicates that the father's involvement in such activities was somewhat limited; fathers engaged with one or more activities for only 28 per cent of children. However, the proportion of children with whom the father engaged in one or more activities was higher for girls (34 per cent) than boys (23 per cent). Moreover, the proportion of children with whom the fathers engaged in one or more activities is highest among children from households in the richest wealth quintile (37 per cent) compared to those from households in the lower wealth quintiles.

Notably, only 36 per cent of children live in a household without their fathers. There are no major differences in the proportion of children who live in a household without their fathers by child's gender or household wealth index.

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, Kisumu County, 2011						
	Percentage of children age 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children age 36-59 months
	With whom adult household members engaged in four or more activities [1]	With whom the father engaged in one or more activities [2]	Any adult household member engaged with the child	The father engaged with the child		
Sex						
Male	32.1	33.5	2.3	0.7	36.3	179
Female	29.8	23.4	2.2	0.6	35.2	179
Residence						
Urban	39.5	41.1	2.5	0.9	31.7	95
Rural	27.8	23.8	2.1	0.6	37.2	263
Age						
36-47 months	29.2	30.8	2.3	0.7	33.0	175
48-59 months	32.5	26.2	2.2	0.6	38.4	184
Mother's education						
None	(57.3)	(36.1)	(3.0)	(1.0)	(51.0)	45
Primary	23.2	28.9	2.0	0.6	28.5	240
Secondary+	40.0	22.2	2.5	0.5	50.2	73
Father's education						
None	(52.5)	(49.5)	(3.0)	(1.3)	(0.0)	27
Primary	24.5	34.1	2.0	0.8	0.0	131
Secondary+	37.4	48.8	2.4	1.2	0.0	69
Father not in household	30.3	7.1	2.2	0.1	100.0	128
Wealth index quintiles						
Poorest	(33.4)	(35.2)	(2.4)	(1.0)	(23.7)	43
Second	19.5	15.0	1.8	0.2	33.8	71
Middle	26.0	28.2	2.1	0.7	38.5	70
Fourth	23.1	25.2	2.1	0.5	40.8	73
Richest	46.9	37.3	2.6	0.9	36.8	101
Total	30.9	28.4	2.2	0.7	35.8	358
[1] MICS indicator 6.1						
[2] MICS Indicator 6.2						
() Based on 25-49 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 Kisumu County, only 6 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. There is no major difference in the proportion of households reporting 3 or more books for children by child's gender. However, the proportion of households with 3 or more children's books was

higher in urban (13 per cent) than rural (3 per cent) areas. As expected, the proportion of households with more than 3 children's books is higher among households with older children (9 per cent for children aged 24-59 months compared to 2 per cent for children aged 0-23 months). Notably, the proportion of households with 3 or more children's books is highest among children whose mothers have no education (25 per cent). Similarly, the proportion of households with 3 or more children's books is highest among the richest households (16 per cent).

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, Kisumu County, 2011							
	Household has for the child:		Child plays with:			Two or more types of playthings [2]	Number of children under age 5
	3 or more children's books [1]	10 or more children's books	Homemade toys	Toys from a shop/ manufactured toys	Household objects/ objects found outside		
Sex							
Male	6.0	0.0	51.5	32.7	74.1	60.4	433
Female	6.9	0.4	46.0	41.6	74.2	63.3	427
Residence							
Urban	13.2	0.7	48.3	57.1	69.6	64.9	266
Rural	3.4	0.0	49.0	28.2	76.2	60.6	595
Age							
0-23 months	2.1	0.4	36.0	30.9	58.2	46.2	320
24-59 months	9.0	0.1	56.3	40.8	83.6	71.2	540
Mother's education							
None	24.9	2.0	50.9	60.3	76.0	66.3	93
Primary	3.1	0.0	49.3	29.7	77.0	60.8	576
Secondary +	7.6	0.0	46.2	48.0	64.8	62.9	192
Wealth index quintiles							
Poorest	0.0	0.0	56.9	6.5	71.4	58.0	110
Second	1.5	0.0	39.2	29.4	73.0	56.7	145
Middle	3.8	0.0	45.3	29.3	78.2	62.9	150
Fourth	3.0	0.0	48.6	31.9	76.1	58.4	192
Richest	15.9	0.7	52.7	62.4	72.3	68.3	264
Total	6.4	0.2	48.8	37.1	74.2	61.9	861
[1] MICS indicator 6.3							
[2] MICS indicator 6.4							

Table CD.3 shows that 62 per cent of children aged 0-59 months have 2 or more playthings to play with in their homes. The playthings probed for 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). About 37 per cent of children play with toys that come from a store while 49 per cent play with homemade toys. Majority of children (74 per cent) play with household objects or other objects found outside the home.

The proportion of children who have 2 or more playthings to play with is 60 per cent among male children and 63 per cent among female children. The proportion of children with two or more playthings is highest amongst those living in the richest households (58 per cent).

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

Table CD.4 shows that 17 per cent of children aged 0-59 months were left in the care of another child younger than 10 years of age, while 37 per cent were left alone during the week preceding the interview. Combining the two care indicators, findings show that 42 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 major differences are observed by the sex of the child – 45 per cent and 39 per cent among male and female children respectively. However, the proportion of children left with inadequate care is higher in rural (47 per cent) than urban areas (30 per cent). Inadequate care is less prevalent among children whose mothers have no education (29 per cent) than amongst those whose mothers have primary or higher education. Children aged 24-59 months were left with inadequate care more (48 per cent) than those aged 0-23 months (32 per cent). The proportion of children left with inadequate care was lowest among children from the richest households.

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, Kisumu County, 2011				
	Percentage of children under age 5			Number of children under age 5
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week [1]	
Sex				
Male	38.7	21.1	44.9	433
Female	34.9	12.3	38.9	427
Residence				
Urban	25.7	8.9	30.2	266
Rural	41.8	20.3	47.2	595
Age				
0-23 months	28.1	11.9	32.1	320
24-59 months	42.0	19.7	47.8	540
Mother's education				
None	23.6	10.4	28.9	93
Primary	38.7	17.9	45.1	576
Secondary+	37.6	16.3	38.8	192
Wealth index quintiles				
Poorest	33.6	19.6	40.1	110
Second	41.8	19.4	45.3	145
Middle	42.8	15.9	46.4	150
Fourth	46.4	24.5	56.3	192
Richest	25.1	9.1	27.9	264
Total	36.8	16.8	41.9	861
[1] MICS indicator 6.5				

Early Childhood Development

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

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

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 is 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 Kisumu County, 42 per cent of children aged 36-59 months are developmentally on track. ECDI is marginally higher among boys (43 per cent) than girls (40 per cent). As expected, ECDI is much higher in older children compared to younger children (50 per cent among 48-59 months old compared to 33 per cent among 36-47 months old), since children accumulate more skills with increasing age. Higher ECDI is seen in children attending pre-school (54 per cent) compared to those not attending preschool (28 per cent). ECDI is highest amongst children from the richest households (52 per cent). The analysis of four domains of child development shows that 92 per cent of children are on track in the physical domain, but much less in the social-emotional (34 per cent), literacy-numeracy (45 per cent) and learning (53 per cent) domains. In both literacy-numeracy and learning domains, higher scores are observed among children living in urban areas, children attending preschool, older children, and those born to mothers with at least secondary education. Higher scores in both the physical and social-emotional domain are observed among children living in urban areas.

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, Kisumu County, 2011

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score [1]	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
Sex						
Male	44.4	90.1	37.7	53.0	43.2	179
Female	46.1	94.1	30.0	53.0	39.9	179
Residence						
Urban	52.7	96.8	40.1	58.2	52.8	95
Rural	42.5	90.4	31.6	51.1	37.5	263
Age						
36-47 months	32.0	90.5	32.1	50.7	32.6	175
48-59 months	57.8	93.7	35.5	55.1	50.1	184
Preschool attendance						
Attending preschool	65.5	93.6	31.2	58.7	53.8	190
Not attending preschool	22.4	90.5	36.8	46.6	27.8	168
Mother's education						
None	(44.3)	(97.7)	(28.5)	(57.0)	(39.1)	45
Primary	43.4	90.7	37.0	46.2	38.2	240
Secondary +	51.9	93.5	26.8	72.7	54.2	73
Wealth index quintiles						
Poorest	(34.0)	(83.7)	(26.0)	(34.4)	(21.1)	43
Second	44.3	87.6	32.6	47.6	42.2	71
Middle	39.7	96.2	27.2	59.8	36.9	70
Fourth	40.8	95.6	46.7	55.4	43.7	73
Richest	57.7	93.6	33.4	58.2	51.6	101
Total	45.2	92.1	33.8	53.0	41.6	358

[1] MICS indicator 6.6

() Based on 25-49 unweighted cases.

MICS indicator 6.6, Early child development index is calculated as the percentage of children who are developmentally on track in at least three of the four component domains (literacy-numeracy, physical, social-emotional, and learning)

X. Literacy and Education

Literacy among Young Women

One of the 'A World Fit for Children' goals is to assure adult literacy. Adult literacy is also an MDG indicator, relating to both men and women. In MICS, since only a women's questionnaire was administered, the results are based only on females age 15-24. Literacy was assessed based on the ability of women to read a short simple statement or on school attendance.

The percentage of literate women is presented in Table ED.1. Table ED.1 indicates that 90 per cent of women in Kisumu County are literate and that literacy status varies by place of residence, age, education level and household wealth level. Among women who stated that primary school was their highest level of education, just 85 per cent were actually able to read the statement shown to them. Literacy level is higher in the urban (95 per cent) than rural areas (87 per cent). The proportion of literate women is slightly higher among those aged 15-19 (92 per cent) than those aged 20-24 (88 per cent). Among the middle wealth index households, only 84 per cent are literate compared to 96 per cent among those from the richest households.

Table ED.1: Literacy among young women

Percentage of women age 15-24 years who are literate, Kisumu County, 2011			
	Percentage literate [1]	Percentage not known	Number of men age 15-24 years
Residence			
Urban	95.0	0.7	170
Rural	87.0	0.4	255
Education			
None	(90.2)	(0.0)	27
Primary	85.3	0.9	264
Secondary+	100.0	0.0	133
Age			
15-19	92.4	0.6	199
20-24	88.3	0.5	226
Wealth index quintile			
Poorest	(73.6)	(0.0)	42
Second	(84.8)	(0.0)	47
Middle	84.4	2.0	58
Fourth	92.5	0.0	98
Richest	96.1	0.6	180
Total	90.2	0.5	425
1 MICS indicator 7.1; MDG indicator 2.3 () Based on 25-49 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, 74 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. The proportion of males attending first grade (75 per cent) is comparable for females attending (73 per cent).

Table ED.2: School readiness

Percentage of children attending first grade of primary school who attended pre-school the previous year, Kisumu County, 2011			
		Percentage of children attending first grade who attended preschool in previous year [1]	Number of children attending first grade of primary school
Sex	Male	75.2	69
	Female	72.9	87
Area	Urban	(77.5)	44
	Rural	72.5	112
Mother's education	None	(*)	22
	Primary	79.7	102
	Secondary+	(58.7)	32
Wealth index quintiles	Poorest	(*)	19
	Second	(*)	24
	Middle	(65.6)	31
	Fourth	(78.2)	38
	Richest	(76.7)	44
Total		73.9	156
[1] MICS indicator 7.2			
() Based on 25-49 unweighted cases.			
(*) Not shown, based on less than 25 unweighted cases.			

Primary and Secondary School Participation

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

The indicators for primary and secondary school attendance include:

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

The indicators of school progression include:

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

Among children who are of primary school entry age 6 in Kisumu County, 25 per cent are attending the first grade of primary school (Table ED.3). Primary school entry varies in rural and urban areas; the proportion entering grade 1 is higher in urban (33 per cent) than in rural areas (21 per cent). Similarly the proportion of female children (36 per cent) of primary school entry age entering grade 1 is higher than for males (13 per cent).

Table ED.3: Primary school entry

Percentage of children of primary school entry age entering grade 1 (net intake rate), Kisumu County, 2011			
		Percentage of children of primary school entry age entering grade 1 [1]	Number of children of primary school entry age
Sex	Male	13.2	78
	Female	36.2	80
Area	Urban	33.0	52
	Rural	20.9	105
Mother's education	None	(*)	21
	Primary	18.0	108
	Secondary +	(37.9)	27
Wealth index quintiles	Poorest	(*)	21
	Second	(*)	17
	Middle	(15.7)	31
	Fourth	(21.4)	44
	Richest	(45.2)	44
Total		24.9	158
[1] MICS indicator 7.3			
() Based on 25-49 unweighted cases.			
(*) Not shown, based on less than 25 unweighted cases.			
<i>Primary school entry age is defined at the country level (usually based on UNESCO's ISCED classification).</i>			

Table ED.4 provides the percentage of children of primary school age 6 to 13 years who are attending primary or secondary school⁸. Although the majority of children of primary school age are attending school (81 per cent). It is noteworthy that 19 per cent of the children are out of school when they are expected to be participating in school. In urban areas, the net attendance ratio is 81 which is comparable to the 81 observed in rural areas of Kisumu County. As expected, the adjusted net attendance ratio is slightly lower amongst children from the poorest wealth quintile. Interestingly the adjusted net attendance ratio is higher amongst children whose mothers are uneducated (90 per cent) than amongst those whose mothers have primary (76 per cent) and secondary level education (89 per cent). The adjusted net attendance ratio of girls (83 per cent) is marginally higher than that of boys (79 per cent).

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

Table ED.4: Primary school attendance

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), Kisumu, 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
Area	Urban	79.4	152	82.5	151	81.0	303
	Rural	78.3	444	83.1	440	80.7	883
Age	6	15.0	78	36.2	80	25.8	158
	7	49.1	63	64.6	80	57.8	143
	8	78.0	86	90.3	75	83.7	161
	9	94.6	63	98.6	79	96.8	142
	10	98.5	69	93.9	75	96.1	144
	11	98.8	91	97.1	67	98.1	158
	13	97.7	84	93.2	74	95.6	158
Mother's education	None	92.7	98	87.5	96	90.1	195
	Primary	73.9	385	77.7	357	75.7	743
	Secondary +	82.8	112	93.5	137	88.7	247
Wealth index quintiles	Poorest	77.5	74	75.7	76	76.6	150
	Second	78.9	94	84.0	86	81.3	179
	Middle	74.1	127	81.5	113	77.6	240
	Fourth	79.0	149	79.5	163	79.3	311
	Richest	82.4	152	90.7	153	86.6	305
Total		78.6	595	83.0	590	80.8	1186
[1] MICS indicator 7.4; MDG indicator 2.1							

The secondary school net attendance ratio is presented in Table ED.5⁹. While about 81 per cent of children are attending primary school, only 27 per cent of children of secondary school age are attending secondary school. Of the remaining children of secondary school age, 58 per cent are attending primary school when they should be attending secondary school while the remaining 15 per cent are not attending school at all. Attendance of secondary school generally improves with age of the child and household social economic status. The proportion increases from 30 per cent among children whose mothers are uneducated to 38 per cent amongst those whose mothers have secondary or higher levels of education. The proportion attending secondary school increases from 13 per cent amongst children from the poorest wealth quintile to 41 per cent amongst those from the richest wealth quintile.

9 Ratios presented in this table are “adjusted” since they include not only secondary school attendance, but also attendance to higher levels in the numerator.

Table ED.5: Secondary school attendance

Percentage of children of secondary school age attending secondary school or higher (adjusted net attendance ratio) and percentage of children attending primary school, Kisumu County, 2011									
	Male			Female			Total		
	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children
Residence									
Urban	45.3	37.4	50	39.1	36.2	52	42.1	36.8	102
Rural	24.5	66.0	203	21.7	61.8	189	23.1	64.0	391
Age at beginning of school year									
14	7.3	89.6	60	3.8	88.2	77	5.4	88.8	138
15	25.1	65.8	74	23.4	63.7	54	24.4	64.9	128
16	34.5	52.6	50	42.8	35.1	50	38.6	43.9	100
17	46.9	34.2	68	40.8	26.1	60	44.0	30.4	128
Mother's education									
None	(27.6)	(48.2)	32	(31.9)	(55.2)	27	29.6	51.4	59
Primary	20.7	72.6	100	12.8	74.6	99	16.8	73.6	200
Secondary +	32.5	65.2	51	43.3	49.2	50	37.9	57.3	101
Mother not in household	37.9	44.0	70	27.6	34.7	65	32.9	39.5	134
Wealth index quintile									
Poorest	(20.9)	(71.8)	25	(4.4)	(77.5)	25	12.7	74.7	50
Second	(20.4)	(76.6)	37	(15.4)	(74.2)	29	18.2	75.5	67
Middle	(20.0)	(75.9)	48	(24.7)	(56.3)	40	22.1	67.0	88
Fourth	27.5	55.8	59	21.9	61.8	75	24.4	59.2	134
Richest	40.3	43.9	83	41.2	35.5	71	40.7	40.0	155
Total	28.6	60.4	252	25.5	56.2	241	27.1	58.3	494

[1] MICS indicator 7.5

() Based on 25–49 unweighted cases.

The percentage of children entering first grade who eventually reach the last grade of primary school is presented in Table ED.6. Of all children starting grade one, the majority (91 per cent) will eventually reach grade eight; this number includes children that repeat grades and that eventually move up to reach last grade. Progression between the other grades is generally high (over 96 per cent). The proportion of children reaching grade 8 (of those who enter grade 1) is slightly higher in rural (93 per cent) than urban areas (85 per cent). Whilst all children whose mothers have attained secondary level education reach grade 8 (of those who enter grade 1), this proportion is slightly lower amongst those whose mothers have primary level or no education (around 91 per cent). The proportion of children reaching grade 8 is slightly lower amongst children from the middle fourth and richest wealth quintiles than amongst those from the poorer wealth quintiles. The proportion reaching grade 8 is higher for boys (95 per cent) than girls (88 per cent).

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

Percentage of children entering first grade of primary school who eventually reach the last grade of primary school (Survival rate to last grade of primary school, Kisumu County, 2011)									
		Per cent attending grade 1 last year who are in grade 2 this year	Per cent attending grade 2 last year who are attending grade 3 this year	Per cent attending grade 3 last year who are attending grade 4 this year	Per cent attending grade 4 last year who are attending grade 5 this year	Per cent attending grade 5 last year who are attending grade 6 this year	Per cent attending grade 6 last year who are attending grade 7 this year	Per cent attending grade 7 last year who are attending grade 8 this year	Per cent who reach grade 8 of those who enter grade 1 [1]
Sex	Male	100.0	100.0	100.0	100.0	100.0	96.9	97.7	94.7
	Female	98.9	98.2	100.0	99.0	96.4	96.3	98.5	87.9
Area	Urban	97.6	100.0	100.0	97.0	95.3	96.9	97.3	85.0
	Rural	100.0	99.0	100.0	100.0	99.0	96.5	98.3	93.0
Mother's education	None	100.0	100.0	100.0	100.0	100.0	97.0	94.3	91.4
	Primary	99.0	98.8	100.0	100.0	96.6	98.5	98.3	91.5
	Secondary	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wealth index quintiles	Poorest	100.0	100.0	100.0	100.0	100.0	97.3	100.0	97.3
	Second	100.0	100.0	100.0	100.0	100.0	95.7	100.0	95.7
	Middle	100.0	100.0	100.0	100.0	96.2	93.5	100.0	89.9
	Fourth	97.8	97.3	100.0	100.0	100.0	96.4	97.9	89.9
	Richest	100.0	100.0	100.0	97.8	96.5	98.1	96.0	88.8
Total		99.4	99.2	100.0	99.5	98.2	96.6	98.1	91.3
[1] MICS indicator 7.6; MDG indicator 2.2									
<i>Children reaching the last grade of primary, also known as the survival rate to the last grade of primary school, is the percentage of children entering the first grade of primary school who eventually reach the last grade of primary. This table assumes that primary school comprises 6 grades. In countries where primary school has more or fewer grades, columns of the table should be customized accordingly</i>									

The primary school completion rate and transition rate to secondary education are presented in Table ED.7. The primary completion rate is the ratio of the total number of students, regardless of age, entering the last grade of primary school for the first time, to the number of children of the primary graduation age at the beginning of the current (or most recent) school year. At the time of the survey, the primary school completion rate was 88 per cent. School completion rate varies by gender. While 99 per cent of males complete primary school, the proportion is 76 per cent among females.

Notably, only 67 per cent of the children that completed the last grade of primary school were attending the first grade of secondary school at the moment the survey (transition rate to secondary school).

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

Primary school completion rates and transition rate to secondary school, Kisumu County, 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	99.8	61	72.9	57
	Female	75.9	61	(59.1)	39
Area	Urban	(88.0)	31	(*)	21
	Rural	87.8	91	66.6	75
Mother's education	None	(43.1)	27	(*)	8
	Primary	63.7	66	(65.7)	27
	Secondary +	(93.1)	29	(*)	20
	Mother not in household	.	0	(*)	19
Wealth index quintiles	Poorest	(*)	15	(*)	4
	Second	(*)	16	(*)	9
	Middle	(64.0)	29	(61.4)	30
	Fourth	(111.0)	29	(70.0)	27
	Richest	(107.7)	32	(77.2)	27
Total		87.9	122	67.3	95
[1] MICS indicator 7.7					
[2] MICS indicator 7.8					
() Based on 25-49 unweighted cases.					
* Not shown, based on less than 25 unweighted cases.					

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

The table shows that gender parity for primary school is 1.06. This indicates that there is no difference in attendance between girls and boys. However, the indicator drops to 0.90 for secondary education. Primary school Gender Parity Index does not vary consistently with mother's education or area of residence.

The primary school adjusted NAR for girls and boys are 83 per cent and 79 per cent respectively. The primary and secondary school NAR are higher for children from the richest wealth index households. In addition, the secondary school NAR is higher among children whose mothers have secondary level education than among those whose mothers have primary level or no education.

Table ED.8: Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Kisumu County, 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]
Area	Urban	82.5	79.4	1.04	39.1	45.3	0.86
	Rural	83.4	78.3	1.06	21.7	24.2	0.90
Mother's education	None	87.5	92.7	0.94	31.9	27.6	1.16
	Primary	78.0	73.9	1.06	12.8	20.1	0.64
	Secondary+	93.5	82.8	1.13	43.3	32.5	1.33
	Mother not in household	.	.	.	27.6	37.9	0.73
Wealth index quintiles	Poorest	75.7	77.5	0.98	4.4	20.9	0.21
	Second	84.0	78.9	1.06	15.4	20.4	0.75
	Middle	82.5	74.1	1.11	24.7	20.0	1.24
	Fourth	79.5	79.0	1.01	21.9	26.4	0.83
	Richest	90.7	82.4	1.10	41.2	40.3	1.02
Total		83.2	78.6	1.06	25.5	28.3	0.90
[1] MICS indicator 7.9; MDG indicator 3.1							
[2] MICS indicator 7.10; MDG indicator 3.1							
<i>The gender parity index (GPI) is the ratio of female to male adjusted net attendance ratios (primary or secondary). The primary and secondary adjusted net attendance ratios are presented in more detail in tables ED.4 and ED.5.</i>							

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. One of the goals set in the 'A World Fit for Children' is to develop systems to ensure the registration of every child at or shortly after birth, and to fulfil his or her right to acquire a name and a nationality, in accordance with national laws and relevant international instruments. The indicator is the percentage of children under 5 years of age whose birth is registered.

Details on birth registration by selected characteristics in Kisumu County are presented in Table CP.1. The results show that Kisumu County registered over half (53 per cent) of the births of children under five years. The data shows that 55 per cent of male children are registered versus 51 per cent for females. Similarly, 66 per cent of children residing in urban areas are registered compared to 48 per cent for those in rural Kisumu County areas. The results for Kisumu County indicate that 68 per cent of children born to mothers with no education are registered compared to 49 per cent for those whose mothers have primary education and 59 per cent for those with mothers educated to secondary and above level. About one third of children from the poorest households (35 per cent) are registered compared to more than half for those from the richest households (53 per cent).

Though over half the children under 5 are registered, at least a third (36 per cent) do not have a birth certificate. A child may lack a birth certificate either because it was never issued or because it has been lost. Birth certificates were shown to an observer for only 5 per cent of children whose birth was reported to have been registered by civil authorities. The proportion of children whose birth certificates were seen by an observer was higher in the richest wealth quintile than in other wealth quintiles. Fourteen per cent of the mothers/caretakers of children whose birth was not registered knew how to register a birth.

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, Kisumu County, Kenya, 2011a								
		Children under age 5 whose birth is registered with civil authorities				Number of children	Children under age 5 whose birth is not registered	
		Has birth certificate		No birth certificate	Total registered [1]		Per cent of children whose mother/caretaker knows how to register birth	Number of children without birth registration
		Seen	Not seen					
Sex	Male	4.7	11.1	39.5	55.3	433	11.0	194
	Female	5.9	13.0	32.5	51.4	427	16.7	208
Area	Rural	2.9	10.1	34.6	47.5	595	14.6	312
	Urban	10.8	16.5	39.1	66.4	266	11.6	89
Age	0-11	6.0	7.5	43.4	56.9	173	14.6	75
	12-23	4.2	11.3	29.3	44.9	147	16.2	81
	24-35	4.8	12.3	38.6	55.7	182	12.7	81
	36-47	5.8	14.3	33.5	53.6	175	11.9	81
	48-59	5.5	14.6	34.3	54.3	184	14.4	84
Mother's education	None	16.4	25.0	26.7	68.1	93	17.1	30
	Primary	3.1	10.8	35.2	49.2	576	12.1	292
	Secondary	6.5	9.5	42.8	58.7	192	19.4	79
Wealth index quintiles	Poorest	0.0	8.8	25.8	34.6	110	11.9	72
	Second	4.8	10.7	25.7	41.2	145	16.8	85
	Middle	2.0	10.0	39.3	51.3	150	19.0	73
	Fourth	1.6	10.4	34.4	46.4	192	18.7	103
	Richest	12.3	16.6	45.2	74.1	264	0.0	68
Total		5.3	12.1	36.0	53.4	861	13.9	401

[1] MICS indicator 8.1

Child Labour

Article 32 of the Convention on the Rights of the Child states: "States Parties recognize the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development." The 'A 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: were involved in at least one hour of economic work or 28 hours of domestic work per week.
- Ages 12-14: were involved in at least 14 hours of economic work or 28 hours of domestic work per week.

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

In Kisumu County, 45 per cent of children aged 5-14 years are engaged in child labour. The proportion of children involved in child labour varies by the child's age, gender, area of residence, household wealth status and mother's education level. Children in the 5-11 years age group are more than five times more likely (59 per cent) to be involved in child labour activities than those of older age group (12-14 years) (11 per cent).

It is noteworthy that the proportion of children involved in child labour in rural areas (52 per cent) is double that in urban area (26 per cent). The proportion of children engaged in child labour is also higher amongst children whose mothers are uneducated (46 per cent) than amongst those whose mothers have primary (50 per cent) or secondary (41 per cent) level education. The data shows that children from the poorest households (60 per cent) are more likely to be engaged in child labour than those from the richest households (21 per cent). It is also noteworthy that the proportion involved in child labour is higher for girls (49 per cent) than boys (42 per cent).

The most common activities in which children are involved in include working for family businesses (59 per cent for 5 -11 year olds versus 72 per cent for the 12 – 14 year olds), economic activities of at least one hour (59 per cent for 5 -11 year olds versus 62 per cent for the 12 – 14 year olds) and household chores of less than 28 hours (47 per cent for 5 -11 year olds versus 74 per cent for the 12 – 14 year olds). A small proportion of children are involved in paid work with those in the older age group (12-14 years) having more proportions of involvement than their younger counterparts (5-11 years).

Table CP.2: Child labour

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

	Percentage of children age 5-11 involved in						Percentage of children age 12-14 involved in						Num-ber of children age 5-14 years						
	Economic activity			Eco-nomic activity for at least one hour	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Num-ber of children age 5-11	Economic activity			Child labour		Num-ber of children age 12-14					
	Working out-side household		Working for family business						Paid work	Unpaid work	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		
	Paid work	Un-paid work																	
Sex																			
Male	0.7	0.1	55	55	39.6	0.4	55	532	5.5	0.9	69.4	62.4	7.5	67.7	1.1	8.1	205	41.9	738
Female	0.6	0.6	62.3	62.3	54.7	1.2	62.3	539	2.6	0.5	74.6	62.4	12.2	79.2	4	14.2	212	48.7	751
County																			
Kisumu	0.6	0.4	58.7	58.7	47.2	0.8	58.7	1072	4	0.7	72	62.4	9.9	73.5	2.6	11.2	417	45.4	1489
Area																			
Rural	0.8	0.5	67.8	67.8	49.2	0.5	67.8	796	5.1	0.9	78.5	66.8	12	74	1.9	13	325	51.9	1121
Urban	0	0	32.4	32.4	41.5	1.7	32.4	276	0	0	49.1	46.8	2.3	71.8	4.8	4.8	92	25.5	368
School attendance																			
Yes	0.6	0.4	59.6	59.6	47.7	0.9	59.6	1023	3.9	0.7	72.1	62.6	9.5	73.2	2.4	10.6	403	45.7	1425
No	0	0	40.5	40.5	37.8	0	40.5	49	7	0	69.9	56.7	20.2	81.6	6.9	27.1	14	37.5	64
Mother's education																			
None	0	0	48.8	48.8	49.6	0	48.8	153	1.4	0	64	53.7	10.4	73.3	3.8	11.5	79	36.1	232
Primary	0.8	0.1	61.4	61.4	46.4	0.9	61.4	706	4.6	0.8	80.6	69.5	11.2	73.8	2.4	12.1	228	49.3	935
Secondary +	0.5	1.6	56.7	56.7	48.4	1.1	56.7	210	4.8	1	59.3	53.2	7	72.5	2.1	9.1	108	40.5	318
Wealth index quintile																			
Poorest	2.8	0	75.6	75.6	46.6	1.7	75.6	135	9.8	0	86.2	71.2	15	73.1	6.5	15	49	59.5	183
Second	0.7	0	68.7	68.7	52.4	0.5	68.7	154	10.8	0	78.3	62.3	17.6	71.5	0	17.6	64	53.6	218
Middle	0.8	1	73.5	73.5	51.4	0	73.5	213	1.3	1.3	81.3	74.5	6.8	79	1.3	8.1	85	54.9	298
Fourth	0	0.6	64.9	64.9	54.2	1.2	64.9	286	3.3	1.5	82.9	68.6	14.3	75.4	3.7	16.2	117	50.7	403
Richest	0	0	27.9	27.9	34.5	0.8	27.9	284	0	0	41.3	41.3	0	68.2	2.1	2.1	102	21.1	387
Total Kisumu	0.6	0.4	58.7	58.7	47.2	0.8	58.7	1072	4	0.7	72	62.4	9.9	73.5	2.6	11.2	417	45.4	1489

[1] MICS indicator 8.2

Child labour and school attendance

Table CP.3 presents the percentage of children age 5-14 years classified as student labourers or as labourer students by selected characteristics. Student labourers are children who were attending school but at the same time involved in child labour activities at the time of the surveys. Among the 96 per cent of children aged 5-14 years attending school, 46 per cent are also involved in child labour activities (student labourers). On the other hand, of the 45 per cent of child labourers, the majority are attending school (96 per cent). This may indicate that being involved in child labour does not necessarily affect school attendance.

Yet, the rate of school attendance amongst the child labourers is exceptionally high across all demographic categories (over 90 per cent). The proportion of children from rural areas (52 per cent) who are engaged in child labour is higher than for those from urban areas (26 per cent). Similarly, the proportion of children involved in child labour in rural areas who are likely to attend school is 97 per cent which is comparable to 93 per cent for children in urban 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, 2011a								
		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	41.9	96.3	738	97.4	310	42.4	710
	Female	48.7	95.2	751	95.7	366	49.0	715
County	Kisumu	45.4	95.7	1489	96.5	676	45.7	1425
Area	Rural	51.9	96.6	1121	97.0	582	52.1	1084
	Urban	25.5	92.9	368	92.9	94	25.5	342
Age	5-11 years	58.7	95.4	1072	96.8	629	59.6	1023
	12-14 years	11.2	96.5	417	91.6	47	10.6	403
Mother's education	None	36.1	95.8	232	96.4	84	36.3	222
	Primary	49.3	95.1	935	96.6	461	50.1	889
	Secondary +	40.5	97.4	318	96.0	129	39.9	310
Wealth index quintiles	Poorest	59.5	95.1	183	96.2	109	60.2	174
	Second	53.6	96.5	218	99.1	117	55.1	210
	Middle	54.9	96.6	298	96.8	164	55.0	288
	Fourth	50.7	94.3	403	93.4	205	50.3	380
	Richest	21.1	96.3	387	100.0	81	21.9	373
Total		45.4	95.7	1489	96.5	676	45.7	1425
[1] MICS indicator 8.3								
[2] MICS indicator 8.4								

Child Discipline

As stated in 'A World Fit for Children', "children must be protected against any acts of violence". The Millennium Declaration calls for the protection of children against abuse, exploitation and violence. In the Kisumu County MICS survey, mothers/caretakers of children age 2-14 years were asked a series of questions on the different ways parents 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.

In Kisumu county, about 4 out of 5 (82 per cent) of children age 2-14 years are subjected to at least one form of violent discipline method by their mothers/caretakers with 12 per cent being subjected to severe physical punishment and 56 per cent having experienced psychological discipline. The high prevalence of violent discipline is consistent with the observation that almost half (48 per cent) of mothers/caretakers believe that children should be physically punished. Non-violent discipline methods are applied for 9 per cent of 2-14 year old children in Kisumu County.

The method of child discipline varies with area of residence, gender and education of household head. The proportion of children subjected violent discipline is 81 per cent among girls and 84 per cent among boys. Whilst about 87 per cent of children in urban areas have experienced at least one form of violent discipline method, the corresponding proportion in rural areas is 81 per cent. About 92 per cent of children aged between 5 and 9 years were subjected to psychological aggression, severe physical discipline or any form of violent discipline versus 82 and 73 per cent for those aged 2-4 and 10-14 years of age.

Table CP.4: Child discipline

		Percentage of children age 2-14 years according to method of disciplining the child, Nyanza Province, Kenya, 2011a							Number of children age 2-14 years	Respondent believes that the child needs to be physically punished	Respondents to the child discipline module
		Percentage of children age 2-14 years who experienced:				Any violent discipline method [1]					
		Only non-violent discipline	Psychological aggression	Physical punishment							
			Any	Severe							
Sex	Male	7.7	57.8	74.5	15.9	84.0	1009	49.5	414		
	Female	10.4	53.7	67.3	9.0	80.8	1024	45.9	412		
Area	Rural	9.8	56.9	68.9	12.6	80.9	1506	50.4	578		
	Urban	6.8	52.2	76.5	11.7	86.6	528	41.5	248		
Age	2-4 years	7.9	53.4	76.6	14.8	82.2	571	49.9	255		
	5-9 years	4.6	60.3	80.3	16.1	91.8	728	50.5	285		
	10-14 years	14.4	53.0	57.2	6.9	73.2	735	42.9	286		
Education of household head	None	19.3	43.5	55.8	10.9	71.2	367	35.9	167		
	Primary	6.7	60.5	73.5	13.8	85.1	1088	54.4	417		
	Secondary +	7.3	55.4	75.1	10.5	84.1	558	44.2	235		
	Missing/DK	.0	30.0	87.4	15.9	87.4	22	48.7	6		
Respondent's education	None	26.0	41.6	48.8	12.6	62.9	147	37.7	64		
	Primary	6.9	60.5	73.7	13.4	85.0	1279	52.9	489		
	Secondary +	9.6	48.7	70.2	10.4	81.3	605	40.9	272		
	Missing/DK	0.0	100.0	100.0	0.0	100.0	3	0.0	1		
Wealth index quintiles	Poorest	15.2	47.5	66.0	7.1	75.1	254	56.2	94		
	Second	6.0	57.1	70.7	13.4	83.0	316	45.2	115		
	Middle	6.1	56.8	78.6	18.8	87.0	394	52.6	150		
	Fourth	7.4	64.5	70.1	13.1	85.9	525	49.4	198		
	Richest	11.8	49.5	68.4	9.0	78.7	545	41.8	268		
Total		9.1	55.7	70.9	12.4	82.4	2034	47.7	826		

[1] MICS indicator 8.5

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 aged 20-24 were married/in union before the age of 18. Factors that influence child marriage rates include: the state of the country's civil registration system, which provides proof of age for children; the existence of an adequate legislative framework with an accompanying enforcement mechanism to address cases of child marriage; and the existence of customary or religious laws 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, 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 as a type of commercial sexual exploitation of children by the Pan-African Forum against the Sexual Exploitation of Children.

Young married girls are a unique, though often invisible group. Child mothers face constrained decision-making and reduced life choices because they are required to perform heavy amounts of domestic work, are under pressure to demonstrate fertility and are responsible for raising children while they are still children themselves. Whilst boys are also affected by child marriage, this practice impact on girls to a far larger extent and intensity. Cohabitation – the situation in which a couple lives together as if married - raises the same human rights concerns as marriage. When 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 arise due to the informality of the relationship. For example, issues of inheritance, citizenship and social recognition make girls in informal unions vulnerable in more ways than those who are in formally recognized marriages.

Research suggests that many factors interact to place a child at risk of early 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 are more likely to believe that it is sometimes acceptable for a husband to beat his wife and are 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 in this cohort. There is evidence to suggest that girls who marry at young ages are more likely to marry older men which puts them at increased risk of HIV infection. Parents seek to marry off their girls to protect their honour, and men often seek younger women as wives as a means to avoid choosing a wife who might already be infected. The demand for this young wife to reproduce and the power imbalance resulting from the age differential leads to very low condom use among such couples.

Two of the indicators are 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 and those in a polygynous union are provided in Table CP.5.

Table CP.5 shows that 12 per cent of women aged between 15 and 49 years are married before their 15th birthday. About 14 per cent of women in the 20-49 year age group are married before their 15th birthday and 42 per cent are married before the age of 18 years. About 1 in every 4 (24 per cent) adolescent girl's age 15-19 years is presently married/in union.

Trends in early marriage

Table CP.6 presents the proportion of women who were first married or entered into a marital union before age 15 and 18 by residence and age groups. Examining the percentages married before age 15 and 18 by different age groups allow us to see the trends in early marriage over time.

Overall, 12 per cent of women age 15-49 years were married before the age of 15, and 42 per cent were married before the age of 18 years in Kisumu County. Among those in the 20-49 year age group, 14 per cent are married before the age of 15 years.

In Kisumu County, the proportion of urban women married before the age of 15 is 14 per cent compared to 10 per cent among rural counterparts. Similarly, 49 per cent of the urban women are married before age 18 as compared to 29 per cent among their rural counterparts. The proportion of women in the 15-19 year age group who are currently married or in union is 7 per cent in rural areas and 4 per cent in urban areas.

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, 2011a									
	Percent- age married before age 15 [1]	Number of women age 15-49 years	Percent- age mar- ried before age 15	Percent- age married before age 18 [2]	Num- ber of women age 20- 49 years	Percent- age 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									
KISUMU	12.3	1057	14.0	41.6	858	23.6	199	18.0	694
Area									
Rural	13.9	671	16.4	49.1	533	19.4	138	19.4	440
Urban	9.6	386	10.1	29.2	325	33.0	61	15.7	254
Age									
15-19	5.0	199	.	.	0	23.6	199	2.7	47
20-24	7.8	226	7.8	37.0	226	.	0	12.0	155
25-29	13.0	218	13.0	39.4	218	.	0	10.3	173
30-34	9.4	118	9.4	29.2	118	.	0	20.9	88
35-39	20.6	112	20.6	45.4	112	.	0	28.1	88
40-44	20.9	102	20.9	47.7	102	.	0	34.5	84
45-49	23.0	82	23.0	64.8	82	.	0	26.1	58
Education									
None	5.1	132	5.1	16.2	132	.	0	8.3	85
Primary	15.8	630	18.2	53.4	501	27.3	128	21.1	440
Secondary +	8.3	296	10.0	30.2	225	16.9	71	14.8	169
Wealth index quintiles									
Poorest	13.3	92	17.6	50.2	70	25.1	23	12.4	65
Second	20.1	127	23.5	55.1	108	12.1	18	15.7	86
Middle	12.7	168	14.1	52.3	138	19.8	30	27.3	114
Fourth	17.3	254	19.5	51.1	192	30.3	62	22.2	161
Richest	6.7	417	7.4	26.3	350	21.7	67	13.7	268
Total	12.3	1057	14.0	41.6	858	23.6	199	18.0	694
[1] MICS indicator 8.6 [2] MICS indicator 8.7 [3] MICS indicator 8.8 [4] MICS indicator 8.9 a. County = KISUMU									

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, 2011a													
		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	4.0	138	(*)	0	7.1	61	(*)	0	5.0	199	(*)	0
	20-24	9.6	117	41.0	117	5.9	109	32.6	109	7.8	226	37.0	226
	25-29	16.0	136	49.1	136	8.1	82	23.2	82	13.0	218	39.4	218
	30-34	10.7	61	36.8	61	8.1	56	21.0	56	9.4	118	29.2	118
	35-39	23.8	76	51.6	76	(14.1)	36	(32.4)	36	20.6	112	45.4	112
	40-44	20.4	80	51.4	80	(*)	22	(*)	22	20.9	102	47.7	102
	45-49	21.9	63	70.1	63	(*)	19	(*)	19	23.0	82	64.8	82
Total		13.9	671	49.1	533	9.6	386	29.2	325	12.3	1057	41.6	858

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

Spousal age difference

The indicator of spousal age difference is the percentage of women who are 10 or more years younger than their current spouse. Table CP.7 presents the results of the age difference between husbands and wives.

About 38 per cent of women aged 20-24 years in Kisumu County are married to spouses who are 0-4 years older, 34 per cent to spouses who are 5-9 years older and 25 per cent to spouses who are 10 or more years older. Only 2 per cent of women are married to younger spouses. The proportion married to spouses who are more than 10 years older is 30 per cent in rural areas and 20 per cent in urban areas. Similarly, about 45 per cent of women age 15 -19 in Kisumu County are married to men who are 0-4 years older, 27 per cent to spouses who are 5-9 years older and 22 per cent to spouses who are 10 or more years older. The proportion married to spouses who are more than 10 years older in this category is 25 per cent in rural areas and 18 per cent in urban areas.

Table CP.7: Spousal age difference

		Per cent distribution of women currently married/in union age 15-19 and 20-24 years according to the age difference with their husband or partner, Nyanza Province, Kenya, 2011					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
		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
Area	Rural	(41.7)	(23.0)	(24.6)	(10.7)	(100.0)	1.2	34.9	29.6	1.1	100.0	79
	Urban	(*)	(*)	(*)	(*)	(*)	2.6	41.6	19.7	2.0	100.0	76
Age	15-19	45.3	27.1	21.5	6.1	100.0	(*)	(*)	(*)	(*)	(*)	0
	20-24	(*)	(*)	(*)	(*)	(*)	1.9	38.2	24.7	1.6	100.0	155
Education	None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
	Primary	(46.6)	(30.0)	(20.7)	(2.7)	(100.0)	1.7	38.2	32.4	2.3	100.0	107
Wealth index quintiles	Secondary +	(*)	(*)	(*)	(*)	(*)	(3.1)	(43.0)	(6.0)	(0.0)	(100.0)	37
	Poorest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
	Second	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
	Middle	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	21
	Fourth	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
	Richest	(*)	(*)	(*)	(*)	(*)	2.7	42.9	17.8	2.1	100.0	73
Total		(45.3)	(27.1)	(21.5)	(6.1)	(100.0)	1.9	38.2	24.7	1.6	100.0	155

[1] MICS indicator 8.10a

[2] MICS indicator 8.10b

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

() Based on 25-49 unweighted cases.

Female Genital Mutilation/Cutting

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

Female genital cutting or circumcision is widely practiced in many Kenyan communities. According to the KDHS, up to 27 per cent of women in Kenya are circumcised. 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. Overall, the prevalence of FGM amongst women aged 15-49 years in Kisumu County is low with only slightly more than 2 per cent having experienced any form of FGM/C. The proportion of women who have undergone FGM/C does not vary by area of residence, age, level of education level or wealth status.

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

Per cent distribution of women age 15-49 years by FGM/C status, Nyanza Province, Kenya, 2011a									
		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			
Area	Rural	97.8	0.7	0.2	0.2	1.1	100	2.2	671
	Urban	97.7	0.6	0	0.5	1.2	100	2.3	386
Age	15-19	99.4	0	0	0	0.6	100	0.6	199
	20-24	99	0.5	0	0	0.5	100	1.0	226
	25-29	96.1	1.5	0.5	0.8	1.0	100	3.9	218
	30-34	97	0	0	0.9	2.0	100	3.0	118
	35-39	96.9	1.1	0	0	2.0	100	3.1	112
	40-44	100	0	0	0	0.0	100	0.0	102
	45-49	94.4	2.1	0	0	3.5	100	5.6	82
Education	None	96.7	0.8	0	0	2.5	100	3.3	132
	Primary	98.2	0.5	0	0.2	1.1	100	1.8	630
	Secondary +	97.5	1	0.4	0.6	0.5	100	2.5	296
Wealth index quintiles	Poorest	97.7	1.1	0	1.2	0.0	100	2.3	92
	Second	97.4	0.8	0	0	1.8	100	2.6	127
	Middle	98	0.6	0	0	1.4	100	2.0	168
	Fourth	97.8	0.9	0	0	1.3	100	2.2	254
	Richest	97.9	0.5	0.3	0.4	1.0	100	2.1	417
Total		97.8	0.7	0.1	0.3	1.1	100	2.2	1057

[1] MICS indicator 8.12

Approval of Female Genital Mutilation/Cutting

Table CP.10 presents the woman's attitudes towards FGM/C. As high as 77 per cent of the women aged 15-49 years have heard of FGM/C with a slightly higher proportion of the women who have heard of FGM/C residing in urban (82 per cent) than rural (76 per cent) areas. The proportion of women who have heard of FGM/C ranges from 94 per cent among those with no education to 73 per cent among those with primary level of education. Similarly this proportion ranges from 84 per cent among those from the richest wealth index households to 70 per cent among those from the fourth richest households. The proportion of women who have heard of FGM/C does not vary markedly within age groups.

Fourteen per cent of women aged 15-49 years believe the practice should be continued whilst 76 per cent believe it should be discontinued. The proportion of women who believe that FGM/C should be continued ranges from 17 per cent among those from rural areas to 11 per cent among those from urban areas. The data shows that more of the women who have had FGM/C (23 per cent) show more support for the continuity of this practice as compared to only 14 per cent of those who have not had FGM/C.

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

Percentage of women age 15-49 years who have heard of FGM/C, and per cent distribution of women according to attitudes towards whether the practice of FGM/C should be continued, Nyanza Province, Kenya, 2011a									
		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	KISUMU	78.1	1057	14.4	75.8	5.5	4.3	100	826
Area	Rural	75.9	671	16.6	73.5	5.4	4.5	100	510
	Urban	81.8	386	11	79.4	5.7	4	100	316
Age	15-19	75.8	199	22.2	64.9	6.1	6.8	100	151
	20-24	79.5	226	15.3	73.1	5.9	5.7	100	179
	25-29	83	218	15.6	75.7	6.4	2.3	100	181
	30-34	76	118	7.1	84.6	4.6	3.7	100	90
	35-39	75.6	112	6.9	86.6	6.5	0	100	85
	40-44	76.8	102	14.8	79.5	2.9	2.8	100	78
	45-49	74.6	82	9.9	77.8	3.2	9.2	100	61
Education	None	93.5	132	2.8	92.5	2.8	1.8	100	124
	Primary	72.7	630	17.2	69.8	6.8	6.2	100	458
	Secondary +	82.5	296	15.1	78.4	4.4	2.2	100	244
FGM/C experience	No FGM/C	77.6	1034	14.2	75.7	5.6	4.5	100	802
	Had FGM/C	(*)	23	(*)	(*)	(*)	(*)	(*)	23
Wealth index quintiles	Poorest	78.6	92	3	85.5	1.4	10.1	100	73
	Second	76	127	17.2	77.6	4.1	1.1	100	96
	Middle	76.1	168	20.7	70.5	6.2	2.7	100	127
	Fourth	69.9	254	20.6	63.7	7.2	8.4	100	177
	Richest	84.4	417	10.6	81.2	5.6	2.6	100	352
Total		78.1	1057	14.4	75.8	5.5	4.3	100	826
[1] MICS indicator 8.11									
(*) Not shown, based on less than 25 unweighted cases									

Attitudes toward Domestic Violence

Women aged 15–49 years were asked a number of questions to assess their attitudes towards whether husbands are justified to hit or beat their wives/partners in a variety of scenarios. These questions were asked to give 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 who agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described in reality tend to be abused by their own husbands/partners. The responses to these questions can be found in Table CP.11.

Table CP.11: Attitudes toward domestic violence

Percentage of women age 15–49 years who believe a husband is justified in beating his wife/partner in various circumstances, Nyanza Province, Kenya, 2011a								
		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]	
Area	Rural	25.9	42.5	27.4	19.4	11.9	53.0	671
	Urban	17.7	33.2	16.9	12.4	7.9	41.7	386
Age	15–19	18.8	39.6	23.5	14.3	13.1	50.3	199
	20–24	27.1	49.9	27.0	16.4	9.9	61.7	226
	25–29	22.7	36.5	25.7	20.9	10.7	50.3	218
	30–34	18.8	28.7	13.7	7.3	5.4	31.9	118
	35–39	24.3	32.1	19.6	12.5	8.3	38.7	112
	40–44	25.8	37.7	28.1	25.9	13.3	44.8	102
Marital/ Union status	45–49	22.5	41.6	22.7	21.2	11.2	49.3	82
	Currently married/in union	25.3	40.8	25.7	19.6	11.4	51.9	694
	Formerly married/in union	20.5	33.3	18.8	10.1	5.7	40.8	128
Education	Never married/in union	17.0	37.3	20.0	12.1	10.2	44.1	235
	None	7.9	18.8	6.4	5.1	5.3	22.3	132
	Primary	28.8	46.8	30.1	22.1	12.0	57.4	630
Wealth index quintiles	Secondary +	17.0	31.7	17.4	10.7	9.4	42.5	296
	Poorest	28.2	47.6	20.9	18.2	7.8	52.6	92
	Second	32.9	44.1	32.0	22.7	8.9	59.2	127
	Middle	29.9	47.1	27.6	17.4	13.8	56.0	168
	Fourth	24.4	42.4	28.1	19.4	13.8	52.8	254
Total	Richest	15.0	30.6	17.3	12.8	8.1	39.6	417
		22.9	39.1	23.6	16.8	10.4	48.9	1057

[1] MICS indicator 8.14
a. County = KISUMU

Overall, almost half (49 per cent) of the population of women aged 15-49 years in Kisumu County believe that their husbands/partners have a right to hit or beat them for at least one of a variety of reasons mentioned in Table CP.10. The common reasons reported for justifying domestic violence towards women are neglecting the children (39 per cent), arguing with him (24 per cent), going out without telling him (23 per cent), refusing to have sex with him (17 per cent) or burning the food (10 per cent). The proportion of women who believe that their husband/partner should beat them for any of the cited reasons is 53 per cent in rural areas and 42 per cent in urban areas.

Women who are currently married/in union are more likely to approve domestic violence than those who were formerly married or those who have never been married. The proportion of women approving domestic violence ranges from 22 per cent among those with no education, 57 per cent among those with primary and 43 per cent for those with secondary level education. On the other hand, the proportion of women approving domestic violence is lower amongst those from the richest households (40 per cent) than amongst those from the poorest households (53 per cent).

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

In Kisumu County, almost all of the interviewed women have heard of AIDS, however, only 7 in 10 (70 per cent) know of the three ways of preventing HIV transmission. The percentage of women who know of the two main ways of preventing HIV transmission is 79 per cent. Ninety per cent of women know of having one faithful uninfected sex partner, 86 per cent know about using a condom every time, and 83 per cent know abstaining from sex as main ways of preventing HIV transmission.

The proportion of women who know all three ways of preventing HIV transmission ranges from 68 per cent in rural areas to 74 per cent in urban areas. This proportion does not vary much across levels of the household wealth index.

Similarly, the proportion of women in urban areas who know both ways of preventing HIV transmission is 82 per cent versus 77 per cent for those from rural areas. Also, the proportion of women who know both ways of preventing HIV transmission is marginally higher among those who have ever been married or in union (81 per cent) than those who have never been married or in union (73 per cent). The proportion of women with knowledge of both ways of preventing HIV transmission ranges from 77 per cent among those with primary education to 81 and 85 per cent among those with secondary / higher and no education, respectively. The proportion of women with knowledge of both ways of preventing HIV transmission is comparable across household wealth quintiles. The figure ranges from 84 per cent among those from the poorest households to 79 per cent among those from the richest households.

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

Percentage of women age 15-49 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission Nyanza Province, Kenya, 2011a														
	Area	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:			Percentage of women who know both ways	Percentage of women who know all three ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	Percentage with comprehensive knowledge [1]	Number of women
			Having only one faithful uninfected sex partner	Using a condom every time	By abstaining				Mosquito bites	Super-natural means	Sharing food with someone with AIDS			
Age	Rural	99.8	90.0	84.4	82.4	77.0	67.6	81.7	81.7	93.1	92.9	64.4	51.8	671
	Urban	99.7	89.9	87.7	85.0	82.2	73.6	87.8	87.8	95.1	91.7	73.6	62.9	386
	15-24	99.7	88.6	82.7	78.6	76.0	64.3	77.6	77.6	95.5	92.9	65.1	51.5	425
	25-29	100.0	89.7	89.5	86.7	82.4	75.2	90.5	90.5	93.8	95.4	74.1	62.1	218
	30-39	99.5	93.6	87.9	89.5	83.3	77.0	88.0	88.0	93.0	90.6	72.4	63.2	230
Marital status	40-49	100.0	89.0	84.7	82.7	75.9	67.1	85.7	85.7	91.3	90.3	60.7	49.2	184
	Ever married/in union	99.7	90.8	87.4	84.3	80.6	71.4	86.0	86.0	93.7	91.3	67.4	56.4	822
Education	Never married/in union	100.0	87.1	79.3	80.2	72.9	64.2	76.8	76.8	94.3	96.5	69.0	53.8	235
	None	100.0	94.6	89.2	87.5	84.7	78.3	87.9	87.9	97.9	97.3	79.0	71.3	132
	Primary	99.8	88.2	85.0	82.5	76.9	67.3	84.0	84.0	93.3	90.2	65.0	51.8	630
	Secondary +	99.6	91.6	85.2	83.5	80.5	71.4	82.1	82.1	93.2	95.1	68.6	57.5	296
	Poorest	100.0	94.0	88.6	79.7	83.7	70.7	74.7	74.7	97.2	96.7	61.0	55.5	92
Wealth index quintiles	Second	99.1	91.2	83.2	84.0	77.6	66.5	82.5	82.5	90.6	91.6	66.5	52.0	127
	Middle	100.0	87.6	85.7	86.8	74.8	66.8	84.6	84.6	88.2	88.6	58.9	44.8	168
	Fourth	100.0	90.0	86.4	85.7	79.8	74.3	86.4	86.4	95.1	92.3	69.0	58.8	254
	Richest	99.7	89.7	85.1	81.2	79.3	69.1	84.6	84.6	95.6	93.5	72.5	59.7	417
Total		99.8	90.0	85.6	83.4	78.9	69.8	83.9	83.9	93.8	92.5	67.8	55.8	1057

[1] MICS indicator 9.1

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, 2011a														
	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:			Percentage of women who know both ways	Percentage of women who know all three ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus [1]	Number of women age 15-24		
		Having only one faithful uninfected sex partner	Using a condom every time	By abstaining				Mosquito bites	Super-natural means	Sharing food with someone with AIDS				
Area	Rural	100.0	88.2	79.6	76.8	71.5	58.6	73.3	88.3	93.9	93.8	61.7	45.1	255
	Urban	99.3	89.1	87.3	81.5	82.6	72.8	84.0	85.5	97.9	91.5	70.2	61.0	170
Age	15-19	100.0	85.9	80.0	83.5	71.3	63.1	76.7	85.0	95.6	93.3	62.6	44.7	199
	20-24	99.5	90.9	85.1	74.4	80.1	65.4	78.4	89.1	95.4	92.5	67.2	57.4	226
Marital status	Ever married / in union	99.4	90.5	87.0	76.3	80.5	65.3	80.5	85.9	95.7	89.3	63.9	51.9	218
	Never married / in union	100.0	86.5	78.1	81.2	71.2	63.3	74.5	88.5	95.3	96.7	66.2	51.0	207
Education	None	(100.0)	(91.1)	(88.9)	(84.2)	(80.0)	(80.0)	(78.5)	(87.5)	(100.0)	(95.3)	(71.7)	(67.5)	27
	Primary	100.0	86.7	80.1	77.6	72.1	60.0	78.2	88.7	96.0	91.9	64.7	48.3	264
	Secondary +	99.1	91.7	86.6	79.5	82.8	69.7	76.2	84.1	93.7	94.4	64.5	54.5	133
Wealth index quintiles	Poorest	(100.0)	(97.4)	(89.8)	(73.9)	(87.2)	(68.8)	(67.7)	(89.0)	(97.9)	(95.7)	(52.3)	(50.1)	42
	Second	(100.0)	(92.8)	(82.7)	(81.2)	(77.9)	(63.6)	(74.1)	(90.8)	(84.5)	(92.1)	(65.4)	(56.4)	47
	Middle	100.0	89.2	77.7	82.0	69.1	56.4	74.9	87.9	96.5	88.9	60.5	41.2	58
	Fourth	100.0	87.8	83.6	81.6	75.8	70.3	86.4	85.8	96.6	94.1	71.8	53.5	98
	Richest	99.3	85.5	82.1	76.4	75.1	62.8	77.0	86.3	96.9	93.0	65.7	52.7	180
Total		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

[1] MICS indicator 9.2; MDG indicator 6.3

() Based on 25-49 unweighted cases.

The results for women age 15-24 are separately presented in Table HA.2. About two thirds of young women (64 per cent) know of the three ways of HIV prevention, while about 3 quarters (76 per cent) know of the two main ways of HIV transmission. The proportion of women who know of the three ways of HIV prevention ranges from 59 per cent in rural areas to 73 per cent in urban areas.

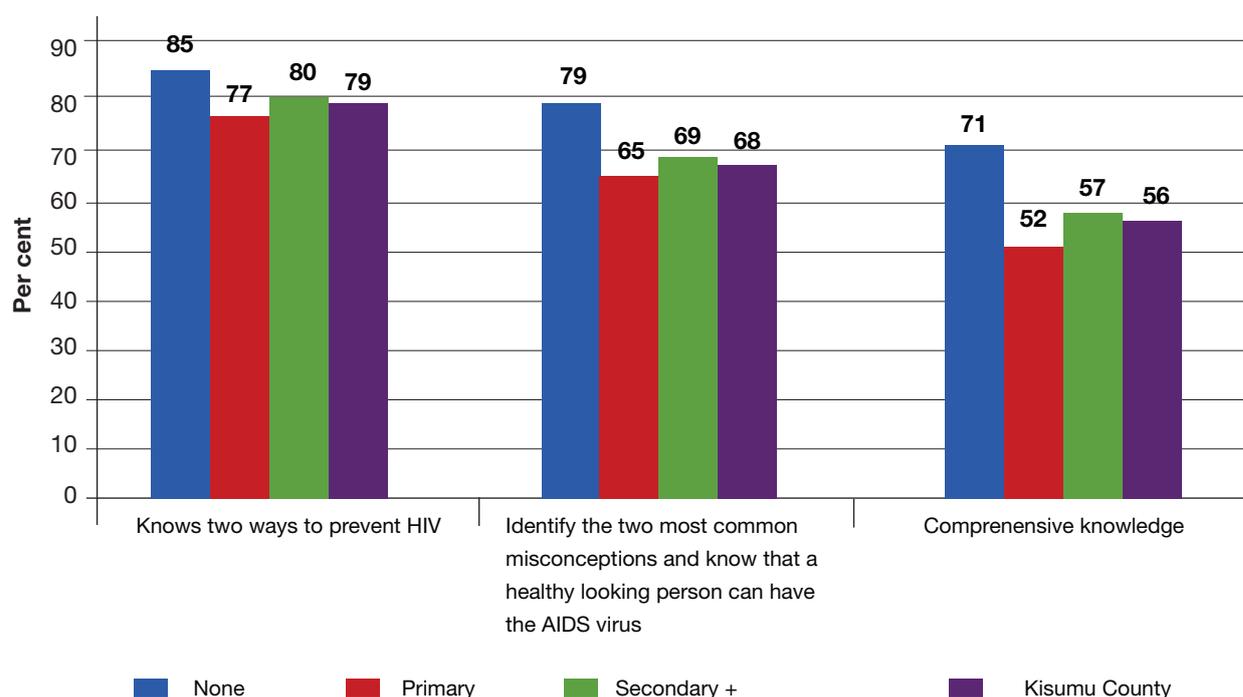
About 1 in 9 (89 per cent) of young women know of having one faithful uninfected sex partner, 83 per cent know of using a condom every time, and 79 per cent know of abstaining from sex as main ways of preventing HIV transmission. The proportion of women aged 20 – 24 who know of the two main ways of HIV transmission is 80 per cent versus 71 per cent among those aged 15 – 19 years. Similarly, the proportion of women who know of the two main ways of HIV transmission ranges from 81 per cent among married or in union to 71 per cent among those who have never been married or in union. The proportion of young women who know both ways of preventing HIV transmission is 83 per cent for those from urban areas and 72 per cent for those from rural areas.

Table HA.1 and HA.2 also present the per cent of women who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions in Kisumu County -that HIV can be transmitted by mosquito bites or sharing food with someone with AIDS. The table also provides information on whether women know that HIV cannot be transmitted by supernatural means. Of the interviewed women, 68 per cent reject the two most common misconceptions and know that a healthy-looking person can be infected. Eighty-three (83) per cent of women know that HIV cannot be transmitted by mosquito bites, and 93 per cent of women know that HIV cannot be transmitted by sharing food with someone with AIDS, while 84 per cent of women know that a healthy-looking person can be infected.

Overall, there is a 10 per cent difference in the proportion of women in urban versus rural areas who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus (74 per cent versus 64 per cent). Knowledge of the two main ways of preventing HIV does not vary markedly by women's age, but varies across levels of household wealth index. For example, 61 per cent of women from the poorest households reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus compared to 73 per cent among those from the richest households.

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 present the percentage of women with comprehensive knowledge. The proportion of women aged 15-49 years with comprehensive knowledge of HIV prevention methods and transmission is still fairly low in Kisumu County (56 per cent); this figure is higher in urban areas (63 per cent) than in rural areas (52 per cent). Similarly, the proportion of women with comprehensive knowledge of HIV prevention methods and transmission ranges from 71 per cent among women with no education to 52 per cent among those with primary education-- see Figure HA.1.

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



There is no major variation in comprehensive knowledge between women who have ever been married or in union and those who have never married or in union. Moreover, there is no variation in the proportion of women with comprehensive knowledge of HIV prevention and transmission and household wealth—except for the middle household wealth index (with only 45 per cent). Overall, comprehensive knowledge of HIV prevention and transmission is 51 per cent among women aged 15-24 years; the proportion with comprehensive knowledge does not vary markedly by background characteristics (Table HA.2).

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, 94 per cent of women know that HIV can be transmitted from mother to child. The percentage of women who know all three ways of mother-to-child transmission is 42 per cent, while 6 per cent of women did not know of any specific way.

The proportion of women with knowledge of all three ways of mother-to-child transmission is highest among women aged 25-29 years (46 per cent) and lowest among those aged 15-19 years (36 per cent). The proportion of women who know of all three ways of mother-to-child transmission is higher among those who have ever married or been in union (44 per cent) than for those who have never been married or in union (35 per cent). There is no major variation in the proportions of women with knowledge of all three ways of mother-to-child transmission and women’s area of residence or education level and household wealth index.

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, Kisumu County, 2011								
		Percentage who know HIV can be transmitted from mother to child	Per cent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
			During pregnancy	During delivery	By breast-feeding	All three means [1]		
Area	Urban	91.0	49.7	81.6	77.8	40.2	8.7	386
	Rural	95.6	52.9	83.2	84.1	42.9	4.2	671
Age group	15-24	94.2	51.8	80.8	80.7	40.3	5.5	425
	25+	93.7	51.7	83.9	82.5	43.0	6.1	633
Age group	15-19	93.2	48.2	77.7	79.7	36.0	6.8	199
	20-24	95.1	54.9	83.6	81.6	44.1	4.3	226
	25-29	95.4	51.9	87.7	85.5	45.5	4.6	218
	30-39	93.8	49.6	86.4	82.3	42.4	5.7	230
	40-49	91.6	54.2	76.2	79.4	40.9	8.4	184
Marital status	Ever married/in union	94.4	52.7	83.6	82.8	43.9	5.3	822
	Never married/in union	92.3	48.4	79.2	78.3	35.1	7.7	235
Education	None	95.8	51.3	88.5	87.5	41.2	4.2	132
	Primary	95.3	52.5	83.0	82.3	42.5	4.5	630
	Secondary +	90.2	50.4	79.3	78.2	41.0	9.4	296
Wealth index quintiles	Poorest	97.8	48.1	79.0	87.5	38.0	2.2	92
	Second	94.2	52.2	81.8	79.2	42.7	4.9	127
	Middle	98.4	53.8	90.3	85.5	46.1	1.6	168
	Fourth	92.8	49.4	82.7	81.2	38.9	7.2	254
	Richest	91.9	53.1	80.6	80.2	42.8	7.8	417
Total		93.9	51.7	82.6	81.8	41.9	5.9	1057

[1] MICS indicator 9.3

Accepting Attitudes toward People Living with HIV/AIDS

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

Table HA.4 presents the findings on the attitudes of women towards people living with HIV/AIDS. In Kisumu County, almost all (99 per cent) of women who have heard of AIDS agree with at least one accepting attitude. The least common accepting attitude is 'not wanting to keep the HIV status of a family member a secret' (25 per cent).

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

Percentage of women age 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV/AIDS, Kisumu County, 2011								
		Per cent of women who:						Number of women who have heard of AIDS
		Are willing to care for a family member with the AIDS virus in own home	Would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus	Believe that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Agree with at least one accepting attitude	Express accepting attitudes on all four indicators [1]	
Area	Urban	98.1	81.7	88.7	28.8	100.0	22.6	385
	Rural	96.7	82.7	86.1	22.9	99.3	16.5	670
Age	15-24	95.4	82.5	87.2	22.3	99.2	17.2	424
	15-19	95.3	78.8	83.8	18.4	98.8	12.4	199
	20-24	95.4	85.7	90.2	25.7	99.5	21.5	224
	25-29	98.5	81.6	88.1	25.9	100.0	20.3	218
	30-39	97.7	83.9	87.5	24.2	100.0	16.6	229
	40-49	99.4	81.0	85.0	31.6	99.4	23.2	184
Marital status	Ever married/in union	97.6	82.3	86.6	25.6	99.7	19.1	820
	Never married/in union	96.0	82.3	88.8	23.1	99.0	17.5	235
Education	None	97.7	92.6	95.5	28.4	100.0	23.4	132
	Primary	96.8	77.4	82.0	23.0	99.3	16.0	629
	Secondary +	98.0	88.3	94.1	27.9	100.0	22.6	294
Wealth index quintiles	Poorest	91.9	79.3	79.3	18.7	100.0	10.9	92
	Second	96.2	84.1	87.9	17.6	99.2	16.0	126
	Middle	98.1	79.8	84.0	20.7	100.0	14.5	168
	Fourth	97.6	82.9	83.7	24.1	99.2	15.9	254
	Richest	98.1	83.2	91.8	31.1	99.6	24.8	416
Total		97.2	82.3	87.1	25.1	99.6	18.8	1055

[1] MICS indicator 9.4

The proportion of women with accepting attitudes is higher amongst those from the richest households than amongst those from poorer households. For example, 25 per cent of women from the richest households express accepting attitudes on all four indicators whilst only 11 per cent of those from the poorest households do. A higher proportion of urban women express accepting attitudes (23 per cent) than their rural counterparts (17 per cent). Women with primary education (16 per cent) have varying accepting attitudes than those with secondary or higher (23 per cent) or no education (23 per cent).

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 them and to prevent others from infection, 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 in a facility for HIV testing and whether they have ever been tested is presented in Table HA.5.

In Kisumu County, 95 per cent of women know where to be tested, while 55 per cent have actually been tested. The proportion of women who know a place to get tested and who have ever been tested is comparable among rural and urban women.

The proportion of women who know a place to be tested is comparable across levels of education and marital status, but varies across household wealth index levels. Again, there is no notable variation in the proportion of those who have ever been tested based by marital status, but there differences across household wealth index. For example, among those from the poorest households, 44 per cent have ever been tested compared to 59 per cent among those from the richest households.

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 and percentage of women who have ever been tested, Kisumu County, 2011				
		Percentage of women who:		Number of women
		Know a place to get tested [1]	Have ever been tested	
Area	Urban	95.8	55.9	386
	Rural	95.3	54.9	671
Age	15-19	91.0	46.1	199
	20-24	98.0	38.4	226
	25-29	95.9	54.7	218
	30-34	94.6	63.2	118
	35-39	94.1	63.1	112
	40-44	97.7	80.8	102
	45-49	98.7	71.1	82
Marital status	Ever married/in union	96.1	55.0	822
	Never married/in union	93.3	56.0	235
Education	None	99.0	70.8	132
	Primary	94.1	50.4	630
	Secondary +	96.9	58.7	296
Wealth index quintiles	Poorest	88.4	43.6	92
	Second	95.1	46.7	127
	Middle	97.6	55.0	168
	Fourth	94.6	57.2	254
	Richest	96.9	59.3	417
Total		95.5	55.2	1057
[1] MICS indicator 9.5				
[2] MICS indicator 9.6				

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

About two thirds (66 per cent) of the women aged 15-24 years had had sex in the last 12 months preceding the survey but only 39 per cent of them had ever been tested, although nearly 96 per cent know of a place to get tested. About a third (33 per cent) of young women who had never been married or been in union had had sex in the last 12 months preceding the survey. Women who have never been married or been in union (63 per cent) were twice as likely to have ever been tested as those who have been married or in

union (31 per cent). The proportion of women who have ever been tested and those who have been tested and have been told the result does not vary markedly across urban and rural areas. The proportion of women who had had sex in the last 12 months preceding the survey is higher as expected among those aged 20-24 years (85 per cent) compared to those aged 15-19 years (45 per cent), but the proportion who have ever been tested is higher among the younger ones. Only 38 per cent of women have been tested and told the result.

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 and percentage of women who have been tested and have been told the result, Kisumu County, 2011							
		Percentage who have had sex in the last 12 months	Number of women age 15-24 years	Percentage of women who:			Number of women age 15-24 years who have had sex in the last 12 months
				Know a place to get tested	Have ever been tested	Have been tested and have been told result [1]	
Area	Urban	72.9	170	96.8	37.7	36.8	124
	Rural	61.8	255	96.0	39.3	38.6	157
Age	15-19	44.8	199	93.5	49.6	48.3	89
	20-24	85.2	226	97.7	33.5	32.9	192
Marital status	Ever married/ in union	98.2	218	96.9	31.0	29.9	214
	Never married/ in union	32.6	207	94.7	62.9	62.9	67
Education	None	(52.7)	27	(*)	(*)	(*)	14
	Primary	70.9	264	95.6	37.2	36.0	187
	Secondary +	59.7	133	97.5	38.3	38.3	80
Wealth index quintiles	Poorest	(69.5)	42	(95.7)	(40.9)	(40.9)	29
	Second	(68.6)	47	96.6	(37.6)	(37.6)	32
	Middle	56.2	58	97.1	(21.8)	(21.8)	32
	Fourth	62.0	98	93.0	46.7	44.8	60
	Richest	70.3	180	97.8	38.8	37.9	127
Total		66.2	425	96.3	38.6	37.8	281
[1] MICS indicator 9.7							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

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

A very high proportion (95 per cent) of women who gave birth in the last two years received antenatal care from a health care professional during the last pregnancy. Eighty three per cent of all women received HIV counselling during antenatal care for last pregnancy and 81 per cent were offered an HIV test and were tested for HIV during antenatal care. In the Kisumu County MICS, a higher proportion of women (81 per cent) were offered an HIV test, tested for HIV during antenatal care and given the results. Overall, 81 per cent of women were offered an HIV test and were tested for HIV during antenatal care, and received the results. This proportion was higher in urban areas (89 per cent) versus rural areas (77 per cent). This pattern is comparable for women who received HIV counselling, were offered an HIV test, accepted and received the results.

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, Kisumu County, 2011							
		Per cent of women who:					Number of women who gave birth in the 2 years preceding the survey
		Received antenatal care from a health care professional for last pregnancy	Received HIV counselling during antenatal care [1]	Were offered an HIV test and were tested for HIV during antenatal care	Were offered an HIV test and were tested for HIV during antenatal care, and received the results [2]	Received HIV counselling, were offered an HIV test, accepted and received the results	
Area	Urban	99.1	90.0	90.0	97.1	89.2	111
	Rural	93.0	79.6	78.1	86.0	76.8	207
Young women	95.7	83.8	82.5	90.3	80.5	174	891
Age	15-19	93.4	71.6	69.4	87.5	69.4	50
	20-24	96.6	88.7	87.9	91.4	85.1	124
	25-29	96.1	85.1	83.8	92.4	83.8	79
	30-34	(89.8)	(73.4)	(73.4)	(79.7)	(73.4)	26
	35-49	(94.2)	(83.5)	(83.5)	(89.7)	(83.5)	39
Marital status	Ever married/ in union	94.6	85.4	83.4	89.9	82.5	285
	Never married/in union	(100.0)	(71.5)	(71.5)	(89.7)	(69.0)	32
Education	None	(90.5)	(76.5)	(76.5)	(90.5)	(76.5)	27
	Primary	95.4	82.2	80.7	87.8	79.6	210
	Secondary +	96.0	88.1	88.1	95.0	86.7	81
Wealth index quintiles	Poorest	(91.8)	(78.2)	(75.6)	(86.0)	(75.6)	38
	Second	(97.6)	(85.9)	(83.7)	(88.3)	(83.7)	47
	Middle	91.0	74.3	72.1	84.5	70.1	53
	Fourth	94.0	78.3	78.3	88.1	77.2	71
	Richest	98.0	91.4	91.4	95.7	90.0	109
Total		95.1	83.2	82.2	89.9	81.1	318
[1] MICS indicator 9.8							
[2] MICS indicator 9.9							
() Based on 25-49 unweighted cases.							

Sexual Behaviour Related to HIV Transmission

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

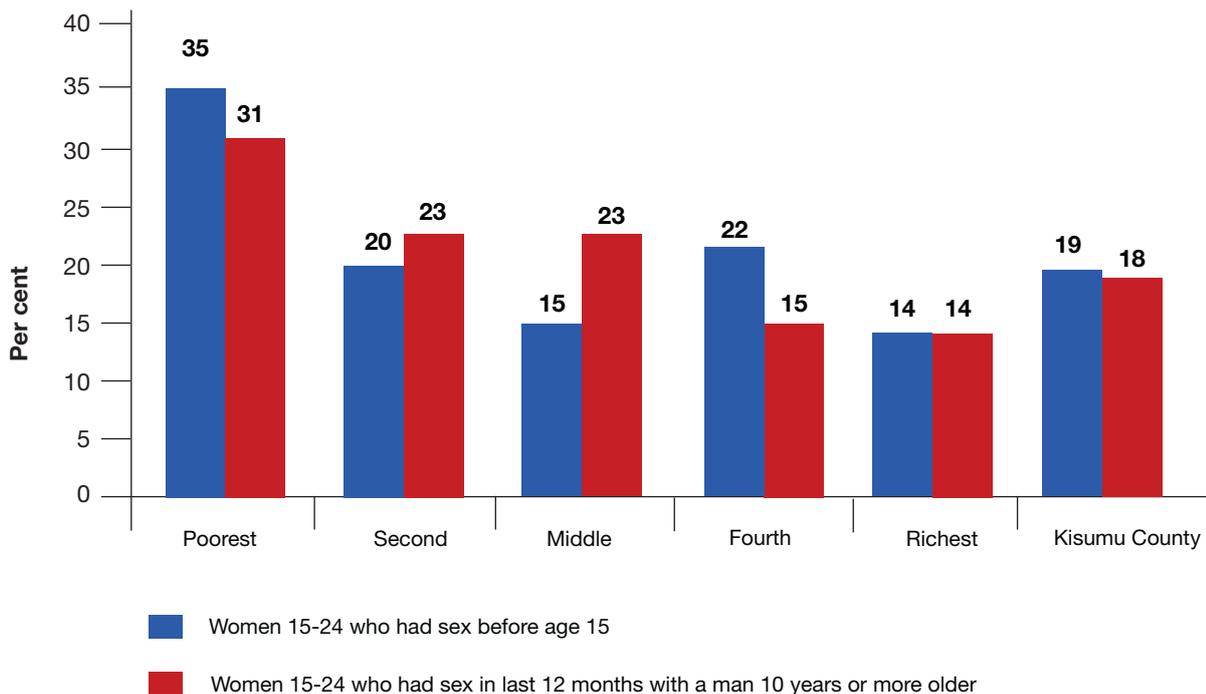
Table HA.8: Sexual behaviour that increases the risk of HIV infection

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, Kisumu County, 2011							
		Percentage of never-married women age 15-24 years who have never had sex [1]	Number of never-married women age 15-24 years	Percentage of women age 15-24 years who had sex before age 15 [2]	Number of women age 15-24 years	Percentage of women age 15-24 years who had sex in the last 12 months with a man 10 or more years older [3]	Number of women age 15-24 years who had sex in the 12 months preceding the survey
Area	Urban	46.4	69	18.4	170	15.8	124
	Rural	48.7	138	19.2	255	19.8	157
Age	15-19	60.0	151	17.9	199	11.3	89
	20-24	15.1	56	19.7	226	21.1	192
Marital status	Ever married/in union	.	0	26.2	218	23.7	214
	Never married/in union	47.9	207	11.1	207	0.0	67
Education	None	(*)	16	(*)	27	(*)	14
	Primary	52.5	108	23.1	264	23.5	187
	Secondary +	43.6	83	11.1	133	6.4	80
Wealth index quintiles	Poorest	(*)	18	(35.1)	42	(31.0)	29
	Second	(*)	22	(19.6)	47	(23.2)	32
	Middle	(55.6)	29	15.2	58	(22.6)	32
	Fourth	53.8	50	22.4	98	15.1	60
	Richest	43.2	87	14.1	180	13.9	127
Total		47.9	207	18.9	425	18.0	281

[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.

Almost half (48 per cent) of 15-24 year old women who have never been married have never had sex. The proportion of women who have had sex amongst those who have never been married does not vary markedly between rural and urban areas. About one out of five (19 per cent) young women aged 15-24 years had sex before age 15. Eighteen per cent of young women aged 15-24 years had sex with a man who was 10 or more years older in the last 12 months.

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 aged 15-24 years who had sex with such a partner in the previous year (Tables HA.9 and HA.10). About 2 per cent of women 15-49 years of age report having sex with more than one partner in the last 12 months. Overall, 77 per cent of young women aged 15-24 have had sex, 66 per cent had sex in the last 12 months preceding the survey and less than 3 per cent had sex with more than one partner in the same period (Table HA.10).

Table HA.9: Sex with multiple partners

Percentage of women age 15-49 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, Kisumu County, 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]			
Residence	Urban	91.0	77.3	2.9	386	(*)	11
	Rural	89.7	75.8	2.1	671	(*)	14
Age	15-19	54.5	44.8	2.4	199	(*)	5
	20-24	96.3	85.2	2.8	226	(*)	6
	25-29	97.8	89.9	1.5	218	(*)	3
	30-34	100.0	83.9	3.0	118	(*)	3
	35-39	100.0	87.3	4.2	112	(*)	5
	40-44	100.0	75.3	1.9	102	(*)	2
	45-49	100.0	68.3	1.3	82	(*)	1
Marital status	Ever married/in union	100.0	88.7	2.6	822	(*)	22
	Never married/in union	55.8	33.3	1.7	235	(*)	4
Education	None	93.4	73.8	1.0	132	(*)	1
	Primary	91.0	79.3	2.6	630	(*)	17
	Secondary +	87.0	71.3	2.6	296	(*)	8
Wealth index quintiles	Poorest	89.0	77.7	3.8	92	(*)	3
	Second	93.6	78.2	0.0	127	(*)	0
	Middle	90.3	72.6	1.2	168	(*)	2
	Fourth	89.0	76.7	4.7	254	(*)	12
	Richest	90.1	76.8	1.9	417	(*)	8
Total		90.2	76.3	2.4	1057	(46.9)	26
[1] MICS indicator 9.13							
[2] MICS indicator 9.14							
*Not shown, based on less than 25 un-weighted cases.							
() Based on 25-49 un-weighted 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, Kisumu County, 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]			
Area	Urban	81.3	72.9	2.2	170	(*)	4
	Rural	73.6	61.8	2.9	255	(*)	7
Age	15-19	54.5	44.8	2.4	199	(*)	5
	20-24	96.3	85.2	2.8	226	(*)	6
Marital status	Ever married/in union	100.0	98.2	3.2	218	(*)	7
	Never married/in union	52.1	32.6	2.0	207	(*)	4
Education	None	(77.6)	(52.7)	(0.0)	27	(*)	0
	Primary	78.4	70.9	2.9	264	(*)	8
	Secondary +	73.0	59.7	2.5	133	(*)	3
Wealth index quintiles	Poorest	(75.8)	(69.5)	(0.0)	42	(*)	0
	Second	(83.0)	(68.6)	(0.0)	47	(*)	0
	Middle	71.7	56.2	1.9	58	(*)	1
	Fourth	72.3	62.0	7.9	98	(*)	8
	Richest	79.1	70.3	1.2	180	(*)	2
Total		76.7	66.2	2.6	425	(*)	11

(*) 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 2 per cent of young women aged 15-24 years had had sex with a non-marital, non-cohabiting partner in the 12 months preceding the survey. This proportion was higher among women aged 15-19 years compared to those aged 20-24 years. As expected, this proportion was higher among women who have never been married or in union compared to those who have been married or in union (Table HA.11).

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, Kisumu County, 2011								
		Percentage of women 15-24 who:		Number of women age 15-24 years	Percentage who had sex with a non-marital, non-cohabiting partner in the last 12 months [1]	Number of women age 15-24 years who had sex in the last 12 months	Percentage of women age 15-24 years who had sex with a non-marital, non-cohabiting partner in the last 12 months, who also reported that a condom was used the last time they had sex with such a partner [2]	Number of women age 15-49 years who had more than one sexual partner in the last 12 months
		Ever had sex	Had sex in the last 12 months					
Area	Urban	81.3	72.9	170	2.5	124	(*)	3
	Rural	73.6	61.8	255	2.1	157	(*)	3
Age	15-19	54.5	44.8	199	3.9	89	(*)	3
	20-24	96.3	85.2	226	1.5	192	(*)	3
Marital status	Ever married/in union	100.0	98.2	218	1.2	214	(*)	3
	Never married/in union	52.1	32.6	207	5.6	67	(*)	4
Education	None	(77.6)	(52.7)	27	*	14	(*)	0
	Primary	78.4	70.9	264	2.7	187	(*)	5
	Secondary +	73.0	59.7	133	1.8	80	(*)	1
Wealth index quintiles	Poorest	(75.8)	(69.5)	42	(0.0)	29	(*)	0
	Second	(83.0)	(68.6)	47	(0.0)	32	(*)	0
	Middle	71.7	56.2	58	(3.5)	32	(*)	1
	Fourth	72.3	62.0	98	5.9	60	(*)	4
	Richest	79.1	70.3	180	1.3	127	(*)	2
Total		76.7	66.2	425	2.3	281	(*)	6

[1] MICS indicator 9.15
 [2] MICS indicator 9.16; MDG indicator 6.2
 (*) Not shown, based on less than 25 unweighted cases.

Orphans

As the HIV epidemic progresses, more and more children are becoming orphaned and vulnerable because of AIDS. Children who are orphaned or in vulnerable households may be at increased risk of neglect or exploitation if the parents are not available to assist them. Monitoring the variations in different outcomes for orphans and vulnerable children and comparing them to their peers gives us a measure of how well communities and governments are responding to their needs. Orphans are defined as children under age 18 who have lost one or both parents.

The frequency of children living with neither parent, mother only, and father only is presented in Table HA.12. Over half (56 per cent) of children aged 0-17 years in Kisumu County live with both parents. There is no major difference between the proportions of male and female children who live with both parents; this finding is consistent with the national findings reported in the 2007 KAIS.

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

Per cent distribution of children age 0-17 years according to living arrangements, percentage of children age 0-17 years in households not living with a biological parent and percentage of children who have one or both parents dead, Kisumu County, 2011														
	Living with both parents	Living with neither parent			Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent [1]	One or both parents dead [2]	Number of children age 0-17 years	
		Only father alive	Only mother alive	Both are alive	Both are dead	Father alive	Father dead	Mother alive						Mother dead
Sex	Male	56.1	1.2	3.0	7.5	4.1	12.8	9.4	2.1	1.2	100.0	15.8	19.2	1369
	Female	56.1	1.0	3.4	6.6	4.3	13.0	10.3	1.8	0.8	100.0	15.2	20.4	1342
Residence	Urban	62.3	0.8	2.6	5.0	4.1	11.7	6.6	3.3	0.8	100.0	12.5	16.0	721
	Rural	53.9	1.2	3.4	7.8	4.2	13.3	11.0	1.5	1.1	100.0	16.6	21.2	1990
Age	0-4	67.3	0.5	1.0	3.4	0.1	18.2	5.4	0.7	0.1	100.0	5.0	7.4	866
	5-9	58.6	1.4	3.4	8.4	3.0	12.2	8.2	2.2	0.6	100.0	16.2	17.1	770
	10-14	47.7	1.6	4.6	8.5	6.9	9.5	15.4	3.1	1.3	100.0	21.6	30.1	719
	15-17	40.6	0.6	5.3	10.2	11.3	8.3	12.9	2.1	3.6	100.0	27.4	35.2	356
Wealth index quintiles	Poorest	54.7	2.1	6.4	8.1	3.5	10.1	11.6	1.7	0.0	100.0	20.1	23.6	329
	Second	59.1	0.8	3.6	6.2	3.9	8.2	14.1	1.5	1.0	100.0	14.5	23.4	409
	Middle	51.8	0.7	1.0	4.9	6.4	14.6	15.5	1.3	1.0	100.0	13.0	24.8	509
	Fourth	52.9	1.6	4.1	8.9	3.6	15.2	8.5	1.1	1.2	100.0	18.2	19.7	691
	Richest	60.9	0.6	2.2	6.8	3.8	13.3	4.3	3.4	1.2	100.0	13.3	13.1	774
Total		56.0	1.4	2.6	7.7	3.6	14.3	9.2	1.4	1.2	100.0	15.2	18.2	16379

[1] MICS indicator 9.17

[2] MICS indicator 9.18

The proportion of children living with both parents is higher in urban (62 per cent) than rural areas (54 per cent). The proportion of children living with both parents decreases with increasing age of child, but does not vary across levels of household wealth index.

Sixteen per cent of children aged below 18 years are not living with a biological parent. The proportions of children not living with a biological parent are comparable amongst male and female children, and slightly higher in rural (17 per cent) than urban areas (13 per cent). The proportion of children not living with a biological parent increases with increasing age of a child.

Overall, 1 out of 5 (20 per cent) children aged 0-17 years have lost one or both parents. The proportion does not vary markedly by gender, but varies by area of residence and age of the child. The proportion of children who have lost one or both parents is higher in rural (21 per cent) than urban areas (16 per cent) whilst it increases with increasing age of the child from 7 per cent amongst children aged 0-4 years to 35 per cent amongst those aged 15-17 years. The proportion of children who have lost one or both parents is lower in the richest wealth quintile than in poor ere wealth quintiles.

One of the indicators developed for the assessment of the status of orphaned children relative to their peers addresses the school attendance of 10-14 year old 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 Kisumu County, 7 per cent of children aged 10-14 years have lost both parents but the proportion does not vary markedly by gender of the child. (Table HA.13). Among those who have lost both parents, only 92 per cent are currently attending school. Nearly all (99 per cent) children aged 10-14 years who have not lost a parent and who live with at least one parent are attending school. This would suggest that double orphans are disadvantaged compared to the non-orphaned children in terms of school attendance; the orphans to non-orphans school attendance ratio is 0.93.

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

School attendance of children age 10-14 years by orphanhood, Kisumu County, 2011									
		Percent- age of children whose mother and father have died (orphans)	Percent- age of children of whom both par- ents are alive and child is living with at least one parent (non- orphans)	Number of children age 10-14 years	Percent- age of children who are orphans and are attending school [1]	Total number of orphan children age 10-14 years	Percent- age 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 at- tendance ratio
Sex	Male	6.9	62.6	365	(96.3)	25	99.6	229	0.97
	Female	6.9	57.9	354	(86.7)	24	98.0	205	0.88
Residence	Urban	7.1	58.8	160	*	11	96.9	94	0.92
	Rural	6.9	60.7	560	(92.1)	38	99.4	340	0.93
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									

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Appendix A. Sample Design

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

The primary objective of the sample design for the Nyanza Multiple Indicator Cluster Survey was to produce statistically reliable estimates of most indicators, at the national level, for urban and rural areas, and for the 6 County regions (Siaya, Kisumu, 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:

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

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
- nh is the average household size.

For the calculation of the sample size, r (the proportion of children with HAZ below -2 SD among children aged 0-59 months) was assumed to be 30.9 per cent as per the 2008-09 KDHS. The value of *deff* (design effect) was taken as 1.4 based on the 2008-09 KDHS, p (percentage of children aged 0-59 months in Nyanza) was taken as 15 per cent and 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 $6 \times 1250 = 7500$ households.

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

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

County	Total	Population (2009 Estimates)			Number of Clusters		
		Rural	Urban	Peri-urban	Urban	Rural	Total
Siaya	833984	745922	66605	21457	5	45	50
Kisumu	952828	461145	291625	200053	27	23	50
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):

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

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

$$f_{hi} = p1_{hi} \times p2_{hi} \times p3_{hi}$$

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:

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

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

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

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

The non-response adjustment factors for women's and under-5's questionnaires are applied to the adjusted household weights. Numbers of eligible women and under-5 children were obtained from the roster of household members in the Household Questionnaire for households where interviews were completed.

The design weights for the households were calculated by multiplying the above factors for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization is performed by dividing the aforementioned design weights by the average design weight at the national level. The average design weight is calculated as the sum of the design weights divided by the unweighted total). A similar standardization procedure was followed in obtaining standardized weights for the women's and under-5's questionnaires.

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

Appendix B. List of Personnel Involved in the Survey

Survey Director

A.K Kilele, Director General, KNBS 2011

Technical Co-ordinators

James Gatungu, KNBS
Macdonald Obudho, KNBS
Robert Peter Ndugwa, UNICEF
Data collection County coordinators
Robert Buluma (Siaya County)
Leah Wambugu (Kisii County)
David Muthami (Homabay 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

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

Household Listing And Mapping

Listing Supervisors

Peter Omolo Ogodo
Dancanlan 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

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

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 Mwangi
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 Analysts
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 Kisumu County 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 (*deff*) is used to show the efficiency of the sample design in relation to the precision. A *deff* value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a *deff* value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.
- Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall, with a specified level of confidence. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error ($r + 2.se$ or $r - 2.se$) of the statistic in 95 per cent of all possible samples of identical size and design.

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

Sampling errors are calculated for indicators of primary interest, for the national level, for the regions, and for urban and rural areas. Three of the selected indicators are based on households, 8 are based on household members, 13 are based on women, and 15 are based on children under 5. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. Tables [SE.2 to SE.9] show the calculated sampling errors for selected domains.

Table SE.1: 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 - 2se	r + 2se
HOUSEHOLDS										
	Iodized salt consumption	2.16	0.9028	0.00894	0.010	0.995	1226	1088	0.885	0.921
HOUSEHOLD MEMBERS										
	Use of improved drinking water sources	4.1	0.4841	0.03463	0.072	2.317	5260	1119	0.415	0.553
	Use of improved sanitation facilities	4.3	0.2399	0.03399	0.142	2.661	5260	1119	0.172	0.308
	Secondary school net attendance ratio (adjusted)	7.5	0.2707	0.01996	0.074	0.931	494	431	0.231	0.311
	Child labour	8.2	0.4537	0.02337	0.052	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	1.522	2711	2407	0.173	0.223
	School attendance of orphans	9.19	0.9153	0.02618	0.029	0.617	50	44	0.863	0.968
	School attendance of non-orphans	9.2	0.9882	0.00467	0.005	0.851	434	387	0.979	0.998
	Violent discipline	8.5	0.8237	0.02034	0.025	1.449	2034	738	0.783	0.864

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deff)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
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	.9640	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	0.5622	0.00000	0.000	0.000	0.000	6	5	0.562	0.562

	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
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	.938	0.969	156	138	0.477	0.641
Antibiotic treatment of suspected pneumonia	3.1	0.6301	0.03221	0.051	.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	0.02710	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

Appendix D. Data Quality Tables

Table DQ.1: Age distribution of household population

Single-year age distribution of household population by sex, Kisumu County, Kenya, 2011a							
		Sex				Missing	
		Male		Female			
		Number	Per cent	Number	Per cent	Number	Per cent
Age	0	82	3.1	89	3.4	0	0.0
	1	71	2.7	79	3.0	0	0.0
	2	101	3.9	79	3.0	0	0.0
	3	79	3.0	98	3.7	0	0.0
	4	106	4.1	82	3.1	0	0.0
	5	82	3.2	84	3.2	0	0.0
	6	78	3.0	80	3.0	0	0.0
	7	63	2.4	80	3.0	0	0.0
	8	86	3.3	75	2.8	0	0.0
	9	63	2.4	79	3.0	0	0.0
	10	69	2.6	75	2.8	0	0.0
	11	91	3.5	67	2.5	0	0.0
	12	84	3.2	74	2.8	0	0.0
	13	61	2.3	61	2.3	0	0.0
	14	60	2.3	77	2.9	0	0.0
	15	74	2.8	54	2.0	0	0.0
	16	50	1.9	50	1.9	0	0.0
	17	68	2.6	60	2.3	0	0.0
	18	65	2.5	51	1.9	0	0.0
	19	57	2.2	49	1.9	0	0.0
	20	42	1.6	46	1.7	0	0.0
	21	38	1.4	45	1.7	0	0.0
	22	37	1.4	65	2.5	0	0.0
	23	45	1.7	49	1.8	0	0.0
	24	39	1.5	47	1.8	0	0.0
	25	54	2.1	64	2.4	0	0.0
	26	39	1.5	43	1.6	0	0.0
	27	32	1.2	32	1.2	0	0.0
	28	52	2.0	41	1.5	0	0.0
	29	32	1.2	47	1.8	0	0.0
	30	48	1.8	32	1.2	0	0.0
	31	20	0.8	16	0.6	0	0.0
	32	40	1.5	27	1.0	0	0.0
	33	30	1.2	29	1.1	0	0.0
	34	20	0.8	18	0.7	0	0.0
	35	46	1.8	31	1.2	1	52.8
	36	23	0.9	29	1.1	0	0.0
	37	26	1.0	15	0.6	0	0.0
	38	22	0.9	22	0.8	0	0.0
	39	24	0.9	23	0.9	0	0.0
	40	28	1.1	11	0.4	0	0.0

		Sex				Missing	
		Male		Female			
		Number	Per cent	Number	Per cent	Number	Per cent
Age	41	8	0.3	24	0.9	0	0.0
	42	21	0.8	27	1.0	0	0.0
	43	17	0.6	25	0.9	0	0.0
	44	8	0.3	18	0.7	0	0.0
	45	23	0.9	18	0.7	0	0.0
	46	11	0.4	10	0.4	0	0.0
	47	15	0.6	16	0.6	0	0.0
	48	12	0.5	23	0.9	0	0.0
	49	14	0.5	19	0.7	0	0.0
	50	22	0.8	10	0.4	0	0.0
	51	14	0.5	14	0.5	0	0.0
	52	14	0.5	23	0.9	0	0.0
	53	18	0.7	17	0.6	0	0.0
	54	7	0.3	24	0.9	0	0.0
	55	15	0.6	16	0.6	0	0.0
	56	11	0.4	10	0.4	0	0.0
	57	7	0.3	19	0.7	0	0.0
	58	7	0.3	14	0.5	0	0.0
	59	19	0.7	15	0.6	0	0.0
	60	12	0.5	13	0.5	0	0.0
	61	6	0.2	11	0.4	0	0.0
	62	6	0.2	7	0.3	0	0.0
	63	5	0.2	10	0.4	0	0.0
	64	8	0.3	8	0.3	0	0.0
	65	14	0.5	7	0.3	0	0.0
	66	3	0.1	1	0.0	0	0.0
	67	4	0.1	2	0.1	0	0.0
	68	6	0.2	7	0.3	0	0.0
	69	0	0.0	2	0.1	0	0.0
	70	11	0.4	6	0.2	0	0.0
	71	2	0.1	2	0.1	0	0.0
72	7	0.3	9	0.4	0	0.0	
73	0	0.0	2	0.1	0	0.0	
74	3	0.1	4	0.2	0	0.0	
75	3	0.1	6	0.2	0	0.0	
76	2	0.1	6	0.2	0	0.0	
77	4	0.2	5	0.2	0	0.0	
78	4	0.1	2	0.1	0	0.0	
79	0	0.0	2	0.1	0	0.0	
80+	15	0.6	24	0.9	0	0.0	
DK/missing	3	0.1	0	0.0	1	47.2	
Total		2606	100.0	2652	100.0	2	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, Kisumu County, 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	354	.	.	.
	15-19	264	199	18.9	75.2
	20-24	252	225	21.3	89.1
	25-29	227	217	20.6	95.7
	30-34	121	117	11.1	96.7
	35-39	119	112	10.6	93.5
	40-44	105	102	9.7	97.3
	45-49	87	82	7.8	94.7
	50-54	88	.	.	.
Total (15-49)		1175	1053	100.0	89.6

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, Kisumu County, 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	171	171	19.9	100.0
	1	150	150	17.5	100.0
	2	180	178	20.7	98.8
	3	176	174	20.2	98.5
	4	188	187	21.8	99.3
	5	166	.	.	.
	6	158	.	.	.
	7	143	.	.	.
Total (0-4)		866	860	100.0	99.3

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, Kisumu County, Kenya, 2011						
		Household population of women age 15-49 years		Interviewed women age 15-49 years		Per cent of eligible women interviewed (Completion rates)
		Number	Per cent	Number	Per cent	
County	KISUMU	1175	100.0	1053	100.0	89.6
Area	Rural	752	64.0	669	63.5	88.9
	Urban	422	36.0	384	36.5	91.0
Household size	1-3	863	73.4	213	20.2	91.8
	4-6	242	20.6	562	53.3	91.9
	7+	70	6.0	279	26.5	83.9
Education of household head	None	256	21.8	216	20.5	84.3
	Primary	553	47.1	504	47.9	91.2
	Secondary +	356	30.3	326	30.9	91.6
	Missing/DK	10	0.9	7	0.7	69.3
Wealth index quintiles	Poorest	98	8.3	92	8.7	94.3
	Second	141	12.0	126	12.0	89.4
	Middle	184	15.6	167	15.8	90.8
	Fourth	289	24.6	253	24.0	87.4
	Richest	463	39.4	415	39.4	89.6
Total		1175	100.0	1053	100.0	89.6

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, Kisumu County, 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	KISUMU	866	100.0	860	100.0	99.3
Area	Rural	596	68.8	594	69.1	99.7
	Urban	270	31.2	265	30.9	98.3
Household size	1-3	124	14.3	95	11.0	100.0
	4-6	533	61.5	532	61.9	99.3
	7+	210	24.2	233	27.1	99.0
Education of household head	None	132	15.2	132	15.3	100.0
	Primary	461	53.2	459	53.4	99.6
	Secondary +	265	30.6	262	30.4	98.7
	Missing/DK	8	1.0	7	0.9	88.0
Wealth index quintiles	Poorest	110	12.7	110	12.8	100.0
	Second	145	16.7	145	16.9	100.0
	Middle	150	17.3	149	17.4	99.6
	Fourth	195	22.5	192	22.3	98.4
	Richest	266	30.7	264	30.7	99.1
Total		866	100.0	860	100.0	99.3

Table DQ.6: Completeness of reporting

Percentage of observations that are missing information for selected questions and indicators, Kisumu County, Kenya, 2011		
	Per cent with missing/incomplete information*	Number of cases
Age	0.1	4666
Salt testing	0.0	1261
Starting time of interview	0.7	1261
Ending time of interview	0.1	1261
Woman's date of birth: Only month	19.0	1057
Woman's date of birth: Both month and year	0.7	1057
Date of first birth: Only month	3.0	858
Date of first birth: Both month and year	0.1	858
Completed years since first birth	0.0	858
Date of last birth: Only month	2.6	858
Date of last birth: Both month and year	0.1	858
Date of first marriage/union: Only month	5.1	822
Date of first marriage/union: Both month and year	2.4	822
Age at first marriage/union	0.8	822
Age at first intercourse	0.0	326
Time since last intercourse	0.0	326
Starting time of interview	0.0	1057
Ending time of interview	0.0	1057
Date of birth: Only month	2.1	861
Date of birth: Both month and year	0.0	861
Anthropometric measurements: Weight	2.3	861
Anthropometric measurements: Height	2.3	861
Anthropometric measurements: Both weight and height	2.3	861
Starting time of interview	0.6	861
Ending time of interview	0.2	861

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

Distribution of children under 5 by completeness of information for anthropometric indicators, KISUMU County, 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	98.7	0	0	0	0	100	0	76
	6-11 months	98.6	0	0	0	0	100	0	72
	12-23 months	97	0	0.8	0	0	100	0.8	132
	24-35 months	96.9	0	1.8	0	0	100	1.8	163
	36-47 months	93	0	3.8	0	0	100	3.8	157
	48-59 months	93.3	0	2.4	0	0	100	2.4	165
Total		95.7	0	1.8	0	0	100	1.8	765

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

Distribution of children under 5 by completeness of information for anthropometric indicators, Kisumu County, Kenya, 2011									
		Valid height and date of birth	Reason for exclusion from analysis				Total	Per cent of children excluded from analysis	Number of children under 5
			Height not measured	Incomplete date of birth	Height not measured, incomplete date of birth	Flagged cases (outliers)			
Height by age	<6 months	98.7	0.0	0.0	0.0	0.0	100.0	0.0	76
	6-11 months	98.6	0.0	0.0	0.0	0.0	100.0	0.0	72
	12-23 months	97.0	0.0	0.8	0.0	0.0	100.0	0.8	132
	24-35 months	96.9	0.0	1.8	0.0	0.0	100.0	1.8	163
	36-47 months	93.0	0.0	3.8	0.0	0.0	100.0	3.8	157
	48-59 months	93.3	0.0	2.4	0.0	0.0	100.0	2.4	165
Total		95.7	0.0	1.8	0.0	0.0	100.0	1.8	765

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

		Reason for exclusion from analysis										Total	Per cent of children excluded from analysis	Number of children under 5	
		Valid weight and height	Weight not measured	Height not measured	Incomplete date of birth	Weight not measured, incomplete date of birth	Height not measured, incomplete date of birth	Weight and height not measured, incomplete date of birth	Flagged cases (outliers)						
Weight by height	<6 months	98.7	0	0	0	0	0	0	0	0	0	0	100	0	76
	6-11 months	98.6	0	0	0	0	0	0	0	0	0	0	100	0	72
	12-23 months	97	0	0	0.8	0	0	0	0	0	0	0	100	0.8	132
	24-35 months	96.9	0	0	1.8	0	0	0	0	0	0	0	100	1.8	163
	36-47 months	93	0	0	3.8	0	0	0	0	0	0	0	100	3.8	157
	48-59 months	93.3	0	0	2.4	0	0	0	0	0	0	0	100	2.4	165
Total		95.7	0	0	1.8	0	0	0	0	0	0	0	100	1.8	765

Table DQ.8: Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for decimals, Kisumu County, Kenya, 2011					
		Weight		Height	
		Number	Per cent	Number	Per cent
Digits	0	87	11.7	116	15.5
	1	89	11.9	61	8.2
	2	68	9.1	68	9.1
	3	68	9.1	82	11.0
	4	78	10.5	70	9.4
	5	67	9.0	120	16.1
	6	62	8.3	79	10.6
	7	71	9.5	72	9.7
	8	75	10.1	33	4.4
	9	81	10.9	45	6.0
	0 or 5	154	20.6	236	31.6
Total		746	100.0	746	100.0

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

Percentage of bednets in all households interviewed observed by the interviewer, and percentage of places for handwashing observed by the interviewer in all interviewed households, Kisumu County, Kenya, 2011a								
		Percentage of bednets observed by interviewer	Total number of bednets	Observation of places for handwashing: Observed	Place for handwashing not in dwelling	No permission to see	Total	Number of households interviewed
County	KISUMU	73.8	2447	10.2	88.7	1.1	100.0	1119
Area	Rural	76.4	1727	6.9	92.8	0.3	100.0	754
	Urban	68.4	720	17.0	80.3	2.7	100.0	365
Wealth index quintiles	Poorest	83.3	215	5.4	94.6	0.0	100.0	111
	Second	78.3	314	5.2	94.8	0.0	100.0	154
	Middle	78.4	436	5.0	94.5	0.5	100.0	200
	Fourth	76.4	612	5.1	94.9	0.0	100.0	274
	Richest	65.1	870	20.0	77.1	2.9	100.0	380
Total		73.8	2447	10.2	88.7	1.1	100.0	1119

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

Per cent distribution of women with a live birth in the last 2 years by presence of a health card, and the percentage of health cards seen by the interviewers, Kisumu County, Kenya, 2011a								
		Woman does not have health card	Woman has health card		Missing/DK	Total	Per cent of health cards seen by the interviewer (1)/(1+2)*100	Number of women with a live birth in the last two years
			Seen by the interviewer [1]	Not seen by the interviewer [2]				
Area	Rural	12.0	64.7	21.7	1.6	100.0	74.8	184
	Urban	11.8	68.8	19.4	0.0	100.0	78.0	93
Wealth index quintiles	Poorest	12.1	60.6	24.2	3.0	100.0	71.4	33
	Second	14.6	63.4	22.0	0.0	100.0	74.3	41
	Middle	12.2	65.3	22.4	0.0	100.0	74.4	49
	Fourth	13.8	64.6	20.0	1.5	100.0	76.4	65
	Richest	9.0	70.8	19.1	1.1	100.0	78.8	89
Total		11.9	66.1	20.9	1.1	100.0	75.9	277

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

Per cent distribution of children under 5 by presence of birth certificates, and percentage of birth calendar seen, Kisumu County, Kenya, 2011a								
		Child does not have birth certificate	Child has birth certificate		Missing/DK	Total	Per cent of birth certificates seen by the interviewer [1]/[1+2]*100	Number of children under age 5
			Seen by the interviewer [1]	Not seen by the interviewer [2]				
Area	Rural	85.7	3.0	10.4	0.9	100.0	22.2	540
	Urban	73.3	9.8	16.0	0.9	100.0	37.9	225
Child's age	0	87.1	5.4	7.5	0.0	100.0	42.1	147
	1	84.2	3.8	12.0	0.0	100.0	23.8	133
	2	81.3	4.4	12.5	1.9	100.0	25.9	160
	3	79.2	5.7	15.1	0.0	100.0	27.3	159
	4	79.5	5.4	12.7	2.4	100.0	30.0	166
Total		82.1	5.0	12.0	0.9	100.0	29.2	765

Table DQ.12: Observation of vaccination cards

Per cent distribution of children under 5 by presence of a vaccination card, and the percentage of vaccination cards seen by the interviewers, Kisumu County, Kenya, 2011a								
		Child has vaccination card			Missing/ DK	Total	Per cent of vaccination cards seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
		Has, Seen by the interviewer (1)	Has, not seen by the interviewer (2)	Child has no vaccination card				
Area	Rural	57.8	34.3	8.0	0.0	100.0	62.8	540
	Urban	64.4	28.9	6.7	0.0	100.0	69.0	225
Child's age	0	83.7	14.3	2.0	0.0	100.0	85.4	147
	1	72.9	22.6	4.5	0.0	100.0	76.4	133
	2	55.0	36.3	8.8	0.0	100.0	60.3	160
	3	43.4	45.9	10.7	0.0	100.0	48.6	159
	4	48.2	41.0	10.8	0.0	100.0	54.1	166
Total		59.7	32.7	7.6	0.0	100.0	64.6	765

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, Kisumu County, Kenya, 2011a							
		Mother in the household	Mother not in the household			Total	Number of children under 5
		Mother interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed		
Age	0	98.9	0.0	1.1	100.0	171	992
	1	97.2	0.6	2.3	100.0	150	863
	2	92.7	0.4	6.9	100.0	180	1049
	3	87.9	0.4	11.7	100.0	176	1099
	4	88.3	0.0	11.7	100.0	188	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, Kisumu County, Kenya, 2011a			
		Per cent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
County	KISUMU	96.3	544
Area	Rural	95.3	406
	Urban	99.3	138
Number of households by number of children 2-14	2	98.2	225
	3	94.5	181
	4	95.7	138
Total		96.3	544

Table DQ.15: School attendance by single age

Distribution of household population age 5-24 by educational level and educational level and grade attended in the current (or most recent) school year, Kisumu County, Kenya, 2011a																		
Age at beginning of school year	Not attending school	Preschool/ kindergarten	Primary								Post primary			DK	Total	Number of household members		
			1	2	3	4	5	6	7	8	2	3	Secondary				Higher	Non-standard curriculum
5	13.4	81.7	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	100.0	166
6	10.0	63.4	20.2	4.7	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	100.0	158
7	2.0	39.8	34.7	19.6	0.6	1.6	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	100.0	143
8	1.9	14.4	23.4	33.5	19.5	3.5	2.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	161
9	0.0	3.2	9.8	30.9	29.2	20.4	4.7	1.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	100.0	142
10	0.8	.8	4.7	18.2	26.0	29.1	10.2	4.2	3.6	0.0	0.0	0.0	0.9	0.0	0.0	1.5	100.0	144
11	0.0	1.9	1.3	8.3	20.7	27.2	23.3	15.1	1.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	158
12	3.3	0.7	1.4	1.1	13.0	24.4	18.9	23.4	10.7	1.8	0.0	0.8	0.0	0.0	0.0	0.0	100.0	158
13	1.8	0.0	0.0	0.6	1.0	9.5	22.4	35.1	19.3	8.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	122
14	5.1	0.0	0.8	0.8	3.3	2.3	12.1	21.0	21.2	27.3	0.0	0.0	0.0	0.0	0.8	0.0	100.0	138
15	9.9	0.0	2.2	0.0	1.7	4.7	4.4	12.4	20.1	19.4	0.0	0.0	0.0	0.0	0.0	0.8	100.0	128
16	16.3	0.0	0.0	1.1	0.0	0.0	2.2	4.2	19.9	16.4	0.0	0.7	0.0	0.0	0.0	0.0	100.0	100
17	23.8	0.0	2.3	0.0	1.8	0.0	3.3	4.4	12.7	5.8	0.0	0.0	0.0	0.0	0.0	0.8	100.0	128
18	38.1	0.0	0.0	0.8	1.0	1.1	2.0	2.9	1.5	4.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	116
19	51.7	1.8	0.0	1.0	0.0	0.0	0.0	1.0	5.6	7.3	0.0	1.1	0.0	1.4	0.0	0.0	100.0	106
20	75.1	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.3	100.0	88
21	71.3	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	1.4	100.0	83
22	84.2	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	100.0	102
23	84.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	100.0	94
24	91.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	1.3	100.0	86

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, Kisumu County, Kenya, 2011											
		Children Ever Born			Children Living			Children Deceased			Number of women
		Number of sons ever born	Number of daughters ever born	Sex ratio	Number of sons living	Number of daughters living	Sex ratio	Number of deceased sons	Number of deceased daughters	Sex ratio	
Age	15-19	46	29	1.59	43	27	1.59	3	2	1.50	175
	20-24	157	175	0.90	145	160	0.91	12	15	0.80	197
	25-29	257	272	0.94	217	247	0.88	40	25	1.60	193
	30-34	180	188	0.96	154	169	0.91	26	19	1.37	104
	35-39	265	246	1.08	217	207	1.05	48	39	1.23	99
	40-44	267	251	1.06	219	208	1.05	48	43	1.12	88
	45-49	219	192	1.14	169	151	1.12	50	41	1.22	70
Total		1391	1353	1.10	1164	1169	1.07	227	184	1.26	926

Table NU.A1. Feeding patterns by age

Per cent distribution of children age 0-23 months by feeding pattern, Kisumu County, 2011									
		Infant feeding patterns						Total	Number of children
		Exclusively breastfed	Breastfed and plain water only	Breastfed and non-milk liquids	Breastfed and other milk / formula	Breastfed and complementary foods	Weaned (not breastfed)		
County	KISUMU	11.3	6.9	18.7	11.5	33.3	18.3	100.0	320
Age	0-1	29.8	70.2	0.0	0.0	0.0	0.0	100.0	9
	2-3	64.0	19.1	0.0	16.8	0.0	0.0	100.0	20
	4-5	62.1	11.4	0.0	13.0	0.0	13.5	100.0	9
	6-7	38.2	5.1	16.8	16.9	12.8	10.1	100.0	18
	8-9	26.3	0.0	34.0	24.1	15.6	0.0	100.0	11
	10-11	9.1	19.6	57.3	7.2	6.8	0.0	100.0	17
	12-13	15.0	13.2	16.0	46.2	9.7	0.0	100.0	23
	14-15	0.0	22.3	37.6	9.9	23.6	6.7	100.0	15
	16-17	0.0	0.0	62.5	0.0	37.5	0.0	100.0	12
	18-19	0.0	0.0	24.7	12.2	63.0	0.0	100.0	14
	20-21	0.0	0.0	4.8	7.9	64.5	22.8	100.0	14
	22-23	0.0	0.0	19.6	12.7	67.7	0.0	100.0	12
	24-25	6.5	0.0	0.0	20.0	54.6	18.8	100.0	10
	26-27	0.0	0.0	0.0	13.1	48.5	38.4	100.0	10
	28-29	0.0	0.0	13.8	9.2	70.3	6.7	100.0	14
30-31	0.0	0.0	16.6	0.0	72.3	11.1	100.0	16	
32-33	0.0	0.0	23.1	5.6	43.1	28.3	100.0	15	
34-35	0.0	0.0	24.8	16.0	0.0	59.2	100.0	10	

Appendix E. MICS4 Indicators: Numerators and Denominators

MICS4 INDICATOR		Module ¹⁰	Numerator	Denominator	MDG ¹¹
1. MORTALITY					
1.1	Under-five mortality rate	CM	Probability of dying by exact age 5 years	MDG 4.1	MDG 4.1
1.2	Infant mortality rate	CM	Probability of dying by exact age 1 year	MDG 4.2	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 ¹²	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	

¹⁰ Some indicators are constructed by using questions in several modules. In such cases, only the module(s) which contains most of the necessary information is indicated.

¹¹ MDG indicators as of February 2010

¹² 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 ¹⁰	Numerator	Denominator	MDG ¹¹
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 ¹³ or more, according to breastfeeding status, during the previous day	Total number of children age 6-23 months	
2.15	Milk feeding frequency for non-breastfed children	BF	Number of non-breastfed children age 6-23 months who received at least 2 milk feedings during the previous day	Total number of non-breastfed children age 6-23 months	
2.16	Iodized salt consumption	SI	Number of households with salt testing 15 parts per million or more of iodide/iodate	Total number of households in which salt was tested or with no salt	
2.17	Vitamin A supplementation (children under age 5)	IM	Number of children age 6-59 months who received at least one high-dose vitamin A supplement in the 6 months preceding the survey	Total number of children age 6-59 months	
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 ¹⁴	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	

13 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

14 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

MICS4 INDICATOR		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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 ¹⁵ prior to giving birth	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
3.8	Oral rehydration therapy with continued feeding	CA	Number of children under age 5 with diarrhoea in the previous 2 weeks who received ORT (ORS packet or recommended homemade fluid or increased fluids) and continued feeding during the episode of diarrhoea	Total number of children under age 5 with diarrhoea in the previous 2 weeks	
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) ¹⁶	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	

¹⁵ See MICS4 manual for a detailed description

¹⁶ 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 ¹⁰	Numerator	Denominator	MDG ¹¹
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	
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
5.4	Unmet need ¹⁷	UN	Number of women age 15-49 years who are currently married or in union who are fecund and want to space their births or limit the number of children they have and who are not currently using contraception	Total number of women age 15-49 years who are currently married or in union	MDG 5.6
5.5a 5.5b	Antenatal care coverage	MN	Number of women age 15-49 years who were attended during pregnancy in the 2 years preceding the survey (a) at least once by skilled personnel (b) at least four times by any provider	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.5

17 See MICS4 manual for a detailed description

MICS4 INDICATOR		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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	
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	

MICS4 INDICATOR		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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
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	

MICS4 INDICATOR		Module ¹⁰	Numerator	Denominator	MDG ¹¹
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	
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 ¹⁸ , 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 ¹⁹ 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 ²⁰ 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	

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

19 Transmission during pregnancy, during delivery, and by breastfeeding

20 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 ¹⁰	Numerator	Denominator	MDG ¹¹
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	
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-cohabitating sex partner in the 12 months preceding the survey	Total number of women age 15-24 years who had a non-marital, non-cohabitating 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 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: _____		
<i>After all questionnaires for the household have been completed, fill in the following information:</i>		
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: <i>Use this space to record notes about the interview with this household, such as call-back times, incomplete individual interview forms, number of attempts to re-visit, etc.</i>		
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. 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)
 Record the time
 Hour ---
 Minutes ---
 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
 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

HL1. Line no	HL2. Name	HL3. WHAT IS THE RELATIONSHIP OF (name) TO THE HEAD OF THE HOUSEHOLD?	HL4. IS (name) MALE OR FEMALE?		HL5. HOW OLD IS (name)? Probe: HOW OLD WAS (name) ON HIS/HER LAST BIRTHDAY? Record age in completed years	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					
			M	F		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) MOTHER ALIVE? 1 Yes 2 No 8 DK →HL11	HL10. If alive: DOES (name) 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 8 DK → Next Line	HL12. If alive: DOES (name) 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	Y N DK	Y N DK	Y N DK	Y N DK	Y N DK
01		01	1	2		01			128	128	128	128	128	128	128
02			1	2		02			128	128	128	128	128	128	128
03			1	2		03			128	128	128	128	128	128	128
04			1	2		04			128	128	128	128	128	128	128
05			1	2		05			128	128	128	128	128	128	128
06			1	2		06			128	128	128	128	128	128	128
07			1	2		07			128	128	128	128	128	128	128
08			1	2		08			128	128	128	128	128	128	128
09			1	2		09			128	128	128	128	128	128	128
10			1	2		10			128	128	128	128	128	128	128

HL1. Line no	HL2. Name	HL3. WHAT IS THE RELATIONSHIP OF (name) TO THE HEAD OF THE HOUSEHOLD? 1 Male 2 Fem	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	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													
					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	HL9. IS (name's) NATURAL MOTHER ALIVE? 1 Yes 2 No 8 DK → HL11	HL10. If alive: DOES (name) NATURAL MOTHER LIVE IN THIS HOUSEHOLD? Record line no. of mother or '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 8 DK → Next Line	HL12. If alive: DOES (name) NATURAL FATHER LIVE IN THIS HOUSEHOLD? Record line no. of father or '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	Mother	Mother	Y	N	D	K	Mother	Y	N	D	K	Father	Y	N	D	K	
11			1	2	11			128				128					128					128
12			1	2	12			128				128					128					128
13			1	2	13			128				128					128					128
14			1	2	14			128				128					128					128
15			1	2	15			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

04 = Son or Daughter In-Law

07 = Parent-In-Law

10 = Uncle/Aunt

14 = Adopted/Foster/Stepchild

02 = Wife or Husband

05 = Grandchild

08 = Brother or Sister

11 = Niece/Nephew

15 = Not Related

03 = Son or Daughter

06 = Parent

09 = Brother or Sister-In-Law

12 = Other Relative

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 SCHOOL YEAR, DID (name) ATTEND SCHOOL, 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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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	1	2	8	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8	1	2	8	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 —►WS5
	Piped into compound, yard or plot.....	12 —►WS5
	Piped to neighbor	}
	Piped to water kiosk	
	Public tap/standpipe.....	
	Tubewell/Borehole.....	
	Dug well	
	Protected well.....	}
	Unprotected well.....	
	Water from spring	}
	Protected spring	
	Unprotected spring.....	—►WS3
	Rainwater collection	
Tanker-truck.....		
Cart with small tank/drum		
Surface water (river, stream, dam, lake, pond, canal, irrigation channel).....		
Bottled water.....		
Other (<i>specify</i>)	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 —►WS5
	Piped into yard or plot	12 —►WS5
	Piped to neighbor	
	Piped to water kiosk	
	Public tap/standpipe.....	
	Tubewell/Borehole.....	
	Dug well	
	Protected well.....	
	Unprotected well.....	
	Water from spring	
	Protected spring	
	Unprotected spring.....	
	Rainwater collection	
Tanker-truck.....		
Cart with small tank/drum		
Surface water (river, stream, dam, lake, pond, canal, irrigation channel).....		
Other (<i>specify</i>)		
WS3. HOW LONG DOES IT TAKE TO GO THERE, GET WATER, AND COME BACK?	No. of minutes	___
	Water on premises	995 —►WS5
	DK	998
WS4. WHO USUALLY GOES TO THIS SOURCE TO COLLECT THE WATER FOR YOUR HOUSEHOLD? <i>Probe:</i> 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? <i>Probe:</i> ANYTHING ELSE? <i>Record all items mentioned.</i>	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? <i>If “flush” or “pour flush”, probe:</i> WHERE DOES IT FLUSH TO? <i>If necessary, ask permission to observe the facility.</i>	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 (<i>specify</i>) 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 (<i>specify</i>)..... 6	
HC2. HOW MANY ROOMS IN THIS HOUSEHOLD ARE USED FOR SLEEPING?	No. of rooms..... _ _	
HC3. MAIN MATERIAL OF THE DWELLING FLOOR: <i>Record observation.</i>	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 (<i>specify</i>) 96	
HC4. MAIN MATERIAL OF THE ROOF. <i>Record observation.</i>	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 (<i>specify</i>) 96	
HC5. MAIN MATERIAL OF THE WALLS. <i>Record observation.</i>	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 (<i>specify</i>) 96	2—►WS7 8—►WS7

<p>HC6. WHAT TYPE OF FUEL DOES YOUR HOUSEHOLD MAINLY USE FOR COOKING?</p>	<p>Electricity 01 Liquefied Petroleum Gas (LPG) 02 Natural gas 03 Biogas 04 Kerosene 05</p> <p>Coal / Lignite 06 Charcoal 07 Wood 08 Straw/shrubs/grass 09 Animal dung 10 Agricultural crop residue 11</p> <p>Other (<i>specify</i>) 96</p> <p>No food cooked in household 97</p>	<p>01 → HC9 02 → HC9 03 → HC9 04 → HC9 05 → HC9</p> <p>97 → HC9</p>																																																
<p>HC8. IS THE COOKING USUALLY DONE IN THE INDOOR LIVING SPACE, IN A SEPARATE KITCHEN/BUILDING, OR OUTDOORS?</p>	<p>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</p> <p>Other (<i>specify</i>) 6</p>																																																	
<p>HC9. DOES YOUR HOUSEHOLD HAVE:</p> <p>A. ELECTRICITY? B. RADIO? C. COLOR TELEVISION? D. B&W TELEVISION? E. MOBILE TELEPHONE? F. NON-MOBILE TELEPHONE? G. REFRIGERATOR? H. BLENDER OR MIXER? I. WATER HEATER? J. WASHING MACHINE? K. COMPUTER? L. INTERNET CONNECTION? M. VCR, VCD OR DVD? N. AIR CONDITIONER? O. SEWING MACHINE?</p>	<table border="0"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr><td>Electricity 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Radio 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Color Television 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>B&W Television 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Mobile Telephone 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Non-Mobile Telephone 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Refrigerator 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Blender or Mixer 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Water Heater 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Washing Machine 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Computer 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Internet connection 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>VCR, VCD or DVD 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Air Conditioner 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Sewing Machine 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> </tbody> </table>		Yes	No	Electricity 1	1	2	Radio 1	1	2	Color Television 1	1	2	B&W Television 1	1	2	Mobile Telephone 1	1	2	Non-Mobile Telephone 1	1	2	Refrigerator 1	1	2	Blender or Mixer 1	1	2	Water Heater 1	1	2	Washing Machine 1	1	2	Computer 1	1	2	Internet connection 1	1	2	VCR, VCD or DVD 1	1	2	Air Conditioner 1	1	2	Sewing Machine 1	1	2	
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<p>HC10. DOES ANY MEMBER OF YOUR HOUSEHOLD OWN:</p> <p>A. A WATCH? B. A BICYCLE? C. A MOTORCYCLE OR SCOOTER? D. AN ANIMAL-DRAWN CART? E. A CAR OR TRUCK? F. A BOAT WITH A MOTOR?</p>	<table border="0"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr><td>Watch 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Bicycle 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Motorcycle/Scooter 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Animal drawn-cart 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Car/Truck 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Boat with motor 1</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> </tbody> </table>		Yes	No	Watch 1	1	2	Bicycle 1	1	2	Motorcycle/Scooter 1	1	2	Animal drawn-cart 1	1	2	Car/Truck 1	1	2	Boat with motor 1	1	2																												
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<p>HC10A. DO YOU OR SOMEONE LIVING IN THIS HOUSEHOLD OWN THIS DWELLING, OR DO YOU RENT THIS DWELLING?</p>	<p>Own 1 Rent 2 Rent free/squatter/other 3</p>																																																	
<p>HC11. DOES ANY MEMBER OF THIS HOUSEHOLD OWN ANY LAND THAT CAN BE USED FOR AGRICULTURE?</p>	<p>Yes 1 No 2</p>	<p>2 → HC13</p>																																																

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

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? <i>If less than one month, record "00".</i>	Months ago — —	
IR3. WHO SPRAYED THE HOUSE?	Government worker/program 1 Private company 2 Household member 3 Other (<i>specify</i>) 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 []		

	1 ST NET	2 ND NET	3 RD 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? <i>If less than one month, record "00"</i>	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/clinic 21 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/clinic 21 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/clinic 21 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. <i>Check TN5 for type of net</i>	[] 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? <i>If less than one month, record "00"</i>	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? <i>Record the person's line number from the household listing form</i> <i>If someone not in the household list slept under the mosquito net, record "00"</i>	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.	<i>Go back to TN3 for next net. If no more nets, go to next module</i>	<i>Go back to TN3 for next net. If no more nets, go to next module</i>	<i>Go back to TN3 for next net. If no more nets, go to next module</i>

ORPHANED & VULNERABLE CHILDREN		OV																				
<p>OV1. Check HL5: any children 0-17?</p> <p><input type="checkbox"/> Yes → Continue to OV2</p> <p><input type="checkbox"/> No → Child Labour Module</p>																						
<p>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?</p>	<p>Yes..... 1</p> <p>No 2</p>	2 → OV5																				
<p>OV3. (OF THOSE WHO DIED IN THE PAST 12 MONTHS) WERE ANY OF THESE PEOPLE BETWEEN THE AGES OF 18 AND 59?</p>	<p>Yes..... 1</p> <p>No 2</p>	2 → OV5																				
<p>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?</p>	<p>Yes..... 1</p> <p>No 2</p>	1 → OV8																				
<p>OV5. Return to the Household Listing and check the following:</p> <p>OV5A. Check HL9 and HL11.</p> <p><input type="checkbox"/> At least one mother or father dead. → Go to OV8</p> <p><input type="checkbox"/> No mother or father dead</p>																						
<p>OV5B. Check HL8A.</p> <p><input type="checkbox"/> At least one adult aged 18-59 very sick 3 of last 12 months → Go to OV8</p> <p><input type="checkbox"/> No adult aged 18-59 very sick 3 of last 12 months</p>																						
<p>OV5C. Check HL10A and HL12A.</p> <p><input type="checkbox"/> At least one mother or father very sick 3 of last 12 months → Go to OV8</p> <p><input type="checkbox"/> No mother or father very sick 3 of last 12 months → Go to Child Labour Module</p>																						
<p>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.</p> <p style="text-align: right;"><i>Tick here if additional questionnaire is used</i> <input type="checkbox"/></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>1ST CHILD</th> <th>2ND CHILD</th> <th>3RD CHILD</th> <th>4TH CHILD</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Name (from HL2)</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td style="text-align: center;">Line number (from HL1)</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td style="text-align: center;">Age (from HL5)</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>				1 ST CHILD	2 ND CHILD	3 RD CHILD	4 TH CHILD	Name (from HL2)	_____	_____	_____	_____	Line number (from HL1)	_____	_____	_____	_____	Age (from HL5)	_____	_____	_____	_____
	1 ST CHILD	2 ND CHILD	3 RD CHILD	4 TH CHILD																		
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Line number (from HL1)	_____	_____	_____	_____																		
Age (from HL5)	_____	_____	_____	_____																		
<p>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.</p>																						

OV10. NOW I WOULD LIKE TO ASK YOU ABOUT THE SUPPORT YOUR HOUSEHOLD RECEIVED FOR <i>(name)</i> . IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY MEDICAL SUPPORT FOR <i>(name)</i> , 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 <i>(name)</i> , 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 <i>(name)</i> , 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 <i>(name)</i> , 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. <i>Check OV8 for age of child:</i>	[] 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 <i>(name's)</i> 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) 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 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	NO. HOURS	NO. HOURS	YES	NO	NO. HOURS	YES	NO	NO. HOURS	NO. HOURS
01		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
02		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
03		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
04		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
05		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
06		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
07		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
08		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
09		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
10		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
11		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 2		
12		PAID 1 UNPAID 2	NO. HOURS 3	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	YES 1 NO 2	NO. HOURS 1	NO. HOURS 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	__
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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 _____
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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 3	

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 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
01		--	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
03		--	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
05		--	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
07		--	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
09		--	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
11		--	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
13		--	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
15		--	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? <i>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".</i>	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? <i>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.</i>	Water available 1 Water not available..... 2	
HW3. Soap or detergent present at the specific place for hand washing? <i>Record observation. Circle all that apply.</i>	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? <i>Record observation. Circle all that apply</i>	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? <i>Once you have examined the salt, circle number that corresponds to test outcome.</i>	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	___ : ___
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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'S INFORMATION PANEL		WM
<p><i>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.</i></p>		
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: ____ / ____ / ____	
<p><i>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?</i></p> <p><i>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.</i></p>		
WM7. Result of women's interview	Completed..... 1 Not at home..... 2 Refused 3 Partly completed 4 Incapacitated..... 5 Other (specify) 6	
<p><i>Interviewer/editor/supervisor notes: Use this space to record notes about the interview with this household, such as call-back times, incomplete individual interview forms, number of attempts to re-visit, etc.</i></p>		
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. <i>Record the time.</i>	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? <i>If less than 1 grade, enter 00</i>	Grade..... __ __	
WM13. <i>Check WM11:</i> [] <i>Secondary or higher. —► Go to Next Module</i> [] <i>Preschool, primary or non-formal education. —► Continue with WM14</i>		
WM14. NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME. <i>Show sentences to respondent. If respondent cannot read whole sentence, probe:</i> CAN YOU READ PART OF THE SENTENCE TO ME? <i>Example sentences for literacy test:</i> 1. <i>The child is reading a book.</i> 2. <i>The rains came late this year.</i> 3. <i>Parents must care for their children.</i> 4. <i>Farming is hard work.</i>	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
<i>All questions refer only to LIVE births.</i>		
CM1. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH? <i>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?</i>	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 (<i>number in CM9</i>) BIRTHS DURING YOUR LIFE. IS THIS CORRECT? <input type="checkbox"/> Yes. → Go to BH1 <input type="checkbox"/> 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)?	Y	N
01		SIN 1 2 MUL 2	G 2 B 1	MONTH/YEAR ___/___/___	Y 1 N 2-→BH9		Y 1 N 2	→next line	Days .....1 Month .....2 Year .....3	1 Add		2 Next
02		1 2	2 1	___/___/___	1 2-→BH9		1 2	→BH10	Days .....1 Month .....2 Year .....3	1 A dd		2 Next
03		1 2	2 1	___/___/___	1 2-→BH9		1 2	→BH10	Days .....1 Month .....2 Year .....3	1 Add		2 Next
04		1 2	2 1	___/___/___	1 2-→BH9		1 2	→BH10	Days .....1 Month .....2 Year .....3	1 Add		2 Next
05		1 2	2 1	___/___/___	1 2-→BH9		1 2	→BH10	Days .....1 Month .....2 Year .....3	1 Add		2 Next
06		1 2	2 1	___/___/___	1 2-→BH9		1 2	→BH10	Days .....1 Month .....2 Year .....3	1 Add		2 Next
07		1 2	2 1	___/___/___	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
08		1	2	1	2	___/___/___	1	2 → BH9		1	— → BH10	Days .....1 Month .....2 Year .....3	1	2 Next
09		1	2	1	2	___/___/___	1	2 → BH9		1	— → BH10	Days .....1 Month .....2 Year .....3	1 Add	2 Next
10		1	2	1	2	___/___/___	1	2 → BH9		1	— → BH10	Days .....1 Month .....2 Year .....3	1	2 Next
11		1	2	1	2	___/___/___	1	2 → BH9		1	— → BH10	Days .....1 Month .....2 Year .....3	1 Add	2 Next
12		1	2	1	2	___/___/___	1	2 → BH9		1	— → 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
<i>This module is to be administered to all women with a live birth in the 2 years preceding date of interview.</i>		
TT1. DO YOU HAVE A CARD OR OTHER DOCUMENT WITH YOUR OWN IMMUNIZATIONS LISTED? <i>If a card is presented, use it to assist with answers to the following questions.</i>	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? <i>Probe:</i> 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? <input type="checkbox"/> At least two TT injections during last pregnancy. → Go to Next Module <input type="checkbox"/> 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)? <i>Skip to next module only if year of injection is given. Otherwise, continue with TT8.</i>	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															
<p><i>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.</i></p>																	
<p>MN1. IN THE FIRST TWO MONTHS AFTER THE BIRTH OF (name), DID YOU RECEIVE A VITAMIN A DOSE LIKE THIS?</p> <p><i>Show 200,000 IU capsule or dispenser.</i></p>	<p>Yes 1 No 2 DK 8</p>																
<p>MN2. DID YOU SEE ANYONE FOR ANTENATAL CARE FOR THIS PREGNANCY?</p> <p><i>If yes: WHOM DID YOU SEE? ANYONE ELSE?</i></p> <p><i>Probe for the type of person seen and circle all answers given.</i></p>	<p>Health professional Doctor A Community nurse B Clinical officer C Nurse/Midwife..... D</p> <p>Other person Traditional birth attendant..... E Community health worker..... F</p> <p>Relative/friend G</p> <p>Other (specify) X</p> <p>No one..... Y</p>	Y → MN7															
<p>MN2A. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?</p>	<p>No. of times _ _ DK 98</p>																
<p>MN3. AS PART OF YOUR ANTENATAL CARE, WERE ANY OF THE FOLLOWING DONE AT LEAST ONCE?</p> <p>A. WERE YOU WEIGHED? B. WAS YOUR BLOOD PRESSURE MEASURED? C. DID YOU GIVE A URINE SAMPLE? D. DID YOU GIVE A BLOOD SAMPLE?</p>	<table> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Weight</td> <td>1</td> <td>2</td> </tr> <tr> <td>Blood pressure</td> <td>1</td> <td>2</td> </tr> <tr> <td>Urine sample</td> <td>1</td> <td>2</td> </tr> <tr> <td>Blood sample</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		Yes	No	Weight	1	2	Blood pressure	1	2	Urine sample	1	2	Blood sample	1	2	
	Yes	No															
Weight	1	2															
Blood pressure	1	2															
Urine sample	1	2															
Blood sample	1	2															
<p>MN4. DURING ANY OF THE ANTENATAL VISITS FOR THE PREGNANCY, WERE YOU GIVEN ANY INFORMATION OR COUNSELED ABOUT AIDS OR THE AIDS VIRUS?</p>	<p>Yes 1 No 2 DK 8</p>																
<p>MN5. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR HIV/AIDS AS PART OF YOUR ANTENATAL CARE?</p>	<p>Yes 1 No 2 DK 8</p>	<p>2 → MN6A 8 → MN6A</p>															
<p>MN6. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?</p>	<p>Yes 1 No 2 DK 8</p>																

MN6B. WHICH MEDICINES DID YOU TAKE TO PREVENT MALARIA?	SP/Fansidar A Chloroquine B Other (<i>specify</i>) X DK Z	
MN6C. Check MN6B for medicine taken: <input type="checkbox"/> SP/Fansidar taken. —▶ Continue with MN6D <input type="checkbox"/> 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 (<i>name</i>)? <i>Probe:</i> ANYONE ELSE? <i>Probe for the type of person assisting and circle all answers given.</i>	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 (<i>specify</i>) X No one Y	
MN8. WHERE DID YOU GIVE BIRTH TO (<i>name</i>)? <i>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.</i> _____ (<i>Name of place</i>)	Your home 11 Other home 12 Public Sector Government hospital 21 Government health center 22 Government dispensary 23 Other public (<i>specify</i>) 26 Private medical sector Mission hospital/clinic 31 Private hospital/clinic 32 Nursing/maternity home 33 Other private medical (<i>specify</i>) 36 Other (<i>specify</i>) 96	98 —▶ MN8C
MN8A. HOW LONG AFTER (<i>name</i>) WAS DELIVERED DID YOU STAY THERE? <i>If less than one day, record hours.</i> <i>If less than one week, record days.</i>	Hours 1 _ _ Days 2 _ _ Weeks 3 _ _ Don't know/remember 998	
MN8B. WAS (<i>name</i>) DELIVERED BY CAESEREAN SECTION?	Yes 1 No 2	1 —▶ MN8D 2 —▶ MN8D

<p>MN8C. WHY DIDN'T YOU DELIVER (name) IN A HEALTH FACILITY?</p> <p><i>Probe:</i> ANY OTHER REASON?</p> <p><i>Record all mentioned.</i></p>	<p>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</p> <p>Other (<i>specify</i>) X</p>	
<p>MN8D. AFTER (name) WAS BORN, DID ANY HEALTH CARE PROVIDER OR A TRADITIONAL BIRTH ATTENDANT CHECK ON YOUR HEALTH?</p>	<p>Yes..... 1 No..... 2</p>	2 → MN8I
<p>MN8E. HOW LONG AFTER THE BIRTH OF (name) DID THIS FIRST CHECK TAKE PLACE?</p> <p><i>If less than one day, record hours.</i></p> <p><i>If less than one week, record days.</i></p>	<p>Hours..... 1 __ __ Days 2 __ __ Weeks..... 3 __ __ Don't know/remember..... 998</p>	
<p>MN8F. WHO CHECKED ON YOUR HEALTH AT THAT TIME?</p> <p><i>Probe for most qualified person</i></p>	<p>Health professional Doctor 11 Community nurse 12 Clinical officer 13 Nurse/Midwife..... 14</p> <p>Other person Traditional birth attendant..... 21 Community health worker..... 22</p> <p>Other (<i>specify</i>) 96</p>	
<p>MN8G. WHERE DID THIS FIRST CHECK TAKE PLACE?</p> <p><i>Probe to identify the type of source and circle the appropriate code.</i></p> <p><i>If unable to determine if a hospital, health centre, or clinic is public or private medical, write the name of the place</i></p> <p>_____</p> <p>(Name of place)</p>	<p>Your home 11 Other home 12</p> <p>Public Sector Government hospital 21 Government health center..... 22 Government dispensary..... 23 Other public (<i>specify</i>)..... 26</p> <p>Private medical sector Mission hospital/clinic 31 Private hospital/clinic..... 32 Nursing/maternity home 33 Pharmacy..... 34 Other private medical (<i>specify</i>) 36</p> <p>Other (<i>specify</i>) 96</p> <p>DK 98</p>	
<p>MN8H. WAS THE HEALTH OF (name) ALSO CHECKED AT THIS TIME?</p>	<p>Yes..... 1 No..... 2</p>	2 → MN8I

MN8H2. WAS THIS ALSO THE FIRST TIME (<i>name's</i>) HEALTH WAS CHECKED?	Yes..... 1 No..... 2	1—►MN9 2—►MN8J
MN8I. AFTER (<i>name</i>) 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 (<i>name</i>) DID THIS FIRST CHECK TAKE PLACE? <i>If less than one day, record hours.</i> <i>If less than one week, record days.</i>	Hours..... 1 __ __ Days..... 2 __ __ Weeks..... 3 __ __ Don't know/remember..... 998	
MN8K. WHO CHECKED ON (<i>name's</i>) HEALTH AT THAT TIME? <i>Probe for most qualified person</i>	Health professional Doctor..... 11 Community nurse..... 12 Clinical officer..... 13 Nurse/Midwife..... 14 Other person Traditional birth attendant..... 21 Community health worker..... 22 Other (<i>specify</i>)..... 96	
MN8L. WHERE DID THIS FIRST CHECK TAKE PLACE? <i>Probe to identify the type of source and circle the appropriate code.</i> <i>If unable to determine if a hospital, health centre, or clinic is public or private medical, write the name of the place</i> _____ (Name of place)	Your home..... 11 Other home..... 12 Public Sector Government hospital..... 21 Government health center..... 22 Government dispensary..... 23 Other public (<i>specify</i>)..... 26 Private medical sector Mission hospital/clinic..... 31 Private hospital/clinic..... 32 Nursing/maternity home..... 33 Pharmacy..... 34 Other private medical (<i>specify</i>)..... 36 Other (<i>specify</i>)..... 96 DK..... 98	
MN8M. WERE YOU PRESENT WHEN THIS FIRST CHECK TOOK PLACE?	Yes..... 1 No..... 2	
MN9. WHEN YOUR LAST CHILD (<i>name</i>) 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	

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

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? <i>Do not prompt. If more than one method is mentioned, circle each one.</i>	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 (<i>specify</i>) X	
CP3B. Check CP3: [] Currently using “Female sterilization”? → Go to Next Module [] Not currently using “Female sterilization” → Continue with CP4A		

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

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 (<i>specify</i>) 16 Health professional Doctor 21 Nurse/midwife 22 Other health professional (<i>specify</i>) 26 DK 98	
FG8. <i>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?</i> [] 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? <i>Record the daughter's name.</i>	Name of daughter:	

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

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
<i>Check for the presence of others. Before continuing, ensure privacy.</i>		
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? <i>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.</i>	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? <i>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.</i>	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? <i>If response is DK, probe: ABOUT HOW OLD IS THIS PERSON?</i>	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	

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

HIV/AIDS		HA
HA1. NOW I WOULD LIKE TO TALK WITH YOU ABOUT SOMETHING ELSE.	Yes 1 No 2	2—▶NEXT MODULE
HAVE YOU EVER HEARD OF THE VIRUS HIV OR AN ILLNESS CALLED AIDS?		
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?	Yes No DK During pregnancy 1 2 8	
B. DURING DELIVERY?	During delivery 1 2 8	
C. BY BREASTFEEDING?	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. <i>Check MN5: Tested for HIV during antenatal care?</i> [] 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 ___ : ___
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REMARKS AND OBSERVATIONS

SUPERVISOR

FIELD EDITOR

FIELD MONITORS/CO-ORDINATORS

OFFICE EDITOR

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

UNDER-FIVE CHILD INFORMATION PANEL		UF
<p><i>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.</i></p>		
UF-A. Province Name & Code: _____	UF-B. County Name & Code: _____	
UF-C. District Name & Code: _____		
UF1. Cluster number: ___ ___ ___	UF2. Household number: ___ ___ ___	
UF3. Child's Name: _____	UF4. Child's Line Number: _____	
UF5. Mother's/Caretaker's Name: _____	UF6. Mother's/Caretaker's Line Number: _____	
UF7. Interviewer name and number: _____	UF8. Day/Month/Year of interview: ___ / ___ / _____	
<p><i>Repeat greeting if not already read to this respondent:</i></p> <p>WE ARE FROM KENYA NATIONAL BUREAU OF STATISTICS (KNBS). WE ARE WORKING ON A PROJECT CONCERNED WITH FAMILY HEALTH AND EDUCATION. I WOULD LIKE TO TALK TO YOU ABOUT THIS. THE INTERVIEW USUALLY TAKES AROUND 20-25 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE IDENTIFIED. ALSO, YOU ARE NOT OBLIGED TO ANSWER ANY QUESTION YOU DON'T WANT TO, AND YOU MAY WITHDRAW FROM THE INTERVIEW AT ANY TIME. MAY I START NOW?</p> <p><i>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.</i></p>		
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	
<p><i>Interviewer/editor/supervisor notes: Use this space to record notes about the interview with this household, such as call-back times, incomplete individual interview forms, number of attempts to re-visit, etc.</i></p>		
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.....__ : __	

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

BIRTH REGISTRATION AND EARLY LEARNING		BR
BR1. DOES (<i>name</i>) HAVE A BIRTH CERTIFICATE? MAY I SEE IT?	Yes, seen 1 Yes, not seen 2 No 3 DK 8	1 → BR5
BR2. HAS (<i>name's</i>) BIRTH BEEN NOTIFIED OR REGISTERED WITH THE CIVIL AUTHORITIES?	Yes 1 No 2 DK 8	1 → BR5 8 → BR4
BR3. WHY IS (<i>name's</i>) 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 (<i>specify</i>) 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 (<i>name</i>) 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 (<i>day of the week</i>), EXCLUDING TODAY, ABOUT HOW MANY HOURS DID (<i>name</i>) ATTEND?	No. of hours..... _ _	

<p>BR8. IN THE PAST 3 DAYS, DID YOU OR ANY HOUSEHOLD MEMBER OVER 15 YEARS OF AGE ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES WITH <i>(name)</i>:</p> <p><i>For each item:</i> <i>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)?</i> <i>Circle all that apply.</i></p> <p>BR8A. READ BOOKS, LOOK AT PICTURE BOOKS, OR TELL STORIES TO/WITH <i>(name)</i>? BR8D. TAKE <i>(name)</i> OUTSIDE THE HOME, COMPOUND, YARD OR ENCLOSURE? BR8E. PLAY WITH <i>(name)</i>? BR8F. NAME, COUNT, OR DRAW THINGS TO/WITH <i>(name)</i>?</p>	<table border="1"> <thead> <tr> <th></th> <th>Mother</th> <th>Father</th> <th>Other</th> <th>No one</th> </tr> </thead> <tbody> <tr> <td>Books/Stories</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Take outside</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Play with</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Name/count</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> </tbody> </table>		Mother	Father	Other	No one	Books/Stories	A	B	X	Y	Take outside	A	B	X	Y	Play with	A	B	X	Y	Name/count	A	B	X	Y	
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CHILD DEVELOPMENT		CE																
<p>CE2. HOW MANY CHILDREN'S BOOKS OR PICTURE BOOKS DO YOU HAVE FOR <i>(name)</i>?</p> <p>If 'none' enter 0</p>	<p>Number of children's books0 __</p> <p>Ten or more books 10</p>	1 → BR5																
<p>CE3. I AM INTERESTED IN LEARNING ABOUT THE THINGS THAT <i>(name)</i> PLAYS WITH WHEN HE/SHE IS AT HOME.</p> <p>WHAT DOES <i>(name)</i> PLAY WITH?</p> <p>DOES HE/SHE PLAY WITH?</p> <p>HOUSEHOLD OBJECTS OR OBJECTS FOUND OUTSIDE (SUCH AS BOWLS OR POTS, STICKS, ROCKS, ANIMAL SHELLS OR LEAVES)?</p> <p>HOMEMADE TOYS (SUCH AS DOLLS, CARS, OR OTHER TOYS MADE AT HOME)?</p> <p>TOYS THAT CAME FROM A SHOP?</p> <p><i>If the respondent says "YES" to the categories above, then probe to learn specifically what the child plays with to ascertain the response</i></p>	<table border="0"> <thead> <tr> <th></th> <th>Y</th> <th>N</th> <th>DK</th> </tr> </thead> <tbody> <tr> <td>Household objects or outside objects</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Homemade toys</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Toys that came from a shop</td> <td>1</td> <td>2</td> <td>8</td> </tr> </tbody> </table>		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	
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<p>CE4. SOMETIMES ADULTS TAKING CARE OF CHILDREN HAVE TO LEAVE THE HOUSE TO GO SHOPPING, WASH CLOTHES, OR FOR OTHER REASONS AND HAVE TO LEAVE YOUNG CHILDREN.</p> <p>ON HOW MANY DAYS IN THE PAST WEEK WAS <i>(name)</i>:</p> <p>LEFT ALONE?</p> <p>LEFT IN THE CARE OF ANOTHER CHILD (THAT IS, SOMEONE LESS THAN 10 YEARS OLD)?</p> <p><i>If 'none' enter 0</i></p>	<p>Number of days left alone</p> <p>Number of days left with other child</p>																	
<p>CE5. Check UF11: Age of child 3 or 4?</p> <p><input type="checkbox"/> Age 0, 1 or 2 → Go to Next Module</p> <p><input type="checkbox"/> Age 3 or 4 → Continue with CE6</p>																		

<p>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.</p> <p>CAN (<i>name</i>) IDENTIFY/NAME AT LEAST TEN LETTERS OF THE ALPHABET?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE7. CAN (<i>name</i>) ATTACH SOUNDS TO MOST OR MORE THAN HALF OF THE LETTERS?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE8. CAN (<i>name</i>) READ AT LEAST FOUR SIMPLE, ONE-SYLLABLE, POPULAR WORDS?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE9. IS (<i>name</i>) INTERESTED IN NUMBERS, COUNTING, SORTING OR ADDING?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE10. DOES (<i>name</i>) KNOW THE NAME AND RECOGNIZE THE SYMBOL OF ALL NUMBERS FROM 1 TO 10 MOST OF THE TIME?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE11. WHEN YOU COMPARE TWO NUMBERS UP TO 10, DOES (<i>name</i>) KNOW WHICH ONE IS BIGGER MOST OF THE TIME?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE12. IS (<i>name</i>) ABLE TO USE AND MANIPULATE SMALL OBJECTS AND TOYS?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE13. IS (<i>name</i>) SOMETIMES TOO TIRED, SLEEPY OR SICK TO PLAY?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE14. IS (<i>name</i>) SOMETIMES TOO HUNGRY TO PLAY?</p>	<p>Yes 1 No 2 DK 8</p>	
<p>CE15. DOES (<i>name</i>) DO EVERYDAY ROUTINE ACTIVITIES WITHOUT BEING REMINDED? ACTIVITIES SUCH AS BRUSHING TEETH, TIDYING UP AFTER PLAY OR A MEAL, OR HELPING WITH CHORES?</p> <p><i>If yes:</i> WOULD YOU SAY OFTEN OR SOMETIMES?</p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	

<p>CE16. DOES (<i>name</i>) FOLLOW SIMPLE DIRECTIONS ON HOW TO DO SOMETHING CORRECTLY?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE17. IS (<i>name</i>) ABLE TO WORK ON A TASK, INCLUDING PLAY TASKS, BY HIMSELF/HERSELF?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE18. DOES (<i>name</i>) PLAY WITH SIBLINGS OR OTHER CHILDREN FOR A CONSIDERABLE TIME WITHOUT GETTING INTO TROUBLE?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE19. DOES (<i>name</i>) SHOW RESPECT FOR OTHER CHILDREN?</p> <p><i>Probe:</i> DOES (<i>name</i>) LISTEN TO WHAT ANOTHER CHILD HAS TO SAY AND RECOGNIZE THAT HE OR SHE MAY BE DIFFERENT OR WANT DIFFERENT THINGS?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	
<p>CE20. WHAT IS (<i>name</i>)'S ABILITY TO GET ALONG WITH OTHER CHILDREN? WOULD YOU SAY IT IS VERY GOOD, AVERAGE, OR POOR/BAD?</p>	<p>Very good 1 Average 2 Poor/Bad 3 DK 8</p>	
<p>CE21. HOW OFTEN DOES (<i>name</i>) BULLY OTHER CHILDREN OR IS MEAN TO OTHER CHILDREN?</p> <p><i>Probe:</i> DOES (<i>name</i>) OFTEN MAKE OTHER CHILDREN AFRAID OF HIM/HER, OR SAY MEAN/BAD WORDS TO OTHER CHILDREN?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3 DK 8</p>	

<p>CE22. HOW OFTEN DOES <i>(name)</i> KICK, BITE, OR HIT OTHER CHILDREN OR ADULTS?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3</p> <p>DK 8</p>	
<p>CE23. DOES <i>(name)</i> OFTEN GET VERY EASILY/QUICKLY DISTRACTED?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time 1 Sometimes 2 Rarely or never 3</p> <p>DK 8</p>	

VITAMIN A		VA
VA1. HAS (<i>name</i>) EVER RECEIVED A VITAMIN A CAPSULE (SUPPLEMENT) LIKE THIS ONE? <i>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)</i>	Yes..... 1 No 2 DK 8	2—►NEXT MODULE 8—►NEXT MODULE
VA2. HOW MANY MONTHS AGO DID (<i>name</i>) TAKE THE LAST DOSE?	Months ago _ _ DK 98	
VA3. WHERE DID (<i>name</i>) GET THIS LAST DOSE?	On routine visit to health facility 1 Sick child visit to health facility 2 National Immunization Day campaign..... 3 Other (<i>specify</i>) 6 DK 8	

BREASTFEEDING		BF																																																																															
BF1. HAS (<i>name</i>) EVER BEEN BREASTFED?	Yes1 No2 DK8	2 → BF3 8 → BF3																																																																															
BF2. IS HE/SHE STILL BEING BREASTFED?	Yes1 No2 DK8																																																																																
<p>BF3. I WOULD LIKE TO ASK YOU ABOUT LIQUIDS THAT (<i>name</i>) MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. I AM INTERESTED IN WHETHER (<i>name</i>) HAD THE ITEM EVEN IF IT WAS COMBINED WITH OTHER FOODS.</p> <p>DID (<i>name</i>) DRINK OR EAT ANY (<i>item from list</i>): YESTERDAY, DURING THE DAY OR NIGHT?</p> <p><i>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.</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Y</th> <th style="width: 10%; text-align: center;">N</th> <th style="width: 10%; text-align: center;">DK</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>BF3A. VITAMIN OR MINERAL SUPPLEMENTS?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3B. ORS (ORAL REHYDRATION SOLUTION)?</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> <td></td> </tr> <tr> <td>BF3C. PLAIN WATER?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3D. INFANT FORMULA?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3E</td> </tr> <tr> <td>BF3D1. HOW MANY TIMES DID (<i>name</i>) HAVE INFANT FORMULA?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _</td> <td></td> </tr> <tr> <td>BF3E. MILK SUCH AS TINNED, POWDERED, OR FRESH ANIMAL MILK?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3F</td> </tr> <tr> <td>BF3E1. HOW MANY TIMES DID (<i>name</i>) DRINK TINNED, POWDERED OR FRESH ANIMAL MILK?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _</td> <td></td> </tr> <tr> <td>BF3F. JUICE OR JUICE DRINKS?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3G. SOUP?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3H. ANY OTHER LIQUIDS?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3I. YOGURT?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3J</td> </tr> <tr> <td>BF3I1. HOW MANY TIMES DID (<i>name</i>) HAVE YOGURT?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _</td> <td></td> </tr> <tr> <td>BF3J. THIN PORRIDGE?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3K. SOLID OR SEMI-SOLID (MUSHY) FOOD?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3L</td> </tr> <tr> <td>BF3K1. HOW MANY TIMES DID (<i>name</i>) EAT SOLID, SEMI-SOLID (MUSHY) FOODS?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _</td> <td></td> </tr> </tbody> </table>		Y	N	DK		BF3A. VITAMIN OR MINERAL SUPPLEMENTS?	1	2	8		BF3B. ORS (ORAL REHYDRATION SOLUTION)?	2	8			BF3C. PLAIN WATER?	1	2	8		BF3D. INFANT FORMULA?	1	2	8	2 OR 8 → BF3E	BF3D1. HOW MANY TIMES DID (<i>name</i>) HAVE INFANT FORMULA?	Number of times..... _ _				BF3E. MILK SUCH AS TINNED, POWDERED, OR FRESH ANIMAL MILK?	1	2	8	2 OR 8 → BF3F	BF3E1. HOW MANY TIMES DID (<i>name</i>) DRINK TINNED, POWDERED OR FRESH ANIMAL MILK?	Number of times..... _ _				BF3F. JUICE OR JUICE DRINKS?	1	2	8		BF3G. SOUP?	1	2	8		BF3H. ANY OTHER LIQUIDS?	1	2	8		BF3I. YOGURT?	1	2	8	2 OR 8 → BF3J	BF3I1. HOW MANY TIMES DID (<i>name</i>) HAVE YOGURT?	Number of times..... _ _				BF3J. THIN PORRIDGE?	1	2	8		BF3K. SOLID OR SEMI-SOLID (MUSHY) FOOD?	1	2	8	2 OR 8 → BF3L	BF3K1. HOW MANY TIMES DID (<i>name</i>) EAT SOLID, SEMI-SOLID (MUSHY) FOODS?	Number of times..... _ _				
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BF3L. DID (<i>name</i>) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE YESTERDAY DURING THE DAY OR NIGHT?	Yes1 No2 DK8																																																																																

CARE OF ILLNESS		CA																
CA1. HAS (<i>name</i>) HAD DIARRHOEA IN THE LAST TWO WEEKS, THAT IS, SINCE (day of the week) OF THE WEEK BEFORE LAST? <i>Diarrhoea is determined as perceived by mother or caretaker, or as three or more loose or watery stools per day, or blood in stool.</i>	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 (<i>name</i>) DRINK ANY OF THE FOLLOWING: <i>Read each item aloud and record response before proceeding to the next item.</i>																		
CA2A. A FLUID MADE FROM A SPECIAL PACKET CALLED ORS? CA2B. HOMEMADE SUGAR AND SALT SOLUTION? CA2C. A PRE-PACKAGED ORS FLUID FOR DIARRHOEA?	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Yes</th> <th style="width: 10%; text-align: center;">No</th> <th style="width: 10%; text-align: center;">DK</th> </tr> </thead> <tbody> <tr> <td>A. Fluid from ORS packet.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>B. Sugar and salt solution</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>C. Pre-packaged ORS fluid</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> </tbody> </table>		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	
	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? <i>Probe:</i> ANYTHING ELSE? <i>Record all treatments given</i>	Pill or Syrup Antibiotic.....A AntimotilityB ZincC Other (Not antibiotic, antimotility or zinc)D Unknown pill or syrup.....E Injection Antibiotic.....F Non-antibioticG Unknown injectionH Intravenous.....I Home remedy/herbal medicineJ Other (<i>specify</i>)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

<p>CA6. WHEN (<i>name</i>) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, QUICK BREATHS OR HAVE DIFFICULTY BREATHING?</p>	<p>Yes 1 No 2 DK 8</p>	<p>2—►CA12 8—►CA12</p>
<p>CA7. WERE THE SYMPTOMS DUE TO A PROBLEM IN THE CHEST OR A BLOCKED NOSE?</p>	<p>Problem in chest 1 Blocked nose..... 2 Both 3 Other (<i>specify</i>) 6 DK 8</p>	<p>2—►CA12 6—►CA12</p>
<p>CA8. DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS OUTSIDE THE HOME?</p>	<p>Yes 1 No 2 DK 8</p>	<p>2—►CA12 8—►CA12</p>
<p>CA9. FROM WHERE DID YOU SEEK CARE?</p> <p><i>Probe:</i> ANYWHERE ELSE?</p> <p><i>Circle all providers mentioned, but do NOT prompt with any suggestions.</i></p> <p><i>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.</i></p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector Government hospital .....C Government health center .....D Government dispensary.....E Other public (<i>specify</i>) .....F</p> <p>Private medical sector Mission hospital/clinic .....G Private hospital/clinic.....H Nursing/maternity home .....I Pharmacy.....J Other private medical (<i>specify</i>) .....K</p> <p>Mobile clinic .....L Community health worker .....M</p> <p>Other source Shop .....O Traditional practitioner .....P Relative/friend.....Q</p> <p>Other (<i>specify</i>) .....X</p>	
<p>CA10. WAS (<i>name</i>) GIVEN MEDICINE TO TREAT THIS ILLNESS?</p>	<p>Yes 1 No 2 DK 8</p>	<p>2—►CA12 8—►CA12</p>
<p>CA11. WHAT MEDICINE WAS (<i>name</i>) GIVEN?</p> <p><i>Probe:</i> ANYTHING ELSE?</p> <p><i>Circle all medicines given.</i></p>	<p>Antibiotic .....A Paracetamol/Panadol/Acetaminophen .....P Aspirin .....Q Ibuprofen .....R Other (<i>specify</i>) .....X DK .....Z</p>	

CA11A. Check CA11: Antibiotic given?		
[] Yes. —▶ Continue with CA11B		
[] No. —▶ Go to CA12		
CA11B. WHERE DID YOU GET THE ANTIBIOTIC?	Public Sector Government hospital 21 Government health center 22 Government dispensary..... 23 Other public (<i>specify</i>) 26	
_____	Private medical sector Mission hospital/clinic 31 Private hospital/clinic..... 32 Nursing/maternity home 33 Pharmacy..... 34 Other private medical (<i>specify</i>) 36	
(Name of place)	Mobile clinic 41 Community health worker 42	
	Other source Shop 51 Traditional practitioner 52 Relative/friend..... 53	
	Other (<i>specify</i>) 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 (<i>name</i>) 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 (<i>specify</i>) 96 DK 98	

MALARIA		ML
ML1. IN THE LAST TWO WEEKS, THAT IS, SINCE (<i>day of the week</i>) OF THE WEEK BEFORE LAST, HAS (<i>name</i>) BEEN ILL WITH A FEVER?	Yes..... 1 No 2 DK 8	2—►NEXT MODULE 8—►NEXT MODULE
ML2. WAS (<i>name</i>) SEEN AT A HEALTH FACILITY DURING THIS ILLNESS?	Yes..... 1 No 2 DK 8	2—►ML6 8—►ML6
ML3. DID (<i>name</i>) 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 (<i>name</i>) TAKE THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY? <i>Probe:</i> ANYTHING ELSE? <i>Circle all medicines mentioned.</i>	Anti-malarials: SP/Fansidar .....A Chloroquine .....B Amodiaquine.....C Quinine.....D Artemisinin-based combinations E Other anti-malarial (<i>specify</i>) .....H Other medications: Paracetamol/Panadol/Acetaminophen P Aspirin.....Q Ibuprofen.....R Other (<i>specify</i>) X DK Z	
ML5. WAS (<i>name</i>) 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 (<i>name</i>) GIVEN MEDICINE FOR FEVER OR MALARIA DURING THIS ILLNESS?	Yes..... 1 No 2 DK 8	2—►ML8 8—►ML8
ML7. WHAT MEDICINE WAS (<i>name</i>) GIVEN? <i>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.</i>	Anti-malarials: SP/Fansidar .....A Chloroquine .....B Amodiaquine.....C Quinine.....D Artemisinin-based combinations E Other anti-malarial (<i>specify</i>) .....H Other medications: Paracetamol/Panadol/Acetaminophen P Aspirin.....Q Ibuprofen.....R Other (<i>specify</i>) X DK Z	

<p>ML8. Check ML4 and ML7: Anti-malarial mentioned (codes A - H)?</p> <p>[] Yes. → Continue with ML9</p> <p>[] No. → Go to Next Module</p>		
<p>ML9. HOW LONG AFTER THE FEVER STARTED DID (name) FIRST TAKE (name of anti-malarial from ML4 or ML7)?</p> <p>If multiple anti-malarials mentioned in ML4 or ML7, name all anti-malarial medicines mentioned.</p> <p>Record the code for the day on which the first anti-malarial was given.</p>	<p>Same day 0</p> <p>Next day 1</p> <p>2 days after the fever..... 2</p> <p>3 days after the fever..... 3</p> <p>4 or more days after the fever 4</p> <p>DK 8</p>	
<p>ML9A. WHERE DID YOU GET THE (name of anti-malarial from ML4 or ML7)?</p> <p>If more than one anti-malarial is mentioned in ML4 or ML7, refer to the first anti-malarial given for the fever (the anti-malarial given on the day recorded in ML9).</p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector</p> <p>Government hospital 21</p> <p>Government health center 22</p> <p>Government dispensary..... 23</p> <p>Other public (specify) 26</p> <p>Private medical sector</p> <p>Mission hospital/clinic 31</p> <p>Private hospital/clinic..... 32</p> <p>Nursing/maternity home 33</p> <p>Pharmacy..... 34</p> <p>Other private medical (specify) 36</p> <p>Mobile clinic 41</p> <p>Community health worker 42</p> <p>Other source</p> <p>Shop 51</p> <p>Traditional practitioner 52</p> <p>Relative/friend..... 53</p> <p>Other (specify) 96</p> <p>DK 98</p>	
<p>ML9B. HOW MUCH DID YOU PAY FOR THE (name of anti-malarial from ML4 or ML7)?</p> <p>Refer to the same anti-malarial as in ML9A above</p>	<p>Shillings _ _ _ _</p> <p>Free 9996</p> <p>DK 9998</p>	

IMMUNIZATION										IM
<i>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.</i>										
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) (<i>Last but one</i>)	VITA1								
IM8B.	VITAMIN A (2) (<i>Most recent</i>)	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? <i>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</i>		Yes 1 <i>(Probe for vaccinations and write '66' in the corresponding day column on IM2 to IM8B.)</i> 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 (<i>name</i>) 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 (<i>name</i>) 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 (<i>name</i>) 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 (<i>name</i>) 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 (<i>name</i>) 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 (<i>name</i>) 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 __ __ : __ __
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<p>IM20. Does another eligible child reside in the household for whom this respondent is mother/caretaker? Check household listing, column HL8.</p> <p>[] Yes. —► End the current questionnaire and then Go to Under-5 Questionnaire to administer the questionnaire for the next eligible child.</p> <p>[] 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.</p>
--

ANTHROPOMETRY MODULE		NA
<p>After questionnaires for all children are complete, the measurer weighs and measures each child. Record weight and length/height below, taking care to record the measurements on the correct questionnaire for each child. Check the child's name and line number on the household listing before recording measurements.</p>		
AN0A. Measurer's identification code.	Measurer code	— —
AN0B. Result of measurement	Measured..... 1 Not present..... 2 Refused 3 Other (specify) 6	2—►ANS5 3—►ANS5 6—►ANS5
AN1. Child's weight	Kilograms (kg)	[] [] . []
AN2. Child's length or height.	Length (cm) Lying down .....1 [] [] [] . []	
Check age of child in UF11: <input type="checkbox"/> Child under 2 years old. —► Measure length (lying down). <input type="checkbox"/> Child age 2 or more years. —► Measure height (standing up).	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

